ZOOLOGY LIBRARY
UNIVERSITY OF TORONTO

3 1761 03673235 2

A. G. Hutchinson

QL

627

J

Zool.

vol. 4

Digitized by the Internet Archive
in 2010 with funding from
University of Toronto

SMITHSONIAN INSTITUTION.
UNITED STATES NATIONAL MUSEUM.

BULLETIN

OF THE

UNITED STATES NATIONAL MUSEUM.

No. 47.

THE FISHES OF NORTH AND MIDDLE AMERICA:

A DESCRIPTIVE CATALOGUE OF THE SPECIES OF FISH-LIKE VERTEBRATES FOUND IN
THE WATERS OF NORTH AMERICA, NORTH OF THE ISTHMUS OF PANAMA.

BY

DAVID STARR JORDAN, Ph. D.,

PRESIDENT OF THE LELAND STANFORD JUNIOR UNIVERSITY AND OF THE
CALIFORNIA ACADEMY OF SCIENCES,

AND

BARTON WARREN EVERMANN, Ph. D.,

ICHTHYOLOGIST OF THE UNITED STATES FISH COMMISSION.

PART IV

DEPARTMENT OF ZOOLOGY

LIBRARY

WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1900.

THE UNITED STATES OF AMERICA

BILL

UNITED STATES OF AMERICA

THE

THE

NORTH AND SOUTH

THE

THE

THE

THE

THE

THE

THE

THE

THE

THE

THE

SMITHSONIAN INSTITUTION.
UNITED STATES NATIONAL MUSEUM.

QL
627
J
Zool.
vol. 4

THE FISHES
OF
NORTH AND MIDDLE AMERICA:
A DESCRIPTIVE CATALOGUE

OF THE
SPECIES OF FISH-LIKE VERTEBRATES FOUND IN THE
WATERS OF NORTH AMERICA, NORTH OF
THE ISTHMUS OF PANAMA.

BY
DAVID STARR JORDAN, PH. D.,
PRESIDENT OF THE LELAND STANFORD JUNIOR UNIVERSITY AND OF THE
CALIFORNIA ACADEMY OF SCIENCES,

AND
BARTON WARREN EVERMANN, PH. D.,
ICHTHYOLOGIST OF THE UNITED STATES FISH COMMISSION.

PART IV. DEPARTMENT OF ZOOLOGY

WASHINGTON: LIBRARY
GOVERNMENT PRINTING OFFICE:

1900.

PREFACE.

This volume is fourth and last of a descriptive catalogue of the fishes and fish-like vertebrates of North and Middle America. Part I, *Branchiostomatidæ* to *Priacanthidæ* inclusive (pp. 1 to 1240), was published October 3, 1896; Part II, *Lutianidæ* to *Cephalicanthidæ* inclusive (pp. 1241 to 2183), was published October 3, 1898; Part III, *Callionymidæ* to *Ogcocephalidæ* inclusive, including also "Addenda," an "Artificial Key to the Families of the True Fishes," a "Glossary of Technical Terms," and an "Index" complete for Parts I, II, and III (pp. 2183*a* to 3136), was published November 28, 1898; and Part IV, the present volume, appears on June 26, 1900.

Since the publication of Part III, investigations by Dr. Jordan, in Mexico, and by Dr. Evermann, in Puerto Rico, have added greatly to our knowledge of the fishes of those regions, and have made it desirable to incorporate in the present volume still further addenda.

Recent studies by Dr. Günther, of certain Linneæan types, show that some changes in nomenclature are necessary, which are also included.

DAVID STARR JORDAN.

BARTON WARREN EVERMANN.

LELAND STANFORD JUNIOR UNIVERSITY,
PALO ALTO, SANTA CLARA COUNTY, CALIFORNIA.

March 15, 1900.

A SYSTEMATIC ARRANGEMENT OF THE FISHES OF NORTH AND MIDDLE AMERICA.

In these pages the authors exhibit, as clearly as the method will permit, their present views as to the genetic relations of the fishes and fish-like vertebrates of North and Middle America. This list is, in fact, a Table of Contents complete for the four volumes and corrected to include the Addenda (pp. 2745-2873 of Part III and pp. 3137-3197 of Part IV). From this Systematic Arrangement it is seen that the fish fauna of North and Middle America, as now understood by the present authors, embraces 3 classes, 30 orders, 225 families, 1113 genera, 325 subgenera, 3263 species, and 133 subspecies.

	Page.
CLASS LEPTOCARDII	2
ORDER AMPHIONI	2
<i>Family Branchiostomidae</i>	2
Genus <i>Branchiostoma</i> , Costa	3
<i>lanceolatum</i> (Pallas)	3
<i>caribaeum</i> , Sundevall	3
<i>californiense</i> , Gill	4
Genus <i>Asymmetron</i> , Andrews	4
<i>lucayanum</i> , Andrews	4
CLASS MARSIPOBRANCHII	4
ORDER HYPEROTRETI	5
<i>Family Heptatremidae</i>	5
Genus <i>Polistotrema</i> , Gill	6
<i>stouti</i> (Lockington)	6
<i>Family Myrinidae</i>	7
Genus <i>Myxine</i> , Linnaeus	7
<i>glutinosa</i> , Linnaeus	7
ORDER HYPEROARTII	8
<i>Family Petromyzonidae</i>	8
Genus <i>Bathymyzon</i> , Gill	9
<i>bairdii</i> (Gill)	9
Genus <i>Petromyzon</i> (Artedi) Linnaeus	9
<i>marinus</i> , Linnaeus	10
<i>unicolor</i> (De Kay)	10
Genus <i>Ichthyomyzon</i> , Girard	10
<i>concolor</i> (Kirtland)	11
<i>castaneus</i> , Girard	11
Genus <i>Entosphenus</i> , Gill	11
<i>tridentatus</i> (Gairdner)	12
<i>camtschaticus</i> (Tilesius)	2745
Genus <i>Lampetra</i> , Gray	12
<i>aurea</i> (Bean)	13
<i>spadicea</i> , Bean	13
<i>cibaria</i> (Girard)	13
<i>wilderi</i> , Gage	13
CLASS PISCES	14
SUBCLASS SELACHII	15
ORDER DIPLOSPONDYLI	16
<i>Family Chlamydoselachidae</i>	16
Genus <i>Chlamydoselachus</i> , Garman	16
<i>anguineus</i> , Garman	16

CLASS PISCES—Continued.	Page.
SUBCLASS SELACHII—Continued.	
ORDER DIPLOSPONDYLI—Continued.	
Family <i>Hexanchidae</i>	17
Genus <i>Notorhynchus</i> , Ayres.....	17
<i>maculatus</i> , Ayres.....	17
Genus <i>Hexanchus</i> , Rafinesque.....	18
<i>corinus</i> , Jordan & Gilbert.....	18
<i>griseus</i> (Gmelin).....	19
ORDER ASTEROSPONDYLI.....	19
SUBORDER PROARTHRI.....	19
Family <i>Heterodontidae</i>	19
Genus <i>Gyrodontodus</i> , Gill.....	20
<i>francisci</i> (Girard).....	20
<i>quoyi</i> (Fremenville).....	21
SUBORDER GALEI.....	21
Family <i>Scylliorhinidae</i>	22
Genus <i>Scylliorhinus</i> , Blainville.....	22
<i>profundorum</i> , Goode & Bean.....	22
Genus <i>Catulus</i> , Smith.....	23
<i>subgenus Catulus</i>	24
<i>xanthurus</i> , Gilbert.....	24
<i>brunneus</i> , Gilbert.....	24
<i>cephalus</i> , Gilbert.....	24
<i>retifer</i> (Garman).....	25
Subgenus <i>Cephaloscyllium</i> , Gill.....	25
<i>uter</i> , Jordan & Gilbert.....	25
Family <i>Ginglymostomidae</i>	25
Genus <i>Ginglymostoma</i> , Müller & Henle.....	26
<i>cirratum</i> (Gmelin).....	26
Family <i>Pseudotriakidae</i>	26
Genus <i>Pseudotriakis</i> , Capello.....	27
<i>microdon</i> , Capello.....	27
Family <i>Galeidae</i>	27
Genus <i>Mustelus</i> , Cuvier.....	28
<i>lunulatus</i> , Jordan & Gilbert.....	28
<i>canis</i> (Mitchill).....	29
Genus <i>Galeus</i> , Rafinesque.....	29
<i>dorsalis</i> (Gill).....	30
<i>californicus</i> (Gill).....	30
Genus <i>Rhinotriakis</i> , Gill.....	30
<i>henlei</i> , Gill.....	31
Genus <i>Triakis</i> , Müller & Henle.....	31
<i>semifasciatum</i> , Girard.....	31
Genus <i>Galeorhinus</i> , Blainville.....	31
<i>zyopterus</i> , Jordan & Gilbert.....	32
Genus <i>Galeocerdo</i> , Müller & Henle.....	32
<i>tigrinus</i> , Müller & Henle.....	32
Genus <i>Prionace</i> , Cantor.....	33
<i>glauca</i> (Linnaeus).....	33
Genus <i>Carcharhinus</i> , Blainville.....	33
Subgenus <i>Platypodon</i> , Gill.....	35
<i>obscurus</i> (Le Sueur).....	35
<i>platyrhynchus</i> (Gilbert).....	36
<i>taliformis</i> (Richardson).....	36
<i>aeronotus</i> (Poey).....	36
<i>porci</i> (Poey).....	36

	Page.
CLASS PISCES—Continued.	
SUBCLASS SELACHII—Continued.	
ORDER ASTEROSPONDYLI—Continued.	
SUBORDER GALEI—Continued.	
Family Galeidae—Continued.	
Genus Carcharhinus, Blainville—Continued.	
Subgenus Platypodon, Gill—Continued.	
remotus (Valenciennes)	37
henlei (Valenciennes)	37
cerdale, Gilbert	2746
Subgenus Carcharhinus	37
müllerti (Müller & Henle)	37
lamiella (Jordan & Gilbert)	37
lamia (Rafinesque)	38
platyodon (Poey)	39
fronto (Jordan & Gilbert)	39
nicaraguensis (Gill & Bransford)	39
Subgenus Isogomphodon, Gill	40
æthalarus (Jordan & Gilbert)	40
limbatus (Müller & Henle)	40
oxyrhynchus (Müller & Henle)	40
velox, Gilbert	2747
Genus Hypoprion, Müller & Henle	41
brevirostris, Poey	41
signatus, Poey	41
Genus Aprionodon, Gill	42
isodon (Müller & Henle)	42
Genus Scoliodon, Müller & Henle	42
longurio (Jordan & Gilbert)	42
terræ-novæ (Richardson)	43
Family Sphyrnidae	43
Genus Sphyrna, Rafinesque	43
Subgenus Reniceps, Gill	44
tiburo (Linnaeus)	44
Subgenus Platysqualus, Swanson	44
tudes (Cuvier)	44
Subgenus Sphyrna	45
zygena (Linnaeus)	45
Family Alopiidae	45
Genus Alopias, Rafinesque	45
vulpes (Gmelin)	45
Family Carchariidae	46
Genus Carcharias, Rafinesque	46
Subgenus Eugomphodus, Gill	46
littoralis (Mitchill)	46
Family Lamnidae	47
Genus Isurus, Rafinesque	47
Subgenus Isuropsis, Gill	48
dekayi (Gill)	48
Subgenus Isurus	48
oxyrhynchus, Rafinesque	48
Genus Lamna, Cuvier	49
cornubica (Gmelin)	49
Genus Carcharodon, Smith	50
carcharias (Linnaeus)	50
Family Cetorhynchidae	50
Genus Cetorhinus, Blainville	51
maximus (Gunner)	51

CLASS PISCES—Continued.	Page.
SUBCLASS SELACHTH—Continued.	
ORDER ASTEROSPONDYLI—Continued.	
SUBORDER GALEI—Continued.	
Family <i>Rhinodontidae</i>	52
Genus <i>Micristodus</i> Gill.....	52
<i>punctatus</i> , Gill.....	52
ORDER CYCLOSPONDYLI.....	52
SUBORDER CYCLOSPONDYLI.....	53
Family <i>Squalidae</i>	53
Genus <i>Squalus</i> (Artedi) Linnaeus.....	53
<i>acanthias</i> , Linnaeus.....	54
<i>sucklii</i> (Girard).....	54
Genus <i>Centroscymnus</i> , Bocage & Capello.....	54
<i>cælolepis</i> , Bocage & Capello.....	55
Genus <i>Etmopterus</i> , Rafinesque.....	55
<i>pusillus</i> (Lowe).....	55
Genus <i>Centroscyllium</i> , Müller & Henle.....	56
<i>fabricii</i> (Reinhardt).....	56
Family <i>Dalatidae</i>	56
Genus <i>Somniosus</i> , Le Sueur.....	56
<i>microcephalus</i> (Bloch).....	57
Family <i>Echinorhinidae</i>	57
Genus <i>Echinorhinus</i> , Blainville.....	57
<i>spinosus</i> (Gmelin).....	58
SUBORDER TECTOSPONDYLI.....	58
Family <i>Squatinae</i>	58
Genus <i>Squatina</i> , Duméril.....	58
<i>squatina</i> (Linnaeus).....	58
ORDER BATOIDEI.....	59
SUBORDER SARCURA.....	60
Family <i>Pristidae</i>	60
Genus <i>Pristis</i> , Latham.....	60
<i>zephyreus</i> , Jordan & Starks.....	60; 2749
<i>pectinatus</i> , Latham.....	60
Family <i>Rhinobatidae</i>	61
Genus <i>Rhinobatus</i> , Bloch & Schneider.....	61
<i>lentiginosus</i> , Garman.....	62
<i>stellio</i> , Jordan & Rutter.....	2750
<i>glaucostigma</i> , Jordan & Gilbert.....	62
<i>leucorhynchus</i> , Günther.....	62
<i>productus</i> , Ayres.....	63
<i>percellens</i> (Walbaum).....	63
<i>spinosus</i> , Günther.....	63
<i>planiceps</i> , Garman.....	64
Genus <i>Zapteryx</i> , Jordan & Gilbert.....	64
<i>exasperatus</i> (Jordan & Gilbert).....	64
<i>xyster</i> , Jordan & Evermann.....	65
Genus <i>Platyrhinoidis</i> , Garman.....	65
<i>triseriatus</i> (Jordan & Gilbert).....	65
Family <i>Rajidae</i>	66
Genus <i>Raja</i> (Artedi) Linnaeus.....	66
<i>erinacea</i> , Mitchell.....	68
<i>ocellata</i> , Mitchell.....	68
<i>tylla</i> , Latham.....	69
<i>radiata</i> , Donovan.....	69
<i>plutonina</i> , Garman.....	69
<i>ackleyi</i> , Garman.....	70
<i>ornata</i> , Garman.....	70

CLASS PISCES—Continued.

Page.

SUBCLASS SELACHII—Continued.

ORDER BATOIDEI—Continued.

SUBORDER SARCURA—Continued.

Family Rajidae—Continued.Genus *Raja* (Artedi) Linnaeus—Continued.

<i>eglanteria</i> , Bosc.....	71
<i>septa</i> , Garman.....	71
<i>laevis</i> (Mitchill).....	71
<i>rhina</i> , Jordan & Gilbert.....	72
<i>binoculata</i> , Girard.....	72
<i>inornata</i> , Jordan & Gilbert.....	73
<i>equatorialis</i> , Jordan & Bollman.....	74
<i>rospinis</i> , Gill & Townsend.....	2751
<i>interrupta</i> , Gill & Townsend.....	2751
<i>parmifera</i> , Bean.....	74
<i>stellulata</i> , Jordan & Gilbert.....	75
<i>aleutica</i> , Gilbert.....	75
<i>trachura</i> , Gilbert.....	75
<i>abyssicola</i> , Gilbert.....	76
<i>Family Narcobatidae</i>	76
Genus <i>Tetronarce</i> , Gill.....	77
<i>occidentalis</i> (Storer).....	77
<i>californica</i> (Ayres).....	77
Genus <i>Narcine</i> , Henle.....	78
<i>brasiliensis</i> (Olfers).....	78
<i>eutemedor</i> , Jordan & Starks.....	2752
Genus <i>Discopyge</i> , Tschudi.....	78
<i>ommata</i> , Jordan & Gilbert.....	78
SUBORDER MASTICURA.....	79
<i>Family Dasyatidae</i>	79
Genus <i>Urolophus</i> , Müller & Henle.....	79
<i>halleri</i> , Cooper.....	80
<i>nebulosus</i> , Garman.....	80
<i>umbriifer</i> , Jordan & Starks.....	2752
<i>jamaicensis</i> (Cuvier).....	81
<i>mundus</i> (Gill).....	81; 2752
<i>goodei</i> , Jordan & Bollman.....	81
<i>aspidurus</i> , Jordan & Gilbert.....	81
<i>rogersi</i> , Jordan & Starks.....	2752
Genus <i>Dasyatis</i> , Rafinesque.....	82
Subgenus <i>Hemitrygon</i> , Müller & Henle.....	83
<i>centrura</i> (Mitchill).....	83
Subgenus <i>Dasyatis</i>	83
<i>hastata</i> (De Kay).....	83
<i>gymnura</i> (Müller).....	84
<i>sabina</i> (Le Sueur).....	84
<i>longa</i> , Garman.....	85
<i>diptera</i> , Jordan & Gilbert.....	85
<i>say</i> (Le Sueur).....	86
Genus <i>Pteroplatea</i> , Müller & Henle.....	86
<i>machura</i> (Le Sueur).....	86
<i>erebripunctata</i> , Peters.....	87
<i>marmorata</i> , Cooper.....	87
<i>rava</i> , Jordan & Starks.....	2754
<i>Family Myliobatidae</i>	87
Genus <i>Aetobatus</i> , Blainville.....	88
<i>narinari</i> (Euphrasen).....	88

CLASS PISCES—Continued.	Page.
SUBCLASS SELACHII—Continued.	
ORDER HATOIDEI—Continued.	
SUBORDER MASTICURA—Continued.	
Family <i>Myliobatidae</i> —Continued.	
Genus <i>Myliobatis</i> , Duméril	89
Subgenus <i>Myliobatis</i>	89
<i>freminvillei</i> , Le Sueur	89
Subgenus <i>Holorhinus</i> , Gill	89
<i>californicus</i> , Gill	89
<i>asperrinus</i> , Gilbert	2754
<i>goodei</i> , Garman	2755
Genus <i>Rhinoptera</i> , Kuhl	90
Subgenus <i>Rhinoptera</i>	90
<i>bonasus</i> (Mitchill)	90
<i>steindachneri</i> , Evermann & Jenkins	91
Subgenus <i>Micromesus</i> , Gill	91
<i>ensenadae</i> , Rosa Smith	91
Family <i>Aodontidae</i>	91; 2756
Genus <i>Aodon</i> , Lacépède	91
<i>hypostomus</i> (Bancroft)	92
Genus <i>Ceratobatis</i> , Boulenger	2756
<i>robertsii</i> , Boulenger	2756
Genus <i>Manta</i> , Bancroft	92
<i>birostris</i> (Walbaum)	92
SUBCLASS HOLOCEPHALI	93
ORDER CHIMEROIDEI	93
Family <i>Chimæridæ</i>	93
Genus <i>Chimæra</i> , Linnaeus	94
<i>monstrosa</i> , Linnaeus	94
<i>affinis</i> , Capello	95
Genus <i>Hydrolagus</i> , Gill	95
<i>collei</i> (Lay & Bennett)	95
Genus <i>Harriotta</i> , Goode & Bean	96
<i>raleighana</i> , Goode & Bean	96
SUBCLASS TELEOSTOMI	97
Series Ganoidei	100
<i>Chondroganoidea</i>	100
ORDER SELACHOSTOMI	100
Family <i>Polyodontidae</i>	101
Genus <i>Polyodon</i> , Lacépède	101
<i>spathula</i> (Walbaum)	101
ORDER CHONDROSTEI	102
Family <i>Acipenseridae</i>	102
Genus <i>Acipenser</i> , Linnaeus	103
<i>transmontanus</i> , Richardson	104
<i>medirostris</i> , Ayres	104
<i>sturio</i> , Linnaeus	105
<i>rubicundus</i> , Le Sueur	106
<i>brevirostrum</i> , Le Sueur	106
Genus <i>Scaphirhynchus</i> , Heckel	107
<i>platyrhynchus</i> (Rafinesque)	107
<i>Holosteus</i>	107
ORDER RHOMBOGANOIDEA	108
Family <i>Lepisosteidae</i>	108
Genus <i>Lepisosteus</i> , Lacépède	109
Subgenus <i>Lepisosteus</i>	109
<i>osteolepis</i> (Leichtlin)	109

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER RHOMBOGANOIDEA—Continued.	
Family <i>Lepisosteidae</i> —Continued.	
Genus <i>Lepisosteus</i> , Lacépède—Continued.	
Subgenus <i>Cylindrosteus</i> , Rafinesque	110
platostomus, Rafinesque	110
Subgenus <i>Atractosteus</i> , Rafinesque	111
tristeechus (Bloch & Schneider)	111
tropicus (Gill)	111
ORDER CYCLOGANOIDEA	111
Family <i>Amiidae</i>	112
Genus <i>Amia</i> , Linnaeus	112
calva, Linnaeus	113
Series Teleostei	113
Ostariophysi	114
ORDER NEMATOGNATHI	114
Family <i>Siluridae</i>	115
Genus <i>Felichthys</i> , Swainson	116
panamensis (Gill)	117
bagro (Linnaeus)	117
pinnimaculatus (Steindachner)	117
eydouxii (Cuvier & Valenciennes)	118
filamentosus, Swainson	118
felis (Linnaeus)	118; 3197
bahiensis (Castelnau)	118
Genus <i>Galeichthys</i> , Cuvier & Valenciennes	122; 2770
Subgenus <i>Galeichthys</i>	2771
lentiginosus (Eigenmann & Eigenmann)	122; 2771
peruanus, Lütken	122; 2771
Subgenus <i>Hexanematichthys</i> , Bleeker	128; 2772
milberti (Cuvier & Valenciennes)	128; 3197
seemanni (Günther)	128; 2772
gilberti, Jordan & Williams	2773
jordani (Eigenmann & Eigenmann)	128; 2774
azureus, Jordan & Williams	2775
caeruleus (Günther)	129; 2776
zenanthen, Gilbert	2777
guatemalensis (Günther)	129; 2778
surinamensis (Bleeker)	129; 2780
dasycephalus (Günther)	130; 2780
longicephalus (Eigenmann & Eigenmann)	130; 2781
rugispinis (Cuvier & Valenciennes)	130; 2781
labiatus (Boulenger)	3137
phrygiatus (Cuvier & Valenciennes)	130; 2782
Genus <i>Sciadeichthys</i> , Bleeker	122
troscheli (Gill)	122
emphysetus (Müller & Troschel)	122
temminckianus (Cuvier & Valenciennes)	122
flavescens (Cuvier & Valenciennes)	123
mesops (Cuvier & Valenciennes)	123
proops (Cuvier & Valenciennes)	123
passany (Cuvier & Valenciennes)	124
albicans (Cuvier & Valenciennes)	124
Genus <i>Aspistor</i> , Jordan & Evermann	2763
luniscutis (Cuvier & Valenciennes)	125; 2763
Genus <i>Selenaspis</i> , Bleeker	124
herzbergii (Bloch)	124

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

Page.

ORDER NEMATOGNATHI—Continued.

Family Siliuridae—Continued.

Genus *Selenaspis*, Bleeker—Continued.

dowli (Gill)	125
parkeri (Traill)	125; 2764
Genus <i>Netuma</i> , Bleeker	126; 2764
Subgenus <i>Notarius</i> , Gill	2764
grandicassis (Cuvier & Valenciennes)	126; 2764
stricticassis (Cuvier & Valenciennes)	126; 2765
Subgenus <i>Netuma</i>	2765
dubia (Bleeker)	126; 2765
kessleri (Steindachner)	127; 2765
insculpta (Jordan & Gilbert)	127; 2765
planiceps (Steindachner)	127; 2766
platypogon (Günther)	127; 2767
oscula (Jordan & Gilbert)	127; 2768
elattura (Jordan & Gilbert)	128; 2769
insularum, Flora Hartley Greene	2770
Genus <i>Tachysurus</i> , Lacépède	131; 2782
nuchalis (Günther)	131; 2782
fissus (Cuvier & Valenciennes)	131; 2782
spixii (Agassiz)	131; 2782
melanopus (Günther)	132; 2784
festae, Boulenger	3138
liropus, Susan B. Bristol	2784
emmelane, Gilbert	2785
furthii (Steindachner)	132; 2787
variolosus (Cuvier & Valenciennes)	132; 2788
multiradiatus (Günther)	132; 2788
Genus <i>Cathorops</i> , Jordan & Gilbert	133; 2788
hypophthalmus (Steindachner)	133; 2788
gulosus (Eigenmann & Eigenmann)	133
Genus <i>Ictalurus</i> , Rafinesque	133; 2788
furcatus (Le Sueur)	134; 2788
anguilla, Evermann & Kendall	2788
punctatus (Rafinesque)	134; 2788
meridionalis (Günther)	135
Genus <i>Istlarius</i> , Jordan & Snyder	3138
balsanus, Jordan & Snyder	3139
Genus <i>Ameiurus</i> , Rafinesque	135
Subgenus <i>Haustor</i> , Jordan & Evermann	137; 3197
lacustris (Walbaum)	137
lupus (Girard)	137
catus (Linnaeus)	138
pricei (Rutter)	2790
dugesii Bean	138; 2780
okeechobeensis (Heilprin)	138
Subgenus <i>Ameiurus</i>	139
erebennus, Jordan	139
natalis (Le Sueur)	139
vulgaris (Thompson)	140
nebulosus (Le Sueur)	140
catulus (Girard)	141
melanostomus (Hollmüller)	141
melas (Rafinesque)	141
platycephalus (Girard)	142

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER NEMATOGNATHI—Continued.

Family Siluridae—Continued.Genus *Ameiurus*, Rafinesque—Continued.Subgenus *Gronias*, Cope 142 *nigrilabris* (Cope) 142Genus *Leptops*, Rafinesque 142 *olivaris* (Rafinesque) 143Genus *Noturus*, Rafinesque 143 *flavus*, Rafinesque 144Genus *Schilbeodes*, Bleeker 144Subgenus *Schilbeodes* 146 *gyrinus* (Mitchill) 146 *leptacanthus* (Jordan) 146Subgenus *Rabida*, Jordan & Evermann 146 *nocturnus* (Jordan & Gilbert) 146 *funebis* (Gilbert & Swain) 147 *exilis* (Nelson) 147 *insignis* (Richardson) 147 *gilberti* (Jordan & Evermann) 148 *eleutherus* (Jordan) 148 *miurus* (Jordan) 148 *furius* (Jordan & Meek) 149Genus *Rhamdia*, Bleeker 149Subgenus *Rhamdia* 150 *wagneri* (Günther) 150Subgenus *Rhamdella*, Eigenmann & Eigenmann 151 *baronis-mulleri* (Troschel) 151 *motaguensis* (Günther) 151 *brachyptera* (Cope) 151 *salvini* (Günther) 152 *hypselurus* (Günther) 152 *laticauda* (Heckel) 152 *godmani* (Günther) 152 *guatemalensis* (Günther) 152 *nicaraguensis* (Günther) 152 *microptera* (Günther) 153 *managuensis* (Günther) 153 *polycaulus* (Günther) 153 *petenensis* (Günther) 153 *parryi* (Eigenmann) 153Genus *Pimelodella*, Eigenmann & Eigenmann 153 *chagresi* (Steindachner) 154 *modesta* (Günther) 154Genus *Pimelodus*, Lacépède 154 *maculatus*, Lacépède 155*Family Loricariidae* 155Genus *Loricaria*, Linnaeus 156Subgenus *Hemiodon*, Kner 157 *panamensis*, Eigenmann & Eigenmann 157Subgenus *Sturisoma*, Swainson 157 *rostrata*, Spix 157Subgenus *Rineloricaria*, Bleeker 158 *lima*, Kner 158 *bransfordi*, Gill 158Subgenus *Parahemiodon*, Bleeker 158 *uracantha*, Kner & Steindachner 158

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER NEMATOGNATHI—Continued.	
Family Loricariidæ—Continued.	
Genus Loricaria, Linnaeus—Continued.	
Subgenus Loricaria	159
variegata, Steindachner	159
Genus Hemiancistrus, Bleeker	159
guacharote (Cuvier & Valenciennes)	159
aspidolepis (Günther)	159
Genus Chatostomus, Kner	160
fischeri, Steindachner	160
Genus Ancistrus, Kner	160
chagresi, Eigenmann & Eigenmann	160
ORDER PLECTOSPONDYLI	160
SUBORDER EVENTOGNATHI	161
Family Catostomidæ	161
Genus Ictiobus, Rafinesque	163
Subgenus Sclerognathus, Cuvier & Valenciennes	163
cyprinella (Cuvier & Valenciennes)	163
Subgenus Ictiobus	164
urus (Agassiz)	164
meridionalis (Günther)	164
bubalus (Rafinesque)	164
Genus Carpiodes, Rafinesque	165
carpio (Rafinesque)	166
difformis, Cope	166
thompsoni, Agassiz	167
velifer (Rafinesque)	167
cyprinus (Le Sueur)	168
Genus Cycleptus, Rafinesque	168
elongatus (Le Sueur)	168
Genus Pantosteus, Cope	169
araneus, Gilbert	170
generosus (Girard)	170
plebeius (Baird & Girard)	170
delphinus (Cope)	171
guzmaniensis (Girard)	171
jordani, Evermann	171
arceopus (Jordan)	172
clarki (Baird & Girard)	172
Genus Catostomus, Le Sueur	173
Subgenus Catostomus	174
latipinnis, Baird & Girard	174; 2790
discobolus, Cope	175; 2791
griseus (Girard)	175
retropinnis, Jordan	2791
pocutello, Gilbert & Evermann	175
catostomus (Forster)	176
rimiculus, Gilbert & Snyder	2792
snyderi, Gilbert	2792
tahoensis, Gill & Jordan	177
Subgenus Decactylus, Rafinesque	177
occidentalis, Ayres	178; 2792
tsilteosensis, Evermann & Meek	2793
hansenii, Girard	178
macrocheilus, Girard	178
commersonii, Lacépède	178
ardens, Jordan & Gilbert	179

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOSPONDYLI—Continued.

SUBORDER EVENTOGNATHI—Continued.

Family Catostomidae—Continued.Genus *Catostomus*, Le Sueur—Continued.Subgenus *Decactylus*, Rafinesque—Continued.*gila*, Kirsch 180*insignis*, Baird & Girard 180Subgenus *Hypentelium*, Rafinesque 181*nigricans*, Le Sueur 181*rhothæus*, Thoburn 181Genus *Deltistes*, Seale 2794*luxatus* (Cope) 183; 2794Genus *Chasmistes* 182*fecundus* (Cope & Yarrow) 180; 2794*liorus*, Jordan 183*cujus*, Cope 183*brevirostris*, Cope 183*stomias*, Gilbert 2794*copei*, Evermann & Meek 2795Genus *Xyrauchen*, Eigenmann & Kirsch 184*cypho* (Lockington) 184*uncompahgre*, Jordan & Evermann 184Genus *Erimyzon*, Jordan 185*sucetta* (Lacépède) 185*oblongus* (Mitchill) 186Genus *Minytrema*, Jordan 186*melanops* (Rafinesque) 187Genus *Moxostoma*, Rafinesque 187*papillosum* (Cope) 189*anisurum* (Rafinesque) 190*collapsum* (Cope) 190*bucco* (Cope) 190*pidiense* (Cope) 191*coregonus* (Cope) 191*album* (Cope) 191*thalassinum* (Cope) 191*congestum* (Baird & Girard) 192*austrium*, Bean 192*aureolum* (Le Sueur) 192*robustum* (Cope) 193*macrolepidotum* (Le Sueur) 193*crassilabre* (Cope) 194*lesneuri* (Richardson) 194*breviceps* (Cope) 196*conus* (Cope) 196*pæcilurum* (Jordan) 196*rupiscartes*, Jordan & Jenkins 196*cervinum* (Cope) 197Genus *Placopharynx*, Cope 197*duquesnii* (Le Sueur) 198Genus *Lagochila*, Jordan & Brayton 198*lacera*, Jordan & Brayton 199*Family Cyprinidae* 199Genus *Campostoma*, Agassiz 204*ornatum*, Girard 205; 2796*anomalum* (Rafinesque) 205*formosulum*, Girard 206

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOSPONDYLI—Continued.	
SUBORDER EVENTOGNATHI—Continued.	
Family Cyprinidae—Continued.	
Genus <i>Orthodon</i> , Girard	206
<i>microlepidotus</i> (Ayres)	207
Genus <i>Oxygeneum</i> , Forbes	207
<i>pulverulentum</i> , Forbes	207
Genus <i>Acrocheilus</i> , Agassiz	207
<i>alutaceus</i> , Agassiz & Pickering	208
Genus <i>Lavinia</i> , Girard	208
<i>exilicauda</i> , Baird & Girard	209
Genus <i>Chrosomus</i> , Rafinesque	209
<i>erythrogaster</i> , Rafinesque	209
<i>eos</i> (Cope)	210
<i>dakotensis</i> , Evermann & Cox	210
<i>oreas</i> , Cope	211
Genus <i>Algansca</i> , Girard	211
<i>tincella</i> (Cuvier & Valenciennes)	211
<i>lacustris</i> , Steindachner	3140
<i>tarascorum</i> , Steindachner	2796
<i>dugesi</i> , Bean	211
<i>sallai</i> (Günther)	212
Genus <i>Hybognathus</i> , Agassiz	212
Subgenus <i>Hybognathus</i>	213
<i>nuchalis</i> , Agassiz	213
<i>argyritis</i> , Girard	214
<i>hayi</i> , Jordan	214
Subgenus <i>Dionda</i> , Girard	214
<i>serena</i> (Girard)	214
<i>episcopa</i> (Girard)	214
<i>nubila</i> (Forbes)	215
<i>anara</i> (Girard)	215
<i>melanops</i> (Girard)	216
<i>plumbea</i> (Girard)	216
Genus <i>Pimephales</i> , Rafinesque	216
<i>promelas</i> , Rafinesque	217
<i>maculosus</i> (Girard)	217
<i>confertus</i> (Girard)	217
<i>notatus</i> (Rafinesque)	218
Genus <i>Mylopharodon</i> , Ayres	218
<i>conocephalus</i> (Baird & Girard)	219
Genus <i>Mylocheilus</i> , Agassiz	219
<i>caurinus</i> (Richardson)	219
Genus <i>Stypodon</i> , Garman	220
<i>signifer</i> , Garman	220
Genus <i>Semotilus</i> , Rafinesque	220
Subgenus <i>Leucosomus</i> , Heckel	221
<i>corporalis</i> (Mitchell)	221
Subgenus <i>Semotilus</i>	222
<i>atromaculatus</i> (Mitchell)	222
<i>thoreauianus</i> (Jordan)	223
Genus <i>Pogonichthys</i> , Girard	223
<i>macrolepidotus</i> (Ayres)	223
Genus <i>Ptychocheilus</i> , Agassiz	224
<i>oregonensis</i> (Richardson)	224
<i>grandis</i> (Ayres)	225; 2796
<i>salinus</i> (Günther)	225

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOSPONDYLI—Continued.	
SUBORDER EVENTOGNATHI—Continued.	
Family Cyprinidae—Continued.	
Genus <i>Gila</i> , Baird & Girard	226
<i>elegans</i> , Baird & Girard	226
<i>robusta</i> , Baird & Girard	227
<i>seminuda</i> , Cope & Yarrow	228
Genus <i>Leuciscus</i> , Cuvier	228
Subgenus <i>Siboma</i> , Girard	231
<i>crassicauda</i> (Baird & Girard)	231
Subgenus <i>Tigoma</i> , Girard	231
<i>conformis</i> (Baird & Girard)	231
<i>bicolor</i> (Girard)	232
<i>lineatus</i> (Girard)	232
<i>nigrescens</i> (Girard)	233
<i>purpureus</i> (Girard)	234
<i>intermedius</i> (Girard)	235
<i>niger</i> (Cope)	235
<i>aliciae</i> (Jouy)	236
Subgenus <i>Cheonda</i> , Girard	236
<i>cooperi</i> (Girard)	236
<i>humboldti</i> (Girard)	236
<i>egregius</i> (Girard)	237
<i>hydrophlox</i> (Cope)	238
Subgenus <i>Richardsonius</i> , Girard	238
<i>balteatus</i> (Richardson)	238
<i>sinslawi</i> , Evermann & Meek	2797
Subgenus <i>Clinostomus</i> , Girard	239
<i>vandoisulus</i> , Cuvier & Valenciennes	239
<i>elongatus</i> (Kirtland)	240
<i>naehtriebi</i> , Cox	2798
Subgenus <i>Phoxinus</i> , Rafinesque	240
<i>neogaus</i> (Cope)	240
<i>margarita</i> (Cope)	241
<i>orcutti</i> (Eigenmann & Eigenmann)	241
Subgenus <i>Hemitremia</i> , Cope	242
<i>milnerianus</i> (Cope)	242
<i>flammeus</i> (Jordan & Gilbert)	242
Subgenus <i>Iotichthys</i> , Jordan & Evermann	243
<i>philegethontis</i> (Cope)	243
Genus <i>Rutilus</i> , Rafinesque	243
<i>olivaceus</i> (Cope)	244
<i>bicolor</i> (Girard)	244
<i>symmetricus</i> (Baird & Girard)	245
<i>boucardi</i> (Günther)	247
Genus <i>Opsopoeodus</i> , Hay	247
Subgenus <i>Opsopoeodus</i>	248
<i>osculus</i> , Evermann	248
<i>emiliae</i> , Hay	248
<i>megalops</i> (Forbes)	248
Subgenus <i>Opsopoea</i> , Jordan & Evermann	249
<i>hollmani</i> , Gilbert	249
Genus <i>Abramis</i> , Cuvier	249
Subgenus <i>Notemigonus</i> , Rafinesque	250
<i>cryssoleucas</i> (Mitchill)	250
<i>bosci</i> (Cuvier & Valenciennes)	251
<i>gardoneus</i> (Cuvier & Valenciennes)	251

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOSPONDYLII—Continued.	
SECTION PLECTOSPONDYLII—Continued.	
Family Cyprinidae—Continued.	
Genus <i>Cochlognathus</i> , Baird & Girard	251
<i>ornata</i> , Baird & Girard.....	252
<i>biguttata</i> , Cope.....	252
Genus <i>Cliola</i> , Girard	252
<i>vigilax</i> (Baird & Girard).....	253
<i>smithii</i> , Evermann & Cox	253
Genus <i>Notropis</i> , Rafinesque.....	254
Subgenus <i>Aztecula</i> , Jordan & Evermann.....	258; 2799
<i>notropis</i> , Woodman	258
Subgenus <i>Chriope</i> , Jordan.....	258
<i>bifrenatus</i> (Cope)	258
<i>jordani</i> , Eigenmann & Eigenmann	259
<i>maculatus</i> (Hay).....	259
<i>anogenus</i> , Forbes	259
<i>cayuga</i> , Meek	260
<i>atrocaudalis</i> , Evermann	260
<i>heterodon</i> (Cope).....	261
<i>calientis</i> , Jordan & Snyder	3197
<i>muskoka</i> , Meek	3141
<i>welaka</i> , Evermann & Kendall.....	2799
Subgenus <i>Alburnops</i> , Girard.....	261
<i>fretensis</i> (Cope)	261
<i>blennius</i> (Girard)	261
<i>buchanani</i> , Meek.....	2800
<i>sabine</i> , Jordan & Gilbert	262
<i>volucellus</i> (Cope)	263
<i>soyila</i> (Cope).....	263
<i>proctus</i> (Cope)	264
<i>rasconis</i> , Jordan & Snyder	3141
<i>nigrotæniatus</i> (Günther)	264
<i>kanawha</i> , Jordan & Jenkins.....	264
<i>braytoni</i> , Jordan & Evermann	264
<i>spectrunculus</i> (Cope)	265
<i>ozarionus</i> , Meek	265
<i>chihuahuana</i> , Woodman.....	265
<i>topeka</i> , Gilbert.....	266
Subgenus <i>Hudsonius</i> , Girard.....	266
<i>gilberti</i> , Jordan & Meek	266
<i>piptolepis</i> (Cope).....	266
<i>simus</i> (Cope).....	267
<i>longirostris</i> (Hay)	267
<i>nux</i> , Evermann	267
<i>necomis</i> , Evermann	268
<i>stansfeldi</i> (Girard).....	268
<i>ilseabronius</i> (Girard)	268
<i>hudsonius</i> (De Witt Clinton).....	269
<i>setene</i> (Jordan).....	269
<i>amarus</i> (Girard)	270
<i>shudanus</i> (Jordan & Brayton)	270
Subgenus <i>Codoma</i> , Girard	270
<i>ornatus</i> (Girard)	270
Subgenus <i>Mouiana</i> , Girard	271
<i>fortisensis</i> (Girard)	271
<i>fragilis</i> (Girard)	271

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOSPONDYLI—Continued.

SUBORDER EVENTOGNATHI—Continued.

Family Cyprinidae—Continued.Genus *Notropis*, Rafinesque—Continued.Subgenus *Moniana*, Girard—Continued.

lutrensis (Baird & Girard)	271
proserpina (Girard)	272
callisema (Jordan)	272

Subgenus *Cyprinella*, Girard

bubalinus (Baird & Girard)	273
ludibundus (Girard)	273
macrostomus (Girard)	274
texanus (Girard)	274
notatus (Girard)	274
venustus (Girard)	274
cerrostigma (Cope)	275
stigmaturus (Jordan)	275
trichroistius (Jordan & Gilbert)	275
callistius (Jordan)	276
eurystomus (Jordan)	276
ceruleus (Jordan)	277
niveus (Cope)	277

chloristius (Jordan & Brayton)

whippilii (Girard)	278
analostanus (Girard)	279
galacturus (Cope)	279
camurus (Jordan & Meek)	279
xænurus (Jordan)	280
hypselopterus (Günther)	280
pyrrhomelas (Cope)	280
garmani, Jordan	281

Subgenus *Luxilus*, Rafinesque

cornutus (Mitchill)	281
frontalis (Agassiz)	283
cyaneus (Cope)	283
cerasinus (Cope)	283
albeolus (Jordan)	283
lacertosus (Cope)	284

Subgenus *Hydrophlox*, Jordan

macdonaldi, Jordan & Jenkins	284
coccogenis (Cope)	284
zonatus (Agassiz)	285
zonistius (Jordan)	285
rubricroceus (Cope)	286
chlorocephalus (Cope)	286
lutipinnis (Jordan & Brayton)	286
chamberlaini, Evermann	2800
chiliticus (Cope)	287
altipinnis (Cope)	287
roseus (Jordan)	287
chalybeus (Cope)	288
chrosomus (Jordan)	288
xænocephalus (Jordan)	289

Subgenus *Orcula*, Jordan & Evermann

orca, Woolman	289
---------------------	-----

Subgenus *Notropis*

ariommus (Cope)	290
-----------------------	-----

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLEUROPONDYLI—Continued.

SUBORDER EVENTOGNATHI—Continued.

Family Cyprinidae—Continued.

Genus *Notropis*, Rafinesque—Continued.Subgenus *Notropis*—Continued.

<i>seabriceps</i> (Cope)	290
<i>jejunus</i> (Forbes)	290
<i>canis</i> Jordan	290
<i>amabilis</i> (Girard)	291
<i>leuciodus</i> (Cope)	291
<i>teleosteiops</i> (Cope)	292
<i>arcansanus</i> , Meek	292
<i>socius</i> (Girard)	292
<i>notemigonoides</i> , Evermann	292
<i>stilbius</i> , Jordan	293
<i>atherinoides</i> , Rafinesque	293
<i>arge</i> (Cope)	294
<i>dilectus</i> (Girard)	294
<i>louisiana</i> , Evermann	2901
<i>fumeus</i> , Evermann	294
<i>rubrifrons</i> (Cope)	295
<i>photogenis</i> (Cope)	295
<i>annulatus</i> (Abbott)	296
<i>scepticus</i> (Jordan & Gilbert)	296
<i>micropteryx</i> (Cope)	296
<i>metallicus</i> , Jordan & Meek	297
Subgenus <i>Lythrurus</i> , Jordan	297
<i>bellus</i> (Hay)	297
<i>lirus</i> (Jordan)	297
<i>roseipinnis</i> , Hay	298
<i>umbratilis</i> (Girard)	298
<i>umbratilis</i> (Girard)	299
<i>atripes</i> (Jordan)	300
<i>lythrurus</i> (Jordan)	300
<i>cyanocephalus</i> (Copeland)	300
<i>ardens</i> (Cope)	301
<i>fasciolaris</i> , Gilbert	301
<i>matutinus</i> (Cope)	301
<i>punctulatus</i> (Hay)	301
Genus <i>Nystrosus</i> , Jordan & Snyder	3142
<i>popoche</i> , Jordan & Snyder	3142
Genus <i>Ericymba</i> , Cope	302
<i>buccata</i> , Cope	302
Genus <i>Phenacobius</i> , Cope	302
<i>teretulus</i> , Cope	303
<i>mirabilis</i> (Girard)	303
<i>scopifer</i> (Cope)	303
<i>uranops</i> , Cope	304
<i>catostomus</i> Jordan	304
Genus <i>Evarra</i> , Woolman	304
<i>edgemanni</i> , Woolman	304
Genus <i>Faleula</i> , Jordan & Snyder	3143
<i>chapale</i> , Jordan & Snyder	3143
Genus <i>Tiaroga</i> , Girard	305
<i>cobitis</i> , Girard	305
Genus <i>Rhinichthys</i> , Agassiz	305
<i>cataractæ</i> (Cuvier & Valenciennes)	306
<i>dulcis</i> (Girard)	306

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOSPONDYLI—Continued.

SUBORDER EVENTOGNATHI—Continued.

Family Cyprinidae—Continued.Genus *Rhinichthys*, Agassiz—Continued.

simus, Garman	307
atronasus (Mitchill)	307
croceus (Storer)	308
lunatus (Cope)	308
meleagris (Agassiz)	308

Genus *Agosia*, GirardSubgenus *Apocope*, Cope

oscula (Girard)	309
yarrowi, Jordan & Evermann	309
coesii (Yarrow)	310
adobe, Jordan & Evermann	310
nevadensis (Gilbert)	310
nubila (Girard)	311
carringtonii (Cope)	311

klamathensis, Evermann & Meek

velifera (Gilbert)

umatilla, Gilbert & Evermann

falcata, Eigenmann & Eigenmann

Subgenus *Agosia*

chrysogaster, Girard

Genus *Hybopsis*, AgassizSubgenus *Erimystax*, Jordan

tetranemus, Gilbert

aestivalis (Girard)

marconis, Jordan & Gilbert

hyostomus (Gilbert)

gelidus (Girard)

meeki, Jordan & Evermann

montanus, Meek

cumingii (Günther)

monacus (Cope)

dissimilis (Kirtland)

watauga, Jordan & Evermann

Subgenus *Hybopsis*

labrosus (Cope)

hypsinotus (Cope)

rubrifrons (Jordan)

amblops (Rafinesque)

storerianus (Kirtland)

Subgenus *Yuriria*, Jordan & Evermann

altus (Jordan)

Subgenus *Nocomis*, Girard

kentuckiensis (Rafinesque)

Genus *Couesius*, Jordan

squamilentus (Cope)

plumbeus (Agassiz)

dissimilis (Girard)

greeni, Jordan

adustus, Woolman

Genus *Platygobio*, Gill

physignathus (Cope)

gracilis (Richardson)

pallidus, Forbes

CLASS PISCES.—Continued.	Page.
SUBCLASS TELEOSTOMI.—Continued.	
ORDER PLECTROPOMYLI.—Continued.	
SUBORDER ERYTHROGNATHI.—Continued.	
Family Cyprinidae.—Continued.	
Genus Enoglossum, Rafinesque	327
maxillingua (LeSueur)	327
Genus Lepidomeda, Cope	328
virgata, Cope	328
jarrovi, Cope	328
Genus Meda, Girard	328
fulgida, Girard	329
Genus Plagopterus, Cope	329
argentissimus, Cope	329
SUBORDER HETERODONTI	329
Family Atherinidae	329
Genus Macrodon, Müller	330
microlepis, Günther	330
Family Characidae	331
Genus Curimata (Cuvier) Cloquet	332
magdalena, Steindachner	332
Genus Piabucina, Cuvier & Valenciennes	332
panamensis, Gill	332
testae, Boulenger	345
Genus Tetrazonopterus, Cuvier	333
Subgenus Astyanax, Baird & Girard	333
acutus, Günther	333
caeruleus, Jenyns	334
panamensis, Günther	334
microphthalmus, Günther	334
ocentrotus, Bötsch	334
potamorhynchus, Günther	335
seabripinnis, Jenyns	335
humilis, Günther	335
brevimanus, Günther	335
mexicanus, Filippi	335
argentatus (Baird & Girard)	336
Genus Brycon, Müller & Troschel	337
Subgenus Chalcinopsis, Kner	337
dentex, Günther	337
oxipectus (Kner)	337
Genus Gasteropelecus (Gronow) Pallas	337
maculatus, Steindachner	338
Genus Roboides, Günther	338
guatemalensis (Günther)	338
Genus Bramocharax, Gill	338
maculatus, Gill	338
Genus Luciocharax, Steindachner	339
insculptus, Steindachner	339
SUBORDER GYMNOSTOMI	339
Family Gymnotidae	340
Genus Giton, Kaup	340
fasciatus (Pallas)	340
Genus Eigenmannia, Jordan & Evermann	341
humboldtii (Steindachner)	341
Genus Symbanchia	341
Family Symbanchidae	342
Genus Symbanchus, Bloch	342
marmoratus, Bloch	342

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER CARENCHELYI.....	343
<i>Family Derichthyidae</i>	343
Genus <i>Derichthys</i> , Gill.....	343
<i>serpentinus</i> , Gill.....	343
ORDER APODES.....	344
SUBORDER ENCHELYCEPHALI.....	346
<i>Family Anguillidae</i>	346
Genus <i>Anguilla</i> , Shaw.....	347
<i>chrysypa</i> , Rafinesque.....	348
<i>Family Simenchelyidae</i>	348
Genus <i>Simenchelys</i> , Gill.....	349
<i>parasiticus</i> , Gill.....	349
<i>Family Hgophidae</i>	349
Genus <i>Ilyophis</i> , Gilbert.....	349
<i>brunneus</i> , Gilbert.....	350
<i>Family Synaphobranchidae</i>	350
Genus <i>Synaphobranchus</i> , Johnson.....	351
<i>pinnatus</i> (Gronow).....	351
Genus <i>Histiobranchus</i> , Gill.....	351
<i>bathybius</i> , Günther.....	352
<i>infernalis</i> , Gill.....	352
<i>Family Leptocephalidae</i>	352
Genus <i>Leptocephalus</i> (Gronow) Scopoli.....	353
<i>conger</i> (Linnaeus).....	354
<i>caudilimbatus</i> (Poey).....	355
Genus <i>Congrellus</i> , Ogilby.....	355; 2801
<i>balearicus</i> (De la Roche).....	356
<i>macrurus</i> (Gilbert).....	356
<i>prorigera</i> (Gilbert).....	357
<i>nitens</i> (Jordan & Bollman).....	357
<i>flavus</i> (Goode & Bean).....	357
Genus <i>Uroconger</i> , Kaup.....	358
<i>vicinus</i> , Vaillant.....	358
<i>Family Murenescidae</i>	358
Genus <i>Mureneseox</i> , McClelland.....	359
Subgenus <i>Mureneseox</i>	359
<i>coniceps</i> , Jordan & Gilbert.....	359
<i>savanna</i> (Cuvier).....	360
Genus <i>Xenomystax</i> , Gilbert.....	360
<i>atrarius</i> , Gilbert.....	361
Genus <i>Hoplunnis</i> , Kaup.....	361
<i>schmidtii</i> , Kaup.....	361
<i>diomedianus</i> , Goode & Bean.....	361
Genus <i>Neoconger</i> , Girard.....	362
<i>mucronatus</i> , Girard.....	362
<i>vermiformis</i> , Gilbert.....	362
Genus <i>Leptoconger</i> , Poey.....	362
<i>perlongus</i> (Poey).....	363
Genus <i>Stilbiscus</i> , Jordan & Bollman.....	363
<i>edwardsi</i> , Jordan & Bollman.....	363
Genus <i>Gordlichthys</i> , Jordan & Davis.....	363
<i>irretitus</i> , Jordan & Davis.....	363
<i>Family Nettastomidae</i>	364
Genus <i>Chlopsis</i> , Rafinesque.....	364
<i>equatorialis</i> , Gilbert.....	364
Genus <i>Venefica</i> , Jordan & Davis.....	365
<i>procera</i> , Goode & Bean.....	365

CLASS PISCES.—Continued.	Page.
SUBCLASS TELEOSTOMI.—Continued.	
ORDER APODES.—Continued.	
Suborder Teleostei (Continued)	
Family <i>Vernacei</i>	366
Genus <i>Serrivomer</i> , Gill & Ryder	367
<i>beanii</i> , Gill & Ryder	367
Genus <i>Spinivomer</i> , Gill & Ryder	367
<i>goodei</i> , Gill & Ryder	367
Genus <i>Avocettha</i> , Jordan & Davis	367
<i>infans</i> (Günther)	367
<i>gilli</i> (Bean)	368; 2801
<i>elongata</i> (Gill & Ryder)	369; 2802
Genus <i>Labichthys</i> , Gill & Ryder	368
<i>carinatus</i> , Gill & Ryder	368
Genus <i>Nemichthys</i> , Richardson	369
<i>scolopaceus</i> , Richardson	369
<i>avocetta</i> , Jordan & Gilbert	369
Family <i>Myxocet</i>	370
Genus <i>Ahlia</i> , Jordan & Davis	370
<i>egmontis</i> (Jordan)	370
Genus <i>Myrophis</i> , Lütken	371
<i>punctatus</i> , Lütken	371
<i>vafer</i> , Jordan & Gilbert	372
Genus <i>Chilorhinus</i> , Lütken	372
<i>auensonii</i> , Lütken	372
Family <i>Ophichthyidae</i>	372
Genus <i>Sphagebranchus</i> , Bloch	373
<i>anguiformis</i> (Peters)	374
<i>selachops</i> (Jordan & Gilbert)	374
Genus <i>Verna</i> , Jordan & Evermann	374
<i>kendalli</i> (Gilbert)	375
Genus <i>Letharchus</i> , Goode & Bean	375
<i>velifer</i> , Goode & Bean	375
Genus <i>Myrichthys</i> , Girard	375
<i>tigrinus</i> , Girard	376
<i>xysturus</i> , Jordan & Gilbert	2802
<i>pantostigmus</i> , Jordan & McGregor	2802
<i>oculatus</i> (Kaup)	376
<i>acuminatus</i> (Gronow)	376
Genus <i>Pisodonophis</i> , Kaup	377
<i>eruentifer</i> , Goode & Bean	377
<i>quasidonus</i> (Gilbert)	2803
Genus <i>Callechelys</i> , Kaup	378
<i>murana</i> , Jordan & Evermann	378
Genus <i>Basanichthys</i> , Jordan & Davis	378
<i>scuticaris</i> (Goode & Bean)	378
<i>peninsulae</i> (Gilbert)	379
<i>basanidum</i> (Jordan)	379
Genus <i>Quasiremus</i> , Jordan & Davis	380
<i>nothochir</i> (Gilbert)	380
<i>exlonthas</i> (Jordan & Bollman)	380
Genus <i>Ophichthus</i> , Thunberg & Ahl	381
Subgenus <i>Cryptopterus</i> , Kaup	382
<i>perotropeus</i> (Goode)	382
Subgenus <i>Cephalichthys</i>	382
<i>stigma</i> (Linné)	382; 2804
<i>retropinnis</i> (Eigenmann)	383

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER APODES—Continued.	
SUBORDER ENCHELYCEPHALI—Continued.	
Family <i>Ophichthyidae</i> —Continued.	
Genus <i>Ophichthus</i> , Thunberg & Ahl—Continued.	
Subgenus <i>Muraenopsis</i> , Kaup	383
<i>guttifer</i> (Bean & Dresel)	383
<i>ocellatus</i> (Le Sueur)	383
<i>triserialis</i> (Kaup)	384
Subgenus <i>Scytalophis</i> , Kaup	384
<i>gomesii</i> (Castelnau)	384
<i>zophochir</i> (Jordan & Gilbert)	385
<i>magniocolis</i> (Kaup)	385
<i>parilis</i> (Richardson)	386
Genus <i>Mystriophis</i> , Kaup	386
Subgenus <i>Echiopsis</i> , Kaup	386
<i>intertextus</i> (Richardson)	386
Genus <i>Scytalichthys</i> , Jordan & Davis	387
<i>miurus</i> (Jordan & Gilbert)	387
Genus <i>Brachysomophis</i> , Kaup	387
<i>crocodilinus</i> (Bennett)	388
SUBORDER COLOCEPHALI	388
Family <i>Muraenidae</i>	388
Genus <i>Enchelycore</i> , Kaup	389
<i>nigricans</i> (Bonnaterre)	389
Genus <i>Pythonichthys</i> , Poey	390
<i>sanguineus</i> , Poey	390
Genus <i>Rabula</i> , Jordan & Davis	390
<i>aque-dulcis</i> (Cope)	390
<i>marmorea</i> (Valenciennes)	391
<i>panamensis</i> (Steindachner)	391
<i>longicauda</i> (Peters)	391
Genus <i>Lycodontis</i> , McClelland	392
Subgenus <i>Lycodontis</i>	393
<i>verrilli</i> (Jordan & Gilbert)	393
<i>vicinus</i> (Castelnau)	394
<i>virescens</i> (Poey)	394
<i>polygonius</i> (Poey)	394
<i>moringa</i> (Cuvier)	395
<i>mordax</i> (Ayres)	395
<i>funeris</i> (Ranzani)	396
<i>sanctae-helenae</i> (Günther)	397
<i>castaneus</i> (Jordan & Gilbert)	396; 2804
<i>pietus</i> (Ahl)	2805
<i>dovii</i> (Günther)	397
<i>conspersus</i> (Poey)	397
<i>miliaris</i> (Kaup)	397
<i>elaboratus</i> (Poey)	398
<i>obscuratus</i> (Poey)	398
<i>jordani</i> , Evermann & Marsh	3145
<i>chilevastes</i> (Jordan & Gilbert)	398
Subgenus <i>Priodonophis</i> , Kaup	399
<i>ocellatus</i> (Agassiz)	399
<i>saxicola</i> (Jordan & Davis)	399
<i>nigromarginatus</i> (Girard)	399
Genus <i>Murana</i> (Artedii, Linnaeus)	400
<i>insularum</i> , Jordan & Davis	400

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER APODES—Continued.	
SUBORDER COLOCEPHALI—Continued.	
Family Muraenidae—Continued.	
Genus Muraena (Artedi) Linnaeus—Continued.	
<i>musculus</i> (Linnaeus)	401
<i>retifera</i> , Gilbert	401
<i>retifera</i> , Goode & Bean	401
<i>melanotis</i> (Kaup)	401
<i>capitata</i> , Jenyns	402
Genus Echidna, Forster	402
<i>modesta</i> (Peters)	402
<i>catenata</i> (Bloch)	403
Genus Uropterygius, Rüppell	403
Subgenus <i>Scutica</i> , Jordan & Evermann	404
<i>necturus</i> (Jordan & Gilbert)	404
Genus Channomuraena, Richardson	404
<i>vittata</i> (Richardson)	404
ORDER LYOMERI	404
Family Saccopharyngidae	405
Genus Saccopharynx, Mitchell	405
<i>atypicus</i> , Harwood	405
Family Eurypharyngidae	406
Genus Gastrostomus, Gill & Ryder	406
<i>bairdii</i> , Gill & Ryder	406
ORDER ISOSPONDYLI	407
Family Elopidae	408
Genus Tarpon, Jordan & Evermann	409
<i>atlanticus</i> (Cuvier & Valenciennes)	409
Genus Elops, Linnaeus	409
<i>saurus</i> , Linnaeus	410
Family Albulidae	410
Genus Albula (Gronow) Scopoli	411; 2807
<i>vulpes</i> (Linnaeus)	411
Family Hiodontidae	412
Genus Hiodon, Le Sueur	412
Subgenus Amphiodon, Rafinesque	413
<i>aloides</i> (Rafinesque)	413
Subgenus Hiodon	413
<i>tergisus</i> , Le Sueur	413
<i>selenops</i> , Jordan & Bean	414
Family Chanidae	414
Genus Chanos, Lacépède	414
<i>chanos</i> (Forsk.)	414
Family Doridae	415
Genus Dorosoma, Rafinesque	415
<i>cepedianum</i> (Le Sueur)	416
<i>exile</i> , Jordan & Gilbert	416
<i>mexicanum</i> (Günther)	416
<i>petenense</i> (Günther)	417
Genus Signalosa, Evermann & Kendall	2809
<i>achafalaya</i> , Evermann & Kendall	2809
Family Jenkinsiidae	417
Genus Jenkinsia, Jordan & Evermann	418
<i>atlantica</i> , Gilbert	419
<i>laurotania</i> (Gosse)	419
<i>stolidifera</i> (Jordan & Gilbert)	419

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ISOSPONDYLI—Continued.	
Family Clupeidæ—Continued.	
Genus Etrumeus, Bleeker.....	419
sardina (Mitchill)	420
Genus Perkinsia, Rosa Smith Eigenmann	420
othonops, R. S. Eigenmann.....	420
Genus Clupea (Artedi) Linnæus	421
harengus, Linnæus	421
pallasii, Cuvier & Valenciennes	422
Genus Clupanodon, Lacépède	422
caeruleus (Girard)	423
pseudohispanicus (Poey)	423
Genus Pomolobus, Rafinesque	424
chrysochloris, Rafinesque	425
mediocris, Mitchill	425
pseudoharengus (Wilson)	426
æstivalis (Mitchill)	426
Genus Alosa, Cuvier.....	427
sapidissima (Wilson)	427
alabamæ, Jordan & Evermann.....	2810
Genus Sardinella, Cuvier & Valenciennes.....	428
Subgenus Sardinella	429
anchovia (Cuvier & Valenciennes)	429
clupeola (Cuvier & Valenciennes)	429
apicalis (Müller & Troschel)	429
bishopi (Müller & Troschel)	430
Subgenus Harengula, Cuvier & Valenciennes.....	430
sardina (Poey)	430
macrophthalmus (Ranzani)	430
thrissina (Jordan & Gilbert)	430
humeralis (Cuvier & Valenciennes)	431
Subgenus Lile, Jordan & Evermann.....	431
stolifera (Jordan & Gilbert).....	431
Genus Opisthonema, Gill.....	432
oglinum (Le Sueur)	432
libertate (Günther)	433
Genus Brevoortia, Gill.....	433
tyrannus (Latrobe)	433
aurea (Agassiz)	434
brevicaudata, Goode	434
patronus, Goode.....	434
Genus Chirocentrodon, Günther	435
tenuatus, Günther	435
Genus Hlisha, Gray.....	435
flavipinnis (Valenciennes)	435
bleekeriana (Poey)	436
furthi (Steindachner)	436
Genus Opisthopternus, Gill	436
lutipinnis (Jordan & Gilbert).....	437
dovii (Günther)	437
macrops (Günther)	437
Genus Odontognathus, Lacépède.....	437
mucronata, Lacépède	438
panamensis (Steindachner).....	438
Genus Pristigaster, Cuvier	438
cayanus, Cuvier	438

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ISOSPONDYLI—Continued.	
Family <i>Engraulididae</i>	439
Genus <i>Stolephorus</i> , Lacépède.....	439
<i>maculatus</i> , Jordan & Gilbert.....	441
<i>per fasciatus</i> (Poey).....	441
<i>exiguus</i> , Jordan & Gilbert.....	442
<i>cubanus</i> (Poey).....	442
<i>pertheatus</i> , Goode & Bean.....	442
<i>ischanus</i> , Jordan & Gilbert.....	442
<i>brownii</i> (Gmelin).....	443
<i>cultratus</i> , Gilbert.....	443
<i>delicatissimus</i> (Girard).....	444
<i>chirostomus</i> (Goode).....	444
<i>argyroplannus</i> (Cuvier & Valenciennes).....	444
<i>curtus</i> , Jordan & Gilbert.....	445
<i>opercularis</i> , Jordan & Gilbert.....	445
<i>mitchilli</i> (Cuvier & Valenciennes).....	446
<i>lucidus</i> , Jordan & Gilbert.....	446
<i>rastralis</i> , Gilbert & Pierson.....	2811
<i>mundecolus</i> , Gilbert & Pierson.....	2812
<i>naso</i> , Gilbert & Pierson.....	2813
<i>starksi</i> , Gilbert & Pierson.....	2813
<i>clupeoides</i> (Swainson).....	447
<i>productus</i> (Poey).....	447
<i>gilberti</i> , Evermann & Marsh.....	3146
<i>garmani</i> , Evermann & Marsh.....	3146
<i>compressus</i> (Girard).....	447
<i>panamensis</i> (Steindachner).....	448
<i>spinifer</i> (Cuvier & Valenciennes).....	448
<i>seofieldi</i> , Jordan & Culver.....	2814
<i>astilbe</i> , Jordan & Rutter.....	2815
<i>robertsi</i> , Jordan & Rutter.....	2815
<i>macrolepidotus</i> (Kner & Steindachner).....	449: 2815
Genus <i>Engraulis</i> , Cuvier.....	448
<i>mordax</i> , Girard.....	448
Genus <i>Cetengraulis</i> , Günther.....	450
<i>mysticetus</i> (Günther).....	450
<i>concoloratus</i> (Cuvier).....	450
<i>euglymen</i> , Gilbert & Pierson.....	2815
Genus <i>Pterengraulis</i> , Günther.....	450
<i>atherinoides</i> (Linnaeus).....	450
Genus <i>Lyceengraulis</i> , Günther.....	451
<i>gambelensis</i> (Cuvier).....	451
<i>poeyi</i> (Kner & Steindachner).....	445: 2811
Family <i>Alepocephalidae</i>	451
Genus <i>Alepocephalus</i> , Risso.....	452
<i>prodietus</i> , Gill.....	452
<i>agassizii</i> , Goode & Bean.....	453
<i>zonocentrus</i> (Gilbert).....	453
Genus <i>Mitchillina</i> , Jordan & Evermann.....	453
<i>halpili</i> (Goode & Bean).....	454
Genus <i>Bathytroctes</i> , Günther.....	454
<i>stomatias</i> , Gilbert.....	454
Genus <i>Talismanina</i> , Goode & Bean.....	455
<i>artillarium</i> , Goode & Bean.....	455
<i>aquatoris</i> , Goode & Bean.....	456

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ISOSPONDYLI—Continued.	
Family Alepocephalidae—Continued.	
Genus Conocara, Goode & Bean.....	456
macdonaldi, Goode & Bean.....	457
macroptera (Vaillant).....	457
Genus Platytroctes, Günther.....	458
apus, Günther.....	458
Genus Ericara, Gill & Townsend.....	2816
salmonia, Gill & Townsend.....	2816
Genus Aleposomus, Gill.....	459
copei, Gill.....	459
Family Salmonidae.....	460
Genus Coregonus (Artemis) Linnaeus.....	461
Subgenus Prosopium, Milner.....	462
coulterii, Eigenmann & Eigenmann.....	462
williamsoni, Girard.....	463
cismontanus, Jordan.....	463
kennicotti, Milner.....	464
richardsonii, Günther.....	465
quadrilateralis, Richardson.....	465
Subgenus Coregonus.....	465
clupeiformis (Mitchill).....	465
nelsonii, Bean.....	466
labradoricus, Richardson.....	466
Genus Argyrosomus, Agassiz.....	467
Subgenus Argyrosomus.....	468
osmeriformis (H. M. Smith).....	468
artedi (Le Sueur).....	468
sisco, Jordan.....	469
boyi, Gill.....	469
pusillus (Bean).....	470
lucidus (Richardson).....	470
laurettae (Bean).....	471
alascanus, Seefield.....	2817
prognathus (H. M. Smith).....	471
nigripinnis, Gill.....	472
Subgenus Allosomus, Jordan.....	473
tullibee (Richardson).....	473
bisselli, Bollman.....	473
Genus Stenodus, Richardson.....	473
mackenzii (Richardson).....	474
Genus Oncorhynchus, Suckley.....	474
Subgenus Oncorhynchus.....	478
gorbuscha (Walbaum).....	478
keta (Walbaum).....	478
tschawyttscha (Walbaum).....	479
kisutch (Walbaum).....	480
Subgenus Hypsifario, Gill.....	481
nerka (Walbaum).....	481
Genus Salmo (Artemis) Linnaeus.....	483
Subgenus Salmo.....	486
salar, Linnaeus.....	486
sebagi (Girard).....	487
onananie, McCarthy.....	487
Subgenus Trutta, Linnaeus.....	487
mykiss, Walbaum.....	487; 492; 2818

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER TROSPONDYLI—Continued.

Family Salmonidae—Continued.

Genus *Salmo* (Artedi) Linnaeus—Continued.Subgenus *Trutta*, Linnaeus—Continued.

<i>clarkii</i> (Richardson).....	492; 2819
<i>lewisii</i> (Girard).....	493; 2819
<i>gibbsii</i> (Suckley).....	493; 2819
<i>henshawi</i> (Gill & Jordan).....	493; 2819
<i>tahoensis</i> , Jordan & Evermann.....	2870
<i>virginalis</i> (Girard).....	495; 2819
<i>spilurus</i> (Cope).....	495; 2819
<i>pleurificus</i> (Cope).....	496; 2819
<i>maculatus</i> (Bassett).....	496; 2819
<i>stomias</i> (Cope).....	497; 2819
<i>macdonaldi</i> , Jordan & Evermann.....	497; 2819
<i>declivifrons</i> , Meek.....	3147
<i>jordani</i> , Meek.....	3148
<i>gairdneri</i> , Richardson.....	497; 498
<i>kamloops</i> (Jordan).....	499
<i>beardsleei</i> , Jordan & Seale.....	2819
<i>crecentis</i> , Jordan & Beardslee.....	2821
<i>bathocetor</i> , Meek.....	3149
<i>irideus</i> , Gibbons.....	500
<i>masoni</i> (Suckley).....	501
<i>shasta</i> (Jordan).....	502
<i>gilberti</i> (Jordan).....	502
<i>stonei</i> (Jordan).....	503
<i>agua-bonita</i> (Jordan).....	503
Genus <i>Cristivomer</i> , Gill & Jordan.....	504
<i>gambusia</i> (Walbaum).....	504
<i>sisowet</i> (Agassiz).....	505
Genus <i>Salvelinus</i> (Nilsson) Richardson.....	506
<i>fontinalis</i> (Mitchill).....	506
<i>agassizii</i> (Garman).....	507
<i>malma</i> (Walbaum).....	507; 2823
<i>parkei</i> (Suckley).....	507; 2823
<i>kundschia</i> (Pallas).....	2822
<i>alpinus</i> (Linnaeus).....	508
<i>alpinus</i> (Richardson).....	508
<i>stagnalis</i> (Fabricius).....	510
<i>retutus</i> (Günther).....	510
<i>aureolus</i> (Bean).....	511
<i>equassa</i> (Girard).....	514
<i>arcticus</i> (Günther).....	515
<i>arcticus</i> , Günther.....	515
Family <i>Trochilidae</i>	517
Genus <i>Thymallus</i> , Cuvier.....	517
<i>signifer</i> (Richardson).....	517
<i>tricolor</i> , Cope.....	518; 2871
<i>montanus</i> (Milner).....	519; 2871
Family <i>Tetraodonidae</i>	519
Genus <i>Mallotus</i> , Cuvier.....	520
<i>virgatus</i> (Macleay).....	520
Genus <i>Thaleichthys</i> , Girard.....	521
<i>pacificus</i> (Richardson).....	521

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ISOSPONDYLI—Continued.	
<i>Family Argentinidae</i> —Continued.	
Genus <i>Osmerus</i> (Artedi) Linnaeus	522
Subgenus <i>Spirinchus</i> , Jordan & Evermann	522
<thaleichthys,<="" ayres="" td=""><td>522</td></thaleichthys,>	522
attenuatus, Lockington	523
Subgenus <i>Osmerus</i>	523
mordax (Mitchill)	523
spectrum (Cope)	523
abbotti (Cope)	524
dentex, Steindachner	524
albatrossis, Jordan & Gilbert	2823
Genus <i>Mesopus</i> , Gill	524
pretiosus (Girard)	525
olidus (Pallas)	525
Genus <i>Argentina</i> (Artedi) Linnaeus	525
silus, Ascanius	526
sialis, Gilbert	526
striata, Goode & Bean	526
Genus <i>Leuroglossus</i> , Gilbert	527
stilbius, Gilbert	527
<i>Family Microstomidae</i>	527
Genus <i>Nansenia</i> , Jordan & Evermann	528
grœnlandica (Reinhardt)	528
Genus <i>Bathylagus</i> , Günther	528
benedicti, Goode & Bean	529
euryops, Goode & Bean	529
pacificus, Gilbert	530
borealis, Gilbert	2824
milleri, Jordan & Gilbert	2825
ORDER INIOMI	530
<i>Family Synodontidae</i>	532
Genus <i>Trachinocephalus</i> , Gill	533
myops (Forster)	533
Genus <i>Synodus</i> (Gronow) Scopoli	533; 2807
intermedius (Agassiz)	535
evermanni, Jordan & Bollman	535
poeyi, Jordan	536
synodus (Linnaeus)	536
lacertinus, Gilbert	536
saurus (Linnaeus)	537
scituliceps, Jordan & Gilbert	537
jenkinsi, Jordan & Bollman	537
fetens (Linnaeus)	538
lucioceps (Ayres)	539
Genus <i>Bathysaurus</i> , Günther	539
ferox, Günther	539
Genus <i>Bathylaco</i> , Goode & Bean	540
nigricans, Goode & Bean	540
<i>Family Aulopidae</i>	541
Genus <i>Chlorophthalmus</i> , Bonaparte	541
agassizii, Bonaparte	541
chalybeius (Goode)	542
trunculentus, Goode & Bean	542
<i>Family Benthosauridae</i>	543
Genus <i>Benthosaurus</i> , Goode & Bean	543
grallator, Goode & Bean	543

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER INOMI—Continued.	
Family <i>Bathypteroidæ</i>	544
Genus <i>Bathypterois</i> , Günther	544
Subgenus <i>Synapteretmus</i> , Goode & Bean	545
.....	545
.....	546
.....	546
Genus <i>Ipnops</i> , Günther	546
.....	547
Family <i>Rondelettiæ</i>	547
Genus <i>Rondeletia</i> , Goode & Bean	548
bicolor, Goode & Bean	548
Family <i>Cetomimide</i>	548
Genus <i>Cetomimus</i> , Goode & Bean	549
gillii, Goode & Bean	549
storeri, Goode & Bean	550
Family <i>Myctophidæ</i>	550
Genus <i>Macrostoma</i> , Risso	554
quercinum (Goode & Bean)	554
margaritiferrum (Goode & Bean)	555
angustidens, Risso	555
castaneum (Goode & Bean)	556
caudispinosum (Johnson)	556
Genus <i>Ceratopsopelus</i> , Günther	557
madeiraensis (Lowe)	557
Genus <i>Lampanyctus</i> , Bonaparte	557
crocodilus (Risso)	558
townsendi (Eigenmann & Eigenmann)	558
alatus, Goode & Bean	559
guntheri, Goode & Bean	559
gemmifer, Goode & Bean	559
laeerta (Goode & Bean)	560
Genus <i>Lampadena</i> , Goode & Bean	560
speculigera, Goode & Bean	561
Genus <i>Nannobranchium</i> , Günther	561
leucopsarum (Eigenmann & Eigenmann)	562
nannoehir (Gilbert)	562
mexicanum (Gilbert)	563
regale (Gilbert)	563
macdonaldi, (Goode & Bean)	563
Genus <i>Diaphus</i> , Eigenmann & Eigenmann	564
theta, Eigenmann & Eigenmann	564
Genus <i>Ethoprora</i> , Goode & Bean	565
lucida, Goode & Bean	565
effulgens, Goode & Bean	566
Genus <i>Colletia</i> , Goode & Bean	567
.....	567
nocturna (Poey)	567
Genus <i>Rhinoscopelus</i> , Lütken	568
cocoi (Cocco)	568
andree (Lütken)	569
rarus (Lütken)	569
Genus <i>Myctophum</i> , Rafinesque	569
punctatum, Rafinesque	570
alline (Lütken)	570
opalinum, Goode & Bean	571
humboldti (Risso)	571

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER INIOMI—Continued.

Family Myctophidae—Continued.Genus *Myctophum*, Rafinesque—Continued.

californiense, Eigenmann & Eigenmann.....	572
gracile (Lütken).....	572; 3150
benoiti (Cocco).....	573
hygomi (Lütken).....	573
Genus <i>Benthosema</i> , Goode & Bean.....	573
mulleri (Gmelin).....	574
arcticum (Lütken).....	574
Genus <i>Dasy Scopelus</i> , Günther.....	574
spinus (Steindachner).....	575
Genus <i>Tarletonbeania</i> , Eigenmann & Eigenmann.....	575
crenularis (Jordan & Gilbert).....	575
tenua, Eigenmann & Eigenmann.....	575

Family Maurolicidae.....576Genus *Maurolicus*, Cocco.....576

pennanti (Walbaum).....577

Genus *Vinciguerria*, Jordan & Evermann.....577

attenuata (Cocco).....577

Genus *Valenciennellus*, Jordan & Evermann.....577

tripunctulatus (Esmark).....578

Family Chauliodontidae.....578Genus *Gonostoma*, Rafinesque.....578

denudatum, Rafinesque.....579

breviens, Kner & Steindachner.....579

Genus *Zaphotias*, Goode & Bean.....580; 2826

pedaliotus (Goode & Bean).....580; 2826

Genus *Cyclothone*, Goode & Bean.....581Subgenus *Cyclothone*.....582

microdon (Günther).....582

bathypbila (Vallant).....582

Subgenus *Signops*, Gill.....583

elongata (Günther).....583

megalops Lütken.....3150

Genus *Yarella*, Goode & Bean.....583

blackfordi, Goode & Bean.....584

Genus *Chauliodus*, Bloch & Schneider.....584

sloanei, Bloch & Schneider.....585

macouni, Bean.....585

Family Astronesthidae.....586Genus *Astronesthes*, Richardson.....586

niger, Richardson.....586

gemmifer, Goode & Bean.....586

richardsoni (Poey).....587

Family Stomiidae.....587Genus *Stomias*, Cuvier.....588

ferox, Reinhardt.....588

affinis, Günther.....588

Genus *Echiostoma*, Lowe.....589

barbatum, Lowe.....589

margarita, Goode & Bean.....589

Genus *Grammatostomias*, Goode & Bean.....590

dentatus, Goode & Bean.....590

Genus *Photonectes*, Günther.....591

gracilis, Goode & Bean.....591

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ISOMI—Continued.	
Family Malacosteidae.....	592
Genus Malacosteus, Ayres.....	592
Family Plagiodontidae.....	593; 2826
Genus Plagyodus (Steller).....	594; 2826
Subgenus Plagyodus.....	595
<i>lanceolatus</i> (L.).....	595
<i>asculapius</i> (Bean).....	595
Subgenus Caulopus, Gill.....	596
<i>altivelis</i> (Poey).....	596
<i>lanceolatus</i> (L.).....	596
<i>setta</i> (Gill).....	597
Family Odontostomidae.....	597
Genus Onosudis, Günther.....	598
<i>lowii</i> , Günther.....	598
Family Paralepididae.....	599
Genus Sudis, Rafinesque.....	599
<i>intermedius</i> (Poey).....	600
<i>ringens</i> , Jordan & Gilbert.....	600
Genus Aretozegus, Gill.....	601
<i>borealis</i> (Reinhardt).....	601
<i>coruscans</i> (Jordan & Gilbert).....	601
Genus Paralepis, Risso.....	602
<i>coregonoides</i> , Risso.....	602
Family Sternoptychidae.....	603
Genus Sternoptyx, Hermann.....	603
<i>diaphana</i> , Hermann.....	603
Genus Argyropelecus, Cocco.....	603
<i>hemigymnus</i> , Cocco.....	604
<i>olferi</i> (Cuvier).....	604
Family Idiacanthidae.....	604
Genus Idiacanthus, Peters.....	605
<i>ferox</i> (Günther).....	605
<i>antrostomus</i> , Gilbert.....	605
Genus Ilyodon.....	606
Family Halosauridae.....	607
Genus Halosaurus, Johnson.....	607
<i>oweni</i> , Johnson.....	607
<i>guntheri</i> , Goode & Bean.....	608
Genus Halosauropsis, Collett.....	608; 2826
<i>rostrata</i> (Günther).....	609
<i>macrochir</i> (Günther).....	609
<i>gondel</i> (Gill).....	610
<i>gracilis</i> (Goode & Bean).....	610
<i>pallida</i> (Goode & Bean).....	611
Genus Heterosaurus.....	612
Family Notacanthidae.....	613
Genus Notacanthus, Bloch.....	614
<i>chemnitzii</i> , Bloch.....	614
<i>gracilis</i> (Gill).....	615
<i>phalangurus</i> , Goode.....	616
Genus Macdonaldia, Goode & Bean.....	616
<i>challengeri</i> (Vallant).....	617
<i>alta</i> , Gill & Townsend.....	2826
<i>longa</i> , Gill & Townsend.....	2826

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER HETEROMI—Continued.	
<i>Family Lipogenuidae</i>	619
Genus <i>Lipogenys</i> , Goode & Bean	619
<i>gillii</i> , Goode & Bean	619
ORDER XENOMI	620
<i>Family Dallidae</i>	620
Genus <i>Dallia</i> , Bean	621
<i>pectoralis</i> , Bean	621
ORDER HAPLOMI	622
<i>Family Umbridae</i>	622
Genus <i>Umbra</i> (Krämer) Scopoli	623; 2897
Subgenus <i>Melanura</i> , Agassiz	623
<i>limi</i> (Kirtland)	623
<i>pygmaea</i> (De Kay)	624
<i>Family Lucidae</i>	624
Genus <i>Lucius</i> , Rafinesque	625
Subgenus <i>Kenoza</i> , Jordan & Evermann	626
<i>americanus</i> (Gmelin)	626
<i>vermiculatus</i> (Le Sueur)	627
<i>reticulatus</i> (Le Sueur)	627
Subgenus <i>Lucius</i>	628
<i>lucius</i> (Linnaeus)	628
Subgenus <i>Mascalongus</i> , Jordan	629
<i>masquinongy</i> (Mitchill)	629
<i>ohiensis</i> (Kirtland)	629
<i>immaculatus</i> (Garrard)	630
<i>Family Poeciliidae</i>	630
Genus <i>Fundulus</i> , Lacépède	632
Subgenus <i>Fundulus</i>	637
<i>punctatus</i> , Günther	637
<i>vinctus</i> , Jordan & Gilbert	637
<i>pallidus</i> , Evermann	638
<i>similis</i> (Baird & Girard)	638
<i>majalis</i> (Walbaum)	639
<i>parvipinnis</i> , Girard	640
<i>heteroclitus</i> (Linnaeus)	640
<i>macrolepidotus</i> (Walbaum)	641
<i>badius</i> , Garman	2827
<i>grandis</i> (Baird & Girard)	641; 2827
<i>fonticola</i> , Cuvier & Valenciennes	643
<i>bermudei</i> , Günther	643
<i>robustus</i> , Bean	644
<i>labialis</i> , Günther	644
Subgenus <i>Fontinus</i> , Jordan & Evermann	645
<i>adina</i> , Jordan & Gilbert	645
<i>diaphanus</i> (Le Sueur)	645
<i>menona</i> (Jordan & Copeland)	645
<i>extensus</i> , Jordan & Gilbert	646
<i>seminolis</i> , Girard	647; 2828
Subgenus <i>Plancterus</i> , Garman	2828
<i>zebrinus</i> , Jordan & Gilbert	646; 2828
Subgenus <i>Nemisma</i> , Jordan	648
<i>catenatus</i> (Storer)	648
<i>stellifer</i> (Jordan)	648
Subgenus <i>Gambusinus</i> , Jordan & Evermann	649
<i>rathbuni</i> , Jordan & Meek	649

CLASS PISCES—Continued.

1925

SUBCLASS TELEOSTOMI—Continued.

ORDER HAPLOMI—Continued.

Family Poeciliidae—Continued.

Genus *Fundulus*, Lacépède—Continued.Subgenus *Gambusia*, Jordan & Evermann—Continued.

<i>albolineatus</i> , Gilbert	649
<i>confluentus</i> , Goode & Bean	642; 650; 2828
<i>funduloides</i> (Evermann)	650
Subgenus <i>Zygonectes</i> , Agassiz	650
<i>dovii</i> (Günther)	650
<i>floripinnis</i> (Cope)	651
<i>jenkinsi</i> (Evermann)	651
<i>pulvereus</i> (Evermann)	652
<i>scartus</i> , Meek	654
<i>sciadicus</i> , Cope	649; 654; 2828
<i>hutchinsii</i> (Baird)	654
<i>chrysotus</i> , Holbrook	655; 2828
<i>cingulatus</i> , Cuvier & Valenciennes	656; 2829
<i>gambusia</i> (Günther)	656; 2830
<i>diapar</i> (Agassiz)	658
<i>notatus</i> (Rafinesque)	659
<i>goodei</i> (Jordan)	664; 2831
Genus <i>Aplocheilichthys</i> , McClelland	2830
<i>dovii</i> (Günther)	650; 2830
Genus <i>Adinia</i> , Girard	660
<i>guatemalensis</i> (Günther)	660
<i>pachycephala</i> (Günther)	660
<i>dugei</i> (Bonn)	661
<i>multifasciata</i> , Girard	661
Genus <i>Rivulus</i> , Poey	662
<i>cylindraceus</i> , Poey	662; 2830
<i>isthmensis</i> , Garman	2830
Genus <i>Lucania</i> , Girard	663
<i>omnata</i> (Jordan)	663
<i>venusta</i> , Girard	665
<i>parva</i> (Baird & Girard)	665
Genus <i>Girardinichthys</i> , Bleeker	666
<i>innominatus</i> , Bleeker	666
Genus <i>Empetrichthys</i> , Gilbert	666
<i>merriami</i> , Gilbert	667
Genus <i>Chamaelon</i> , Günther	667
<i>lateralis</i> , Günther	668
<i>bilineatus</i> , Bean	668
<i>variatus</i> , Bean	669
<i>eneustus</i> , Jordan & Snyder	3150
<i>furcatus</i> , Jordan & Gilbert	669
<i>stans</i> , Poey	670
<i>garmani</i> , Jordan & Evermann	2831
Genus <i>Cyprinodon</i> , Lacépède	670
<i>variegatus</i> , Lacépède	671
<i>riverendi</i> (Poey)	673; 2832
<i>eximius</i> , Girard	673; 2832
<i>bovinus</i> , Baird & Girard	673
<i>macularius</i> , Baird & Girard	674
<i>caeruleus</i> (Günther)	675
<i>caeruleus</i> (Günther)	675
<i>caeruleus</i> (Günther)	675
<i>caeruleus</i> (Günther)	675

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER HAPLOMI—Continued.

Family Poeciliidae—Continued.

Genus *Cyprinodon*, Lacépède—Continued.*latifasciatus*, Garman 676Genus *Jordanella*, Goode & Bean 677*floride*, Goode & Bean 677Genus *Pseudoxiphophorus*, Bleeker 678*bimaculatus* (Heckel) 678Genus *Gambusia*, Poey 678*punctata*, Poey 679*puncticulata*, Poey 680*affinis* (Baird & Girard) 680*tridentiger*, Garman 2833*nobilis* (Baird & Girard) 682*nicaraguensis*, Günther 682*gracilis*, Heckel 682; 2832*episcopi*, Steindachner 683*melapleura* (Gosse) 659; 2830Genus *Belonesox*, Kner 684*belizanus*, Kner 684Genus *Anableps* (Artedi) Scopoli 684; 2807*dovii*, Gill 685Genus *Goodea*, Jordan 685*atripinnis*, Jordan 685Genus *Xenodermus*, Jordan & Snyder 3151*caliente*, Jordan & Snyder 3152*xaliscone*, Jordan & Snyder 3153*luitpoldii*, Steindachner 2832; 3152Genus *Platypoecilus*, Günther 685*maculatus*, Günther 686*quitzcoensis*, B. A. Bean 2873*mentalis*, Gill 686Genus *Heterandria*, Agassiz 686*uninotata* (Poey) 687*metallica* (Poey) 687*formosa*, Agassiz 687*pleurospilus* (Günther) 688Genus *Lebistes*, De Filippi 689*poeciliodes*, De Filippi 689Genus *Acropoecilia*, Hilgendorf 690*tridens* (Hilgendorf) 690Genus *Poecilia*, Bloch & Schneider 690*vivipara*, Bloch & Schneider 691*butleri*, Jordan 691*gillii* (Kner & Steindachner) 692*vittata*, Guichenot 692; 2833*mexicana*, Steindachner 692*thermalis*, Steindachner 693*chisosensis*, Günther 693*petenensis*, Günther 694*sphenops*, Cuvier & Valenciennes 694*dovii*, Günther 695*couchiana* (Girard) 695*boucardi*, Steindachner 695*reticulata*, Peters 696; 2833*arubensis*, Van Lidth de Jeude 696

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER HAPLOM—Continued.

Family *Paciliidae*—Continued.Genus *Pacilia*, Bloch & Schneider—Continued.*dominicensis*, Cuvier & Valenciennes 696; 2834*-pilurus*, Günther 697*-elongata*, Günther 697*-presidionis*, Jordan & Culver 697*-occidentalis* (Baird & Girard) 689; 2833*-limantouri*, Jordan & Snyder 3153Genus *Mollienisia*, Le Sueur 698*-jonesi*, Günther 698*-formosa* (Girard) 699*-latipinna*, Le Sueur 699*-petenensis*, Günther 700Genus *Xiphophorus*, Heckel 701*-helleri*, Heckel 701*-montezumae*, Jordan & Snyder 3154*-guntheri*, Jordan & Evermann 702Family *Amblyopsidae* 702Genus *Chologaster*, Agassiz 703*-cornutus*, Agassiz 703*-agassizii*, Putnam 704*-papilliferus*, Forbes 704Genus *Typhlichthys*, Girard 704*-subterraneus*, Girard 704Genus *Troglichthys*, Eigenmann 3156*-rosea*, Eigenmann 2835; 3156Genus *Amblyopsis*, De Kay 706*-spelaeus*, De Kay 706Order *SALENTOMYXII* 707Family *Tetraodonidae* 708Genus *Tylosurus*, Cocco 708*-notatus* (Poey) 710*-scapularis*, Jordan & Gilbert 711*-finneyi* (Walbaum) 711*-euryops*, Bean & Dresel 711*-diplotenia* (Cope) 712*-microps* (Günther) 712*-angusticeps* (Günther) 712*-ardeola* (Cuvier & Valenciennes) 713*-stolzmanni* (Steindachner) 713*-caltia* (Günther) 714*-marinus* (Walbaum) 714*-almeida* (Quoy & Gaimard) 715*-fodiator*, Jordan & Gilbert 715*-raphidoma* (Ranzani) 715*-galeatus* (Cuvier & Valenciennes) 716*-pacificus* (Steindachner) 716*-caribbeus* (Le Sueur) 717Genus *Athlennes*, Jordan & Fordie 717*-hians* (Cuvier & Valenciennes) 718Family *Hemiramphidae* 718Genus *Chirodonus*, Goode & Bean 719*-atherinoides*, Goode & Bean 719

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER SYNGNATHI—Continued.	
Family Hemiramphidae—Continued.	
Genus Hyporhamphus, Gill.....	719
unifasciatus (Ranzani).....	720
roberti (Cuvier & Valenciennes).....	721
rosae (Jordan & Gilbert).....	721
Genus Hemiramphus, Cuvier.....	722
brasiliensis (Linnaeus).....	722
balao, Le Sueur.....	723
Genus Euleptorhamphus, Gill.....	723
velox, Poey.....	724
Family Scombracidae.....	724
Genus Scombrosox, Lacépède.....	725
saurus (Walbaum).....	725
Genus Cololabis, Gill.....	726
brevirostris (Peters).....	726
Family Exocoetidae.....	726
Genus Fodiator, Jordan & Meek.....	727
acutus (Cuvier & Valenciennes).....	728
Genus Parexocoetus, Bleeker.....	728
mesogaster (Bloch).....	728
Genus Exocoetus, Linnaeus.....	730; 2835
volitans, Linnaeus.....	729; 734; 2835
Genus Cypsilurus, Swainson.....	2835
heterurus (Rafinesque).....	735; 2836
lutkeni (Jordan & Evermann).....	736; 2836
fureatus (Mitchill).....	737; 2836
nigricans (Bennett).....	737; 2836
xenopterus (Gilbert).....	738; 2836
lineatus (Cuvier & Valenciennes).....	739; 2836
cyanopterus (Cuvier & Valenciennes).....	739; 2836
bahiensis (Ranzani).....	739; 2836
californicus (Cooper).....	740; 2836
calliopterus (Günther).....	740; 2836
gibbifrons (Cuvier & Valenciennes).....	741; 2836
Genus Exonantes, Jordan & Evermann.....	2835
exsiliens (P. L. S. Müller).....	732; 2836
rondeletii (Cuvier & Valenciennes).....	733; 2836
vinciguerrae (Jordan & Meek).....	734; 2836
rufipinnis (Cuvier & Valenciennes).....	735; 2836
affinis (Günther).....	2836
ORDER HEMIBRANCHII.....	741
Family Gasterosteidae.....	742
Genus Eucalia, Jordan.....	743
inconstans (Kirtland).....	744; 3157
cayuga, Jordan.....	744
pygmaea (Agassiz).....	744
Genus Pygosteus, Brevoort.....	745
pungitius (Linnaeus).....	745
brachypoda (Bean).....	746
Genus Gasterosteus (Artedi) Linnaeus.....	746
aculeatus, Linnaeus.....	747
bispinosus, Walbaum.....	748
atkinsii (Bean).....	748
cuvieri (Girard).....	749
gladiunculus, Kendall.....	2836
cataphractus (Pallas).....	749

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER HEMIBRANCHII—Continued.	
Family <i>Gasterosteidae</i> —Continued.	
Genus <i>Gasterosteus</i> (Arted.) Linnaeus—Continued.	
williamsoni, Girard	750
microcephalus (Girard)	751
Genus <i>Apeltes</i> , De Kay	752
quadracus (Mitchill).....	752
Family <i>Aulorhynchidae</i>	752
Genus <i>Aulorhynchus</i> , Gill	753
davidus, Gill	754
Family <i>Autostomidae</i>	754
Genus <i>Autostomus</i> , Lacépède.....	754
maculatus, Valenciennes	754
cinereus, Poey	755
Family <i>Fistulariidae</i>	755
Genus <i>Fistularia</i> , Linnaeus.....	756
tabacaria, Linnaeus.....	757
depressa, Günther.....	757
petimba, Lacépède	758
Family <i>Macrorhamphosidae</i>	758
Genus <i>Macrorhamphosus</i> , Lacépède	759
scolopax (Linnaeus)	759
ORDER LOMPHBRANCHII.....	759
SUBORDER SYNGNATHI.....	760
Family <i>Syngnathidae</i>	760
Genus <i>Siphostoma</i> , Rafinesque.....	761
Subgenus <i>Dermatostethus</i> , Gill	763
punctipinne (Gill).....	763
Subgenus <i>Siphostoma</i>	763
carinatum, Gilbert	763
californiense (Storer).....	764
griseolineatum (Ayres)	764
leptorhynchum (Girard)	764
fistulatum (Peters).....	765
barbata, Swain	765
mackayi Swain & Meek.....	766
florida, Jordan & Gilbert	766
poeyi, Jordan & Evermann.....	766
auliseus, Swain	767
pelagicorn (Günther).....	767
tomesan (Kaup).....	767
chiro, (Poey).....	768
jonesi (Günther)	768
robertsi, Jordan & Rutter.....	2837
sinaloa, Jordan & Starks.....	2838
brachycephalum (Poey).....	769
affinis (Günther).....	769
scovelli, Evermann & Kendall.....	769
bairdianum (Dunéril).....	770
louisiane (Günther)	770
tuesen (Storer)	770
starksii, Jordan & Culver.....	771; 2838
aretum, Jenkins & Evermann.....	771
crinigerum, Bean & Dresel.....	771
Genus <i>Corythoichthys</i> , Kaup.....	772; 2838
altimarens, Hoogel	772; 2838
corymbosus (Shannoy).....	772; 2838

CLASS PISCES—Continued.	Page.
SUSCLASS TELEOSTOMI—Continued.	
ORDER LOPHOBRANCHII—Continued.	
SUBORDER SYNGNATHI—Continued.	
<i>Family Syngnathidae</i> —Continued.	
Genus <i>Corythoichthys</i> , Kaup—Continued.	
<i>cayorum</i> , Evermann & Kendall	2838
Genus <i>Doryrhamphus</i> , Kaup	773
Subgenus <i>Doryichthys</i> , Kaup	773
<i>lineatus</i> (Valenciennes)	773
Subgenus <i>Doryrhamphus</i>	773
<i>californiensis</i> , Gill	773
Genus <i>Syngnathus</i> , Linnaeus	774
Subgenus <i>Syngnathus</i>	774
<i>heckeli</i> (Kaup)	774; 2839
Genus <i>Osphyolax</i> , Cope	775
<i>pellucidus</i> , Cope	775
Genus <i>Hippocampus</i> , Rafinesque	775
<i>ingens</i> , Girard	776
<i>hudsonius</i> , De Kay	777
<i>punctulatus</i> , Guichenot	777
<i>stylifer</i> , Jordan & Gilbert	778
<i>zosteræ</i> , Jordan & Gilbert	778
ORDER ACANTHOPTERI	779
SUBORDER SALMOPERCE	782
<i>Family Percopsidae</i>	783
Genus <i>Percopsis</i> , Agassiz	783
<i>guttatus</i> , Agassiz	784
Genus <i>Columbia</i> , Eigenmann & Eigenmann	784
<i>transmontana</i> , Eigenmann & Eigenmann	784
SUBORDER XENARCHI	785
<i>Family Aphredoderidae</i>	785
Genus <i>Aphredoderus</i> , Le Sueur	786
<i>sayanus</i> (Gilliams)	786
SUBORDER PERCESOCES	787
<i>Family Atherinidae</i>	788
Genus <i>Atherina</i> (Artedi) Linnaeus	789
<i>stipes</i> , Müller & Troschel	790
<i>laticeps</i> , Poey	790
<i>area</i> , Jordan & Gilbert	790
<i>harringtonensis</i> , Goode	791
<i>carolina</i> , Cuvier & Valenciennes	791
<i>microps</i> , Poey	791
Genus <i>Chirostoma</i> , Swainson	792; 2839
<i>chapale</i> , Jordan & Snyder	3159
<i>promelas</i> , Jordan & Snyder	3160
<i>diazii</i> , Jordan & Snyder	3161
<i>crystallinum</i> , Jordan & Snyder	3162
<i>lerma</i> , Jordan & Snyder	3163
<i>ocotlane</i> , Jordan & Snyder	3163
<i>estor</i> , Jordan	792; 2839; 3165
<i>album</i> (Steindachner)	3165
<i>humboldtianum</i> (Cuvier & Valenciennes)	793; 2839
<i>grandocule</i> (Steindachner)	2839
Genus <i>Esiopsarum</i> , Jordan & Evermann	2840
<i>bartoni</i> , (Jordan & Evermann)	793; 2840
<i>jordani</i> , (Woolman)	793; 2840; 3159
<i>arge</i> , Jordan & Snyder	3158

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER PERCIFORMES—Continued.	
Family Atherinidae—Continued.	
Genus Kirtlandia, Jordan & Evermann.....	794
vagrans (Goode & Bean)	794
martinica (Cuvier & Valenciennes)	795
Genus Menidia (Bonaparte) Jordan & Gilbert	796
peninsula (Goode & Bean)	797
gracilis (Günther)	797
beryllina (Cope)	797
gilberti, Jordan & Bollman	798
sardina (Jenkins & Evermann)	799
menidia (Linnaeus).....	800
clara, Evermann & Jenkins.....	801
Genus Leurosthes, Jordan & Gilbert.....	801
crameri, Jordan & Evermann	802
tenuis (Ayres)	802
Genus Eurystole, Jordan & Evermann.....	802
eriarcha (Jordan & Gilbert).....	803
Genus Thyrina, Jordan & Culver.....	803
evermanni, Jordan & Culver.....	804
crystallina, Jordan & Culver.....	804
pachylepis (Günther)	801; 2840
Genus Atherinella, Steindachner.....	805
Genus Labidesthes, Cope	805
sicculus (Cope).....	805
Genus Atherinopsis, Girard	806
californiensis, Girard	806
Genus Atherinops, Steindachner	807
affinis (Ayres)	807
regis, Jenkins & Evermann.....	808
Family Mugilidae.....	808
Genus Mugil (Arted) Linnaeus.....	809
brasilensis, Agassiz.....	810
tholurni, Jordan & Starks.....	812
curema, Cuvier & Valenciennes.....	813
hospes, Jordan & Culver.....	814
galmardianus, Desmarest	814
actosus, Gilbert.....	815
Genus Chenomugil, Gill.....	816
proboscideus (Günther).....	816
Genus Querimama, Jordan & Gilbert.....	817
harengus (Günther).....	817
gyrans, Jordan & Gilbert	818
Genus Agonostomus, Bennett.....	818
Subgenus Dajaus, Cuvier & Valenciennes.....	819

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER PERCISOSES—Continued.	
Family <i>Mugilidae</i> —Continued.	
Genus <i>Agonostomus</i> , Bennett—Continued.	
Subgenus <i>Dajaus</i> , Cuvier & Valenciennes—Continued.	
<i>monticola</i> (Bancroft).....	819
<i>nasutus</i> , Günther	819
<i>microps</i> , Günther	820
Genus <i>Joturus</i> , Poey.....	820
<i>pichardi</i> , Poey	821
Genus <i>Neomugil</i> , Vaillant	8165
<i>digueti</i> , Vaillant	8165
Family <i>Sphyrenidae</i>	822
Genus <i>Sphyraena</i> (Artedi) Bloch & Schneider.....	822
<i>barracuda</i> (Walbaum).....	823; 2841
<i>ensis</i> , Jordan & Gilbert	824
<i>guachancho</i> , Cuvier & Valenciennes.....	824
<i>picudilla</i> , Poey.....	824
<i>borealis</i> , De Kay	825
<i>argentea</i> , Girard	826
<i>sphyraena</i> (Linnaeus).....	826
SUBORDER RHEGNOPTERI.....	827
Family <i>Polynemidae</i>	827
Genus <i>Polynemus</i> (Gronow) Linnaeus.....	828
<i>quinquarius</i> , Linnaeus	828
Genus <i>Polydactylus</i> , Lacépède.....	828
<i>approximans</i> (Lay & Bennett)	829
<i>virginicus</i> (Linnaeus)	829
<i>octonemus</i> (Girard)	830
<i>opercularis</i> (Gill)	830
Group <i>Ammodytoidei</i>	831
Family <i>Ammodytidae</i>	831
Genus <i>Ammodytes</i> (Artedi) Linnaeus.....	832
<i>dubius</i> , Reinhardt	832
<i>americanus</i> , De Kay	833
<i>personatus</i> , Girard	833
Group <i>Berycoidei</i>	833
Genus <i>Rhynchias</i> , Gill.....	2841
<i>setipinnis</i> (Pallas).....	2841
Group <i>Berycoidei</i>	833
Family <i>Bathyclupeidae</i>	834
Genus <i>Bathyclupea</i> , Alcock	834
<i>argentea</i> , Goode & Bean	835
Family <i>Stephanoberycidae</i>	835
Genus <i>Stephanoberyx</i> , Gill	836
<i>monae</i> , Gill	836
<i>gillii</i> , Goode & Bean.....	836
Family <i>Trachichthyidae</i>	836
Genus <i>Hoplostethus</i> , Cuvier & Valenciennes	837
<i>mediterraneus</i> , Cuvier & Valenciennes.....	837
Family <i>Berycidae</i>	837
Genus <i>Caulolepis</i> , Gill	838
<i>longideus</i> , Gill	839
Genus <i>Anoplogaster</i> , Günther	839
<i>cornutus</i> (Cuvier & Valenciennes)	840
Genus <i>Poromitra</i> , Goode & Bean.....	840
<i>capito</i> , Goode & Bean.....	840

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHINOPTERI—Continued.	
Family <i>Berycidae</i> —Continued.	
Genus <i>Plectromus</i> , Gill	840
<i>suborbitalis</i> , Gill	841
<i>lugubris</i> (Gilbert)	842
<i>lunul</i> (Günther)	842
<i>crassiceps</i> , Günther	843
<i>radiatus</i> (Günther)	843
Genus <i>Beryx</i> , Cuvier	844
<i>decadactylus</i> , Cuvier & Valenciennes	844
<i>splendens</i> , Lowe	844
Family <i>Holocentridae</i>	845
Genus <i>Myripristis</i> , Cuvier	846
Subgenus <i>Ostichthys</i> (Langsdorf)	846
<i>trachypoma</i> , Günther	846
Subgenus <i>Myripristis</i>	846
<i>jacobus</i> , Cuvier & Valenciennes	846
<i>occidentalis</i> , Gill	847
<i>pencilopus</i> (Gill)	847
<i>clarionensis</i> , Gilbert	2842
Genus <i>Holocentrus</i> (Gronow) Scopoli	847
<i>ascensionis</i> (Osbeck)	848
<i>retus</i> (Walbaum)	849
<i>sclerter</i> , Cope	849
<i>suborbitalis</i> , Gill	850
<i>coarctatus</i> , Poey	851
<i>brachypterus</i> , Poey	852
<i>vexillarius</i> , Poey	852
<i>osculus</i> , Poey	853
<i>sancti-pauli</i> , Günther	853
Genus <i>Flammeo</i> , Jordan & Evermann	852; 2871
<i>marianus</i> (Cuvier & Valenciennes)	852; 2871
Genus <i>Plectrypops</i> , Gill	853
<i>retrospinis</i> (Guichenot)	853
Family <i>Polymixiidae</i>	854
<i>coarctatus</i> , Poey, et al. & Lowe	854
<i>lowei</i> , Günther	854
Family <i>Mullidae</i>	855
Genus <i>Mullus</i> , Linnaeus	856
<i>auratus</i> , Jordan & Gilbert	856
Genus <i>Upeneus</i> , Cuvier	857; 2846
<i>radiatus</i> , Evermann & Jenkins	857
<i>maculatus</i> (Bloch)	858
<i>dentatus</i> , Gill	859
<i>parvus</i> , Poey	859
<i>martiniensis</i> , Cuvier & Valenciennes	859
<i>xanthogrammus</i> , Gilbert	860
<i>grandiaquams</i> , Gill	860
Genus <i>Scorpaenopsis</i>	860
<i>scorpaenopsis</i>	861
Genus <i>Scomber</i> (Arted) Linnaeus	865
Subgenus <i>Scomber</i>	865
<i>scombrus</i> , Linnaeus	865
Subgenus <i>Pneumatophorus</i> , Jordan & Gilbert	866
<i>caudatus</i> , Günther	866

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER ACANTHOPTERI—Continued.

SUBORDER RHEGNOPTERI—Continued.

Family Scombridae—Continued.Genus *Auxis*, Cuvier..... 867

thazard (Lacépède)..... 867

Genus *Gymnosarda*, Gill..... 868

pelamis (Linnaeus)..... 868

alleterata (Rafinesque)..... 869

Genus *Thunnus*, South..... 869

thynnus (Linnaeus)..... 870

Genus *Gerno*, Jordan..... 870

alalunga (Gmelin)..... 871

Genus *Sarda*, Cuvier..... 871

sarda (Bloch)..... 872

chilensis, Cuvier & Valenciennes..... 872

Genus *Scomberomorus*, Lacépède..... 873

concolor (Lockington)..... 873

maculatus (Mitchill)..... 874

sierra, Jordan & Starks..... 874

regalis (Bloch)..... 875

cavalla (Cuvier & Valenciennes)..... 875

Genus *Acanthocybium*, Gill..... 876

solandri (Cuvier & Valenciennes)..... 876

Family Gempylidae..... 877Genus *Escolar*, Jordan & Evermann..... 878; 2843

violaceus (Bean)..... 878; 2843

Genus *Ruvettus*, Cocco..... 879

pretiosus, Cocco..... 879

Genus *Epinnula*, Poey..... 880

magistralis, Poey..... 880

Genus *Nealotus*, Johnson..... 881

tripes, Johnson..... 881

Genus *Promethichthys*, Gill..... 882

prometheus, Cuvier & Valenciennes..... 882

parvipinnis (Goode & Bean)..... 883

Genus *Gempylus*, Cuvier & Valenciennes..... 883

serpens, Cuvier & Valenciennes..... 884

Family Lepidopidae..... 884Genus *Aphanopus*, Lowe..... 885

minor, Collett..... 885

Genus *Evoxymetopon*, Poey..... 885

taniatus, Poey..... 886

Genus *Lepidopus*, Gouan..... 886

xantusi, Goode & Bean..... 886; 2843

Genus *Benthodesmus*, Goode & Bean..... 887

atlanticus, Goode & Bean..... 887

Family Trichiuridae..... 888Genus *Trichiurus*, Linnaeus..... 889

lepturus, Linnaeus..... 889

Family Istiophoridae..... 890Genus *Istiophorus*, Lacépède..... 890

nigricans (Lacépède)..... 891

Genus *Tetrapturus*, Rafinesque..... 891

imperator (Bloch & Schneider)..... 892

amplus, Poey..... 892

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHENOPTERI—Continued.	
Family Xiphiidae	892
Genus Xiphius, Linnaeus	893
Genus Xiphioides, Linnaeus	894
Family Nematiidae	894
Genus Nematius, Gill	895
pectoralis, Gill	895
Family Carangidae	895
Genus Oligoplites, Gill	898
saurus (Bloch & Schneider)	898
sallens (Bloch)	899
palometa (Cuvier & Valenciennes)	899
astus (Günther)	900
mundus, Jordan & Starks	2844
Genus Naucratus, Rafinesque	900
dieteri, Linnaeus	900
Genus Seriola, Cuvier	901
dorsalis (Gill)	902
zonata (Mitchill)	902
carolinensis, Holbrook	902
lalandi, Cuvier & Valenciennes	903
dumali (Risso)	903
Subgenus Zonichthys, Swainson	904
mazatlan, Steindachner	904
fasciata (Bloch)	904
rivollana Cuvier & Valenciennes	904
falcata, Cuvier & Valenciennes	905
Genus Elagatis, Bennett	906
bipinnulatus (Quoy & Gaimard)	906
Genus Decapterus, Bleeker	907
pomacentrus (Agassiz)	907
scombrinus (Valenciennes)	908
sancti-helene (Cuvier & Valenciennes)	908
hypodus, Gill	908
macarellus (Cuvier & Valenciennes)	909
Genus Trachurus, Rafinesque	909
symmetricus (Ayres)	909; 2844
trachurus (Linnaeus)	910
Genus Trachurops, Gill	911
crumenophthalmus (Bloch)	911
Genus Hemicarax, Bleeker	912
amblyrhynchus (Cuvier & Valenciennes)	912
falcatus (Holbrook)	912; 2845
zelotes, Gilbert	2845
atrimanus (Jordan & Gilbert)	913
secundus (Poey)	914
leucurus (Günther)	914
Genus Caranx, Lacépède	915
Subgenus Selar, Bleeker	918
vinetus, Jordan & Gilbert	918
Subgenus Caranx	919
ruber (Bloch)	919
bartholomaei, Cuvier & Valenciennes	919
Subgenus Trieropterus Rafinesque	920
lepis (Linnaeus)	920

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER ACANTHOPTERI—Continued.

SUBORDER RHEGNOPTERI—Continued.

Family Carangidæ—Continued.Genus *Caranx*, Lacépède—Continued.Subgenus *Paratractus*, Gill 921 *crysos* (Mitchill) 921 *pisquetus*, Cuvier & Valenciennes 921; 2846 *caballus* (Günther) 921Subgenus *Carangichthys*, Bleeker 922 *marginatus*, Gill 922 *latus*, Agassiz 923 *medusicola*, Jordan & Starks 924 *lugubris*, Poey 924 *melampygus*, Cuvier & Valenciennes 925Subgenus *Uraspis*, Bleeker 926 *guara* (Bonnaterre) 926Genus *Gnathanodon*, Bleeker 927 *speciosus* (Forskål) 928Genus *Carangoides*, Bleeker 928 *orthogrammus* (Jordan & Gilbert) 928Genus *Citula*, Cuvier 929 *dorsalis* (Gill) 930Genus *Alectis*, Rafinesque 931 *ciliaris* (Bloch) 931Genus *Hynn timer*, Cuvier 932 *cubensis* (Poey) 932 *hopkinsi*, Jordan & Starks 933Genus *Vomer*, Cuvier & Valenciennes 933 *dorsalis*, Gill 934 *setipinnis* (Mitchill) 934 *spixii* (Swainson) 2846 *gabonensis*, Guichenot 934Genus *Selene*, Lacépède 935 *ørstedii*, Lütken 935 *vomer* (Linnaeus) 936Genus *Chloroscombrus*, Girard 937 *orqueta*, Jordan & Gilbert 937 *chrysurus* (Linnaeus) 938 *eetenurus*, Jordan & Os good 2847Genus *Trachinotus*, Lacépède 939 *glaucus* (Bloch) 940 *rhodopus*, Gill 941 *falcatus* (Linnaeus) 941 *rhomboides* (Bloch) 2847 *culveri*, Jordan & Starks 942 *kennedyi*, Steindachner 942 *goodei*, Jordan & Evermann 943 *argenteus*, Cuvier & Valenciennes 944 *carolinus* (Linnaeus) 944 *paloma*, Jordan & Starks 945 *cayennensis*, Cuvier & Valenciennes 945Genus *Zalocys*, Jordan & McGregor 2848 *stilbe*, Jordan & McGregor 2848*Family Pomatomidæ* 945Genus *Pomatomus*, Lacépède 946 *saltatrix* (Linnaeus) 946

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERY—Continued.	
SUBORDER RHYGOSOPTERY—Continued.	
Family <i>Macropodus</i>	947
Genus <i>Rachycentron</i> , Kaup.....	948
<i>trifidus</i> Lin.....	948
Family <i>Nomeida</i>	948
Genus <i>Nomeus</i> , Cuvier.....	949
<i>gronovii</i> (Gmelin).....	949
Genus <i>Psenes</i> , Cuvier & Valenciennes.....	950
<i>pellucidus</i> , Lütken.....	950
<i>cyanophrys</i> , Cuvier & Valenciennes.....	950
<i>maculatus</i> , Lütken.....	951
<i>regulus</i> , Poey.....	951
Family <i>Coryphænidae</i>	951
Genus <i>Coryphæna</i> , Linnaeus.....	952
<i>hippurus</i> , Linnaeus.....	952
<i>equisetis</i> , Linnaeus.....	953
Family <i>Lampridae</i>	953
Genus <i>Lampris</i> , Retzius.....	954
<i>luna</i> (Gmelin).....	954
Family <i>Pteraclidae</i>	955
Genus <i>Pteraclis</i> , Gronow.....	955
<i>carolinus</i> , Cuvier & Valenciennes.....	956
Family <i>Brama</i>	956
Genus <i>Taractes</i> , Lowe.....	957
<i>saussurii</i> (Lunel).....	957
Genus <i>Brama</i> , Bloch & Schneider.....	958
<i>agassizii</i> , Poey.....	959
<i>hercynica</i> , Poey.....	959
<i>rail</i> (Bloch).....	959
Family <i>Steinegeriidae</i>	960
Genus <i>Steinegeria</i> , Jordan & Evermann.....	960
<i>rubescens</i> , Jordan & Evermann.....	961
Family <i>Stenotomidae</i>	964
Genus <i>Centrolophus</i> , Lacépède.....	962; 3166
<i>niger</i> (Gmelin).....	963
Genus <i>Palinurichthys</i> , Bleeker.....	963
<i>perciformis</i> (Mitchill).....	964
Genus <i>Popilius</i> , Cuvier.....	965; 3197
<i>paru</i> (Linnaeus).....	965
<i>xanthurus</i> (Quoy & Gaimard).....	966
Genus <i>Palometa</i> , Jordan & Evermann.....	966; 2849
<i>palometa</i> (Jordan & Bollman).....	966
<i>medius</i> (Peters).....	967
<i>simillimus</i> (Ayres).....	967
Genus <i>Poronotus</i> , Gill.....	967; 2849
<i>trianthus</i> (Peck).....	967; 2849
Family <i>Teosteidae</i>	968
Genus <i>Teichthys</i> , Jordan & Gilbert.....	969
<i>lockingtoni</i> , Jordan & Gilbert.....	969
Genus <i>Schedophilus</i> , Cocco.....	970
<i>medusophagus</i> , Cocco.....	970
Genus <i>Teosteus</i> , Lockington.....	972
<i>enigmaticus</i> , Lockington.....	972

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family <i>Acrotidae</i>	973: 2849
Genus <i>Acrotus</i> , Bean.....	973
willoughbyi, Bean.....	973
Family <i>Zaproridae</i>	2849
Genus <i>Zaprora</i> , Jordan.....	2850
silenus, Jordan.....	2850
Family <i>Grammicolepididae</i>	973
Genus <i>Grammicolepis</i> , Poey.....	974
brachiusculus, Poey.....	974
Family <i>Tetragonuridae</i>	975
Genus <i>Tetragonurus</i> , Risso.....	975
cuvieri, Risso.....	976
Family <i>Pempheridae</i>	977
Genus <i>Pempheris</i> , Cuvier & Valenciennes.....	977
mexicanus, Cuvier & Valenciennes.....	978
schomburgki, Müller & Troschel.....	978
mulleri, Poey.....	978
poeyi, Bean.....	979
Group <i>Percoidae</i>	979
Family <i>Elassomidae</i>	981
Genus <i>Elassoma</i> , Jordan.....	982
zonatum, Jordan.....	982
evergladesi, Jordan.....	982
Family <i>Centrarchidae</i>	984
Genus <i>Pomoxis</i> , Rafinesque.....	986
annularis, Rafinesque.....	987
sparoides (Lacépède).....	987
Genus <i>Centrarchus</i> , Cuvier & Valenciennes.....	988
macropterus (Lacépède).....	988
Genus <i>Acantharchus</i> , Gill.....	989
pomotis (Baird).....	989
Genus <i>Ambloplites</i> , Rafinesque.....	989
rupestris (Rafinesque).....	990
cavifrons, Cope.....	990
Genus <i>Archoplites</i> , Gill.....	990
interruptus (Girard).....	991
Genus <i>Chenobryttus</i> , Gill.....	991
gulosus (Cuvier & Valenciennes).....	992
Genus <i>Enneacanthus</i> , Gill.....	992
obesus (Baird).....	993
gloriosus (Holbrook).....	993
Genus <i>Mesogonistius</i> , Gill.....	994
chatodon (Baird).....	995
Genus <i>Apomotis</i> , Rafinesque.....	995
cyanellus (Rafinesque).....	996
ischyrus (Jordan & Nelson).....	997
phenax (Cope & Jordan).....	997
punctatus (Cuvier & Valenciennes).....	997
symmetricus (Forbes).....	998
Genus <i>Lepomis</i> , Rafinesque.....	999
Subgenus <i>Lepomis</i>	1001
auritus (Linnaeus).....	1001
solis (Cuvier & Valenciennes).....	1001
miniatus, Jordan.....	1002

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHIEGNOPTERI—Continued.	
Family Centrarchidae—Continued.	
Genus <i>Lepomis</i> , Rafinesque—Continued.	
Subgenus <i>Xenotis</i> , Jordan	1002
<i>gambusi</i> , Forbes	1002
<i>megalogis</i> (Rafinesque)	1002
Subgenus <i>Helioperca</i> , Jordan	1004
<i>humilis</i> (Girard)	1004
<i>haplognathus</i> , Cope	1004
<i>macrochirus</i> , Rafinesque	1005
<i>pallidus</i> (Mitchill)	1005
Genus <i>Eupomotis</i> , Gill & Jordan	1006
Subgenus <i>Nystroplites</i> , Jordan	1006
<i>pallidus</i> (Agassiz)	1006
Subgenus <i>Eupomotis</i>	1007
<i>heros</i> (Baird & Girard)	1007
<i>holbrookii</i> (Cuvier & Valenciennes)	1008
<i>euryurus</i> (McKay)	1008
<i>gibbosus</i> (Linnaeus)	1009
Genus <i>Micropterus</i> , Lacépède	1010
<i>dolomieu</i> , Lacépède	1011
<i>salmoides</i> (Lacépède)	1012
Family <i>Kuhliidae</i>	1013
Genus <i>Kuhlia</i> , Gill	1013
<i>argyrea</i> , Jordan & Bollman	1014
<i>xenura</i> (Jordan & Gilbert)	1015
Family <i>Percidae</i>	1015
Genus <i>Stizostedion</i> , Rafinesque	1020
Subgenus <i>Stizostedion</i>	1021
<i>vitreum</i> (Mitchill)	1021
Subgenus <i>Cynoperca</i> , Gill & Jordan	1022
<i>canadense</i> (Smith)	1022
<i>griseum</i> (De Kay)	1022
<i>boreum</i> (Girard)	1022
Genus <i>Perca</i> (Artedi) Linnaeus	1023
<i>flavescens</i> , Mitchell	1025
Genus <i>Percina</i> , Haldeman	1024
<i>rex</i> , Jordan & Evermann	1025
<i>caprodes</i> (Rafinesque)	1026
<i>zebra</i> (Agassiz)	1027
Genus <i>Hadropterus</i> , Agassiz	1028
Subgenus <i>Alvordius</i> , Girard	1030
<i>phoxocephalus</i> (Nelson)	1030
<i>macrocephalus</i> (Cope)	1031
<i>maculatus</i> (Girard)	1031
<i>aspro</i> (Cope & Jordan)	1032
<i>guntheri</i> (Eigenmann & Eigenmann)	1033
<i>pellatus</i> (Stauffer)	1034
<i>ouachita</i> (Jordan & Gilbert)	1035
<i>roanoka</i> (Jordan & Jenkins)	1036
Subgenus <i>Eriocoma</i> , Jordan & Copeland	1036
<i>evides</i> (Jordan & Copeland)	1036
Subgenus <i>Serraria</i> , Gilbert	1037
<i>serrula</i> , Jordan & Gilbert	1038
<i>caerulea</i> , Linnaeus	1036

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

Page

ORDER ACANTHOPTERI—Continued.

SUBORDER RHEGNOPTERI—Continued.

Family Percidæ—Continued.

Genus *Hadropterus*, Agassiz—Continued.

Subgenus <i>Hadropterus</i>	1038
<i>nigrofasciatus</i> , Agassiz	1038

Genus *Hypohomus*, Cope

Subgenus <i>Swainia</i> , Jordan & Evermann	1039
<i>squamatus</i> (Gilbert & Swain)	1040

Subgenus *Hypohomus*.....

<i>aurantiacus</i> (Cope)	1040
<i>cymatotenia</i> (Gilbert & Meek)	1041
<i>nianguæ</i> (Gilbert & Meek)	1042
<i>spilotus</i> (Gilbert)	1043

Genus *Cottogaster*, Putnam

Subgenus <i>Cottogaster</i>	1044
<i>uranidea</i> (Jordan & Gilbert)	1044

copelandi (Jordan)Subgenus *Imostoma*, Jordan

<i>shumardi</i> (Girard)	1046
<i>cheneyi</i> , Evermann & Kendall	2851

Genus *Ulocentra*, Jordan

<i>stigmæa</i> (Jordan)	1047
<i>gilberti</i> , Evermann & Thoburn	1049

meadia, Jordan & Evermann *verecunda* (Jordan & Evermann) *histrio* (Jordan & Gilbert) *sinotera* (Cope) *phlox* (Cope)Genus *Diplesion*, Rafinesque *blennioides* (Rafinesque)Genus *Boleosoma*, De Kay *longimanus* (Jordan) *podostemone* (Jordan & Jenkins) *nigrum* (Rafinesque) *olmstedii* (Storer) *effulgens* (Girard) *vexillare* (Jordan) *maculaticeps* (Cope) *mesarum* (Cope) *susana* (Jordan & Swain)Subgenus *Vaillantia*, Jordan *camurum*, ForbesGenus *Crystallaria*, Jordan & Gilbert *asprella* (Jordan)Genus *Ammocrypta*, Jordan *pellucida* (Baird) *clara* (Jordan & Meek) *vivax* (Hay) *beanii*, JordanGenus *Ioa*, Jordan & Brayton *vitrea* (Cope) *vigil*, HayGenus *Etheostoma*, Rafinesque Subgenus *Pæcilichthys*, Agassiz *variatum*, Kirtland

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SECTION PERCIFORMES—Continued.	
Family Percidae—Continued.	
Genus <i>Etheostoma</i> , Rafinesque—Continued.	
Subgenus <i>Nanostoma</i> , Putnam	1070
<i>swannanoa</i> , Jordan & Evermann	1070
<i>thalassinum</i> (Jordan & Brayton)	1071
<i>inscriptum</i> (Jordan & Brayton)	1072
<i>blennius</i> , Gilbert & Swain	1072
<i>rupestre</i> , Gilbert & Swain	1073
<i>elegans</i> (Hay)	1074
<i>zonale</i> (Cope)	1075
<i>arcansanum</i> , Jordan & Gilbert	1075
Subgenus <i>Nothonotus</i> , Agassiz	1076
<i>canurum</i> (Cope)	1076
<i>lineatum</i> (Cope)	1077
<i>maculatum</i> , Kirtland	1077
<i>cinereum</i> , Storer	1078
<i>tessellatum</i> , Storer	1078
<i>rufileuctum</i> (Cope)	1079
<i>jordani</i> , Gilbert	1079
Subgenus <i>Torrentaria</i> , Jordan & Evermann	1080
<i>sagitta</i> , Jordan & Swain	1080
<i>australe</i> , Jordan	1081
Subgenus <i>Nivicola</i> , Jordan & Evermann	1082
<i>boreale</i> (Jordan)	1082
Subgenus <i>Rafinesquellus</i> , Jordan & Evermann	1082
<i>pottsi</i> (Girard)	1082
Subgenus <i>Oligocephalus</i> , Girard	1083
<i>iowa</i> , Jordan & Meek	1083
<i>athecapabei</i> , Evermann	1167
<i>jessie</i> (Jordan & Brayton)	1084
<i>intecinctum</i> , Gilbert & Swain	1086
<i>lepidogenys</i> , Evermann & Kendall	1087
<i>coruleum</i> , Storer	1088
<i>spectabile</i> (Agassiz)	1089
<i>lepidum</i> (Baird & Girard)	1089
<i>tippecanoe</i> , Jordan & Evermann	1090
<i>punctulatum</i> (Agassiz)	1090
<i>cragini</i> , Gilbert	1091
<i>obeyense</i> , Kirsch	1092
<i>pagei</i> , Meek	1092
<i>virgatus</i> (Jordan)	1093
Subgenus <i>Claricola</i> , Jordan & Evermann	1093
<i>julia</i> , Meek	1093
<i>astesia</i> (Hay)	1094
<i>alabama</i> (Gilbert & Swain)	1095
<i>skippli</i> (Girard)	1095
<i>squamiceps</i> , Jordan	1096
Subgenus <i>Etheostomus</i>	1097
<i>labellare</i> , Rafinesque	1097
<i>cumberlandeum</i> , Jordan & Swain	1098
<i>trichostomus</i> (Agassiz)	1098
Genus <i>Alvarius</i> , Girard	1099
<i>lanceolus</i> , Girard	1099
Genus <i>Psychromaster</i> , Jordan & Evermann	1099
<i>tuscumbia</i> (Gilbert & Swain)	1100

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family <i>Percidæ</i> —Continued.	
... Genus <i>Copelandellus</i> , Jordan & Evermann	1100
<i>quiescens</i> (Jordan)	1100
Genus <i>Boleichthys</i> , Girard	1101
<i>fusiformis</i> (Girard)	1101
<i>exilis</i> , Girard	1103
Genus <i>Microperca</i> , Putnam	1103
<i>præliaris</i> , Hay	1103
<i>punctulata</i> , Putnam	1104
<i>fonticola</i> (Jordan & Gilbert)	1104
Family <i>Cheilodipteridæ</i>	1105
Genus <i>Apogon</i> Lacépède	1106
<i>imberbis</i> (Linnaeus)	1107
<i>dovii</i> , Günther	1108
<i>retrosella</i> (Gill)	1108
<i>maculatus</i> (Poey)	1109
<i>binotatus</i> (Poey)	1109
<i>pigmentarius</i> (Poey)	1109
<i>atricaudus</i> , Jordan & McGregor	2853
Genus <i>Apogonichthys</i> , Bleeker	1110
<i>alutus</i> (Jordan & Gilbert)	1110
<i>stellatus</i> , Cope	1110
<i>puncticulatus</i> , Poey	1111
Genus <i>Glossamia</i> , Gill	1111
<i>pandionis</i> (Goode & Bean)	1111
Genus <i>Epigonus</i> , Rafinesque	1111
<i>occidentalis</i> , Goode & Bean	1112
Genus <i>Cheilodipterus</i> , Lacépède	1112
<i>affinis</i> , Poey	1113
Genus <i>Amiichthys</i> , Poey	1113
<i>diapterus</i> (Poey)	1113
Genus <i>Sphyrænops</i> , Gill	1114
<i>bairdianus</i> , Poey	1114
Genus <i>Scombrops</i> , Temminck & Schlegel	1114
Subgenus <i>Latebrus</i> , Poey	1114
<i>oculatus</i> (Poey)	1114
Genus <i>Hypoclydonia</i> , Goode & Bean	1115
<i>bella</i> , Goode & Bean	1115
Family <i>Centropomidæ</i>	1116
Genus <i>Centropomus</i> , Lacépède	1117
<i>viridis</i> , Lockington	1118
<i>undecimalis</i> (Bloch)	1118
<i>nigrescens</i> , Günther	1119
<i>pedimacula</i> , Poey	1119
<i>grandoculatus</i> , Jenkins & Evermann	1120
<i>cuvieri</i> , Bocourt	1121
<i>mexicanus</i> , Bocourt	1121
<i>parallelus</i> , Poey	1122
<i>pectinatus</i> , Poey	1122
<i>unionensis</i> , Bocourt	1122
<i>armatus</i> , Gill	1123
<i>robalito</i> , Jordan & Gilbert	1124
<i>ensiferus</i> , Poey	1125; 2853

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHENGOPTERI—Continued.	
Family Serranide.....	1126
Genus <i>Roccus</i> , Mitchill.....	1131
Subgenus <i>Lepihema</i> , Rafinesque.....	1132
<i>chrysops</i> (Rafinesque).....	1132
Subgenus <i>Roccus</i>	1132
<i>lineatus</i> (Bloch).....	1132
Genus <i>Morone</i> , Mitchill.....	1133
<i>interrupta</i> , Gill.....	1134
<i>americana</i> (Gmelin).....	1134
Genus <i>Liopropoma</i> , Gill.....	1135
<i>aberrans</i> (Poey).....	1136
Genus <i>Chorististius</i> , Gill.....	1136
<i>trachurus</i> (Poey).....	1136
Genus <i>Stereolepis</i> , Ayres.....	1137
<i>gigas</i> , Ayres.....	1137
Genus <i>Polyprion</i> , Cuvier.....	1138
<i>americanus</i> (Bloch & Schneider).....	1139
Genus <i>Gonioplectrus</i> , Gill.....	1139
<i>hispanus</i> (Cuvier & Valenciennes).....	1140
Genus <i>Petrometopon</i> , Gill.....	1140
<i>panamensis</i> (Steindachner).....	1141
<i>eruentatus</i> (Lacépède).....	1141
<i>coronatus</i> (Cuvier & Valenciennes).....	1142
Genus <i>Bodianus</i> , Bloch.....	1143
<i>taeniops</i> (Cuvier & Valenciennes).....	1144
<i>fulvus</i> (Linnaeus).....	1144
<i>ruber</i> (Bloch & Schneider).....	1145
<i>punctatus</i> (Linnaeus).....	1146
Subgenus <i>Menephorus</i> , Poey.....	1146
<i>dubius</i> (Poey).....	1146
<i>punctiferus</i> (Poey).....	1147
Subgenus <i>Enneistus</i> , Jordan & Evermann.....	1147
<i>acanthistius</i> (Gilbert).....	1147
Genus <i>Epinephelus</i> , Bloch.....	1148
Subgenus <i>Schistornis</i> , Gill.....	1151
<i>mystacinus</i> (Poey).....	1151
Subgenus <i>Epinephelus</i>	1152
<i>analogus</i> , Gill.....	1152
<i>adacensdonis</i> (Osbeck).....	1152
<i>guaza</i> (Linnaeus).....	1154
<i>labriformis</i> (Jenyns).....	1155
<i>flavolimbatus</i> , Poey.....	1155
<i>ulphobles</i> , Gilbert & Starks.....	2853
<i>niveatus</i> (Cuvier & Valenciennes).....	1156
<i>trinitus</i> (Bloch).....	1157
<i>guttatus</i> (Linnaeus).....	1158; 3097
<i>drummond-hayi</i> , Goode & Bean.....	1159
<i>morio</i> (Cuvier & Valenciennes).....	1160
Genus <i>Garrupa</i> , Jordan.....	1161
<i>nigrita</i> (Holbrook).....	1161
Genus <i>Promierops</i> (Gill) Poey.....	1162
<i>italiana</i> (Lichtenstein).....	1162; 3097
Genus <i>Alphestes</i> , Bloch & Schneider.....	1164
<i>chloropterus</i> (Cuvier & Valenciennes).....	1164; 2854
<i>multiguttatus</i> (Günther).....	1165

CLASS PISCES—Continued.

Page-

SUBCLASS TELEOSTOMI—Continued.

ORDER ACANTHOPTERI—Continued.

SUBORDER RHEGNOPTERI—Continued.

Family *Serranidae*—Continued.

Genus <i>Dermatolepis</i> , Gill	1166
Subgenus <i>Lioperca</i> , Gill	1167
<i>inermis</i> (Cuvier & Valenciennes)	1167
<i>zancus</i> , Evermann & Kendall	2854
Subgenus <i>Dermatolepis</i>	1168
<i>punctatus</i> , Gill	1168
Genus <i>Mycteroperca</i> , Gill	1169
Subgenus <i>Archoperca</i> , Jordan & Evermann	1171
<i>boulengeri</i> , Jordan & Starks	1171
Subgenus <i>Trisotropis</i> , Gill	1172
<i>venenosa</i> (Linnaeus)	1172
<i>apua</i> (Bloch)	1173
<i>bonaci</i> (Poey)	1174
<i>xanthosticta</i> , Jordan & Swain	1176
<i>jordani</i> (Jenkins & Evermann)	1176
<i>microlepis</i> (Goode & Bean)	1177
<i>interstitialis</i> (Poey)	1178
<i>dimidiata</i> (Poey)	1179
<i>xenarcha</i> , Jordan	1180
Subgenus <i>Parepinephelus</i> , Bleeker	1180
<i>rubra</i> (Bloch)	1180
Subgenus <i>Xystroperca</i> , Jordan & Evermann	1181
<i>pardalis</i> , Gilbert	1181
Subgenus <i>Mycteroperca</i>	1183
<i>olfax</i> (Jenyns)	1183
<i>ruberrima</i> , Jordan & Bollman	1183
<i>rosacea</i> (Streets)	1184
<i>falcata</i> (Poey)	1184
<i>phenax</i> , Jordan & Swain	1185
<i>venadorum</i> , Jordan & Starks	1186
<i>calliura</i> , Poey	1186
<i>hopkinsi</i> , Jordan & Rutter	2855
<i>boulengeri</i> , Jordan & Starks	2856
<i>tigris</i> (Cuvier & Valenciennes)	1187
<i>camelopardalis</i> (Poey)	1187
Genus <i>Cratinus</i> , Steindachner	1188
<i>agassizii</i> , Steindachner	1188
Genus <i>Hypoplectrus</i> , Gill	1189
<i>lamprurus</i> (Jordan & Gilbert)	1190
<i>unicolor</i> (Walbaum)	1190
<i>puella</i> (Cuvier & Valenciennes)	1192
<i>vitulinus</i> (Poey)	1192
<i>pinnivarius</i> (Poey)	1192
<i>guttavarius</i> (Poey)	1192
<i>gummigutta</i> (Poey)	1192
<i>crocotus</i> (Cope)	1192
<i>aberrans</i> (Poey)	1193
<i>accensus</i> (Poey)	1193
<i>affinis</i> (Poey)	1193
<i>chlornrus</i> (Cuvier & Valenciennes)	1193
<i>nigricans</i> (Poey)	1193
<i>indigo</i> (Poey)	1193
<i>bovinus</i> (Poey)	1193
<i>gemma</i> , Goode & Bean	1193

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family Serranidae—Continued.	
Genus <i>Paralabrax</i> , Girard.....	1194
<i>nebulifer</i> (Girard).....	1195
<i>maculatofasciatus</i> (Steindachner).....	1196
<i>humeralis</i> (Cuvier & Valenciennes).....	1196
<i>clathratus</i> (Girard).....	1197
Genus <i>Centropristes</i> , Cuvier.....	1198
Subgenus <i>Centropristes</i>	1199
<i>rufus</i> , Cuvier & Valenciennes.....	1199
<i>striatus</i> (Linnaeus).....	1199
<i>ocyrus</i> (Jordan & Evermann).....	1200
Subgenus <i>Triloburus</i> , Gill.....	1201
<i>philadelphicus</i> (Linnaeus).....	1201
Genus <i>Diplectrum</i> , Holbrook.....	1203
Subgenus <i>Haliperca</i> , Gill.....	1204
<i>sciurus</i> , Gilbert.....	1204
<i>radiale</i> (Quoy & Gaimard).....	1204
<i>macropoma</i> (Günther).....	1205
<i>curyplectrum</i> , Jordan & Bollman.....	1206
Subgenus <i>Diplectrum</i>	1207
<i>formosum</i> (Linnaeus).....	1207
Genus <i>Prionodes</i> , Jenyns.....	1208
Subgenus <i>Prionodes</i>	1210
<i>aquidens</i> (Gilbert).....	1210
<i>fuscus</i> (Poey).....	1211
<i>pharbus</i> (Poey).....	1211
<i>baldwini</i> , Evermann & Marsh.....	3168
<i>fasciatus</i> , Jenyns.....	1212
<i>hulleri</i> (Boulenger).....	1213
Subgenus <i>Mentiperca</i> , Gill.....	1214
<i>tigrinus</i> (Bloch).....	1214
<i>tabacarius</i> (Cuvier & Valenciennes).....	1215
<i>flavescens</i> (Cuvier & Valenciennes).....	1215
<i>luciopercanus</i> (Poey).....	1216
<i>stilbostigma</i> , Jordan & Bollman.....	1216
Genus <i>Dules</i> , Cuvier.....	1217
<i>subligarius</i> (Cope).....	1218
<i>dispilurus</i> (Günther).....	1219
<i>auriga</i> , Cuvier & Valenciennes.....	1220
Genus <i>Paranthias</i> , Guichenot.....	1221
<i>fulcifer</i> (Cuvier & Valenciennes).....	1221
Genus <i>Hemianthias</i> , Steindachner.....	1222
<i>peruanus</i> , Steindachner.....	1222
<i>vivanus</i> (Jordan & Swain).....	1223
Genus <i>Pronotogrammus</i> , Gill.....	1224
<i>cos</i> , Gilbert.....	1224
<i>anthias</i> , Linnaeus.....	1225
Genus <i>Anthias</i> , Bloch.....	1226
<i>asperilinguis</i> , Günther.....	1227
Genus <i>Oeyanthias</i> , Jordan & Evermann.....	1227
<i>martinicensis</i> (Guichenot).....	1228
Genus <i>Gramma</i> , Poey.....	1228
<i>brevis</i> , Poey.....	1229
Genus <i>Rhegma</i> , Gilbert.....	3169
<i>thammasium</i> , Gilbert.....	3170

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family Serranidae—Continued.	
Genus Ryphticus, Cuvier.....	1229
xanti, Gill.....	1241
bicolor (Valenciennes).....	1231
saponaceus (Bloch & Schneider).....	1232
arenatus, Cuvier & Valenciennes.....	1232
coriaceus (Cope).....	1233
Subgenus Promicropterus, Gill.....	1233
bistrispinus (Mitchill).....	1233
nigripinnis, Gill.....	1234
Family Lobotidae.....	1235
Genus Lobotes, Cuvier.....	1235
surinamensis (Bloch).....	1255
pacificus, Gilbert.....	2857
Family Priacanthidae.....	1236
Genus Priacanthus, Cuvier.....	1237
arenatus, Cuvier & Valenciennes.....	1237
cruentatus (Lacépède).....	1238
carolinus, Lesson.....	2858
Genus Pseudopriacanthus, Bleeker.....	1239
serrula, Gilbert.....	1239
altus (Gill).....	1239
Family Lutianidae.....	1241
Genus Hoplopagrus, Gill.....	1244
guntheri, Gill.....	1244
Genus Evoplites, Gill.....	1245
viridis (Valenciennes).....	1246
Genus Neomænis, Girard.....	1247
Subgenus Neomænis.....	1251
jordani, Gilbert.....	1251
novemfasciatus (Gill).....	1252
cyanopterus (Cuvier & Valenciennes).....	1254
griseus (Linnaeus).....	1255
jocu (Bloch & Schneider).....	1257
apodus (Walbaum).....	1258
argentiventris (Peters).....	1260
lutjanoides (Poey).....	1261
buccanella (Cuvier & Valenciennes).....	1261
vivanus (Cuvier & Valenciennes).....	1262
hastingsi, Bean.....	2858
aya (Bloch).....	1264
analis (Cuvier & Valenciennes).....	1265
colorado (Jordan & Gilbert).....	1267
brachypterus (Cope).....	1268
guttatus (Steindachner).....	1269
synagris (Linnaeus).....	1270
ambiguus (Poey).....	1271
mahogoni (Cuvier & Valenciennes).....	1272
Subgenus Raizero, Jordan & Fesler.....	1273
aratus (Günther).....	1273
Genus Rabinubia, Jordan & Fesler.....	1274
inermis (Peters).....	1274
Genus Ocyurus, Gill.....	1275
chrysurus (Bloch).....	1275

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family Latianida—Continued.	
Genus Rhomboplites (Gill)	1276
auroreus (Cuvier & Valenciennes)	1277
Genus Apsilus, Cuvier & Valenciennes	1278
Subgenus Tropidinus, Gill	1278
dentatus, Guichenot	1278
Genus Aprion, Cuvier & Valenciennes	1279
Subgenus Platyrhinus, Gill	1280
macrophthalmus (Müller & Troschel)	1280
Genus Etelis, Cuvier & Valenciennes	1281
oculatus (Cuvier & Valenciennes)	1282
aquilonaris (Goode & Bean)	1283
Genus Verilus, Poey	1283
Jordanii, Poe	1284
Genus Xenocypris, Jordan & Bollman	1285
jessie, Jordan & Bollman	1285
Genus Xenistius, Jordan & Gilbert	1286
californiensis (Steindachner)	1286
Genus Xenichthys, Gill	1287
agassizii, Steindachner	1287
xanti, Gill	1287
Genus Nemipterus, Swainson	1288
macronemus (Günther)	1289
Family Hemulidae	1289
Genus Hemulon, Cuvier	1291
sexfasciatum, Gill	1294
album, Cuvier & Valenciennes	1295
macrostomum, Günther	1296
bonariense, Cuvier & Valenciennes	1297
parva (Desmarest)	1297
scudleri, Gill	1299
helene, Boulenger	3171
carbonarium, Poey	1300
steindachneri (Jordan & Gilbert)	1301
melanurum (Linnaeus)	1302
solitarius (Shann)	1303
plumieri (Lacépède)	1304
flavolineatum (Desmarest)	1306
Genus Brachygenys, Seudder	1307
chrysargyreus (Günther)	1307
Genus Bathystoma, Seudder	1308
rimator (Jordan & Swain)	1308
aurolineatum (Cuvier & Valenciennes)	1310
striatum (Linnaeus)	1310
Genus Lythrolon, Jordan & Swain	1311
Sargittatus (Gill)	1312
opalescens, Jordan & Starks	1312
Genus Orthostichus, Gill	1313
St. Andrewsii, Gill	1313
Genus Amsotremus, Gill	1314
Subgenus Paraenodon, Bleeker	1316
pacifical (Günther)	1316
caesus (Jordan & Gilbert)	1315
caesi (Günther)	1317

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER ACANTHOPTERI—Continued.

SUBORDER RHEGNOPTERI—Continued.

Family *Hæmulidae*—Continued.Genus *Anisotremus*, Gill—Continued.

Subgenus <i>Anisotremus</i>	1318
<i>surinamensis</i> (Bloch).....	1318
<i>interruptus</i> (Gill).....	1319
<i>bicolor</i> (Castelnau).....	1319
<i>scapularis</i> (Tschudi).....	1320
<i>davidsonii</i> (Steindachner).....	1321
<i>spleniatus</i> (Poey).....	1321
<i>teniatus</i> , Gill.....	1322
<i>virginicus</i> (Linnaeus).....	1322
<i>serrula</i> (Cuvier & Valenciennes).....	1323
Genus <i>Conodon</i> , Cuvier & Valenciennes.....	1324
<i>nobilis</i> (Linnaeus).....	1324
<i>serrifer</i> , Jordan & Gilbert.....	1324
Genus <i>Brachydeuterus</i> , Gill.....	1325
<i>nitidus</i> (Steindachner).....	1326
<i>corvinaeformis</i> (Steindachner).....	1326
<i>leuciscus</i> (Günther).....	1327
<i>axillaris</i> (Steindachner).....	1328
Genus <i>Pomadasis</i> , Lacépède.....	1329
Subgenus <i>Rhencus</i> , Jordan & Evermann.....	1331
<i>panamensis</i> (Steindachner).....	1331
Subgenus <i>Pristipoma</i> , Cuvier.....	1331
<i>bayanus</i> , Jordan & Evermann.....	1331
<i>productus</i> (Poey).....	1332
<i>macracanthus</i> (Günther).....	1332
<i>andrei</i> (Sauvage).....	1332
Subgenus <i>Rhonceiscus</i> , Jordan & Evermann.....	1333
<i>croco</i> (Cuvier & Valenciennes).....	1333
<i>branickei</i> (Steindachner).....	1333
<i>ramosus</i> (Poey).....	1334
<i>labraciforme</i> (Boulenger).....	1372
Genus <i>Orthopristis</i> , Girard.....	1334
Subgenus <i>Orthopristis</i>	1336
<i>forbesi</i> , Jordan & Starks.....	1336
<i>reddingi</i> , Jordan & Richardson.....	1336
<i>chalcus</i> (Günther).....	1337
<i>chrysopterus</i> (Linnaeus).....	1338
<i>poeyi</i> , Scudder.....	1339
<i>cantharinus</i> (Ternyns).....	1339
Subgenus <i>Evapristis</i> , Jordan & Evermann.....	1340
<i>lethopristis</i> , Jordan & Fesler.....	1340
Genus <i>Isaciella</i> , Jordan & Fesler.....	1340
<i>brevipinnis</i> (Steindachner).....	1341
Genus <i>Microlepidotus</i> , Gill.....	1341
<i>inornatus</i> , Gill.....	1341
Genus <i>Genyatremus</i> , Gill.....	1342
<i>luteus</i> (Bloch).....	1342
Family <i>Sparidae</i>	1343
Genus <i>Otrynter</i> , Jordan & Evermann.....	1344
<i>caprinus</i> (Beau).....	1345
Genus <i>Stenotomus</i> , Gill.....	1345
<i>chrysops</i> (Linnaeus).....	1346
<i>aculeatus</i> (Cuvier & Valenciennes).....	1346

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHENOPTERI—Continued.	
Family Sparidae—Continued.	
Genus <i>Calamus</i> , Swainson	1347
Subgenus <i>Calamus</i>	1349
<i>calamus</i> (Cuvier & Valenciennes)	1349
<i>providens</i> , Jordan & Gilbert	1350
<i>kendalli</i> , Evermann & Marsh	1372
<i>pennatula</i> , Guichenot	1351
<i>bajonado</i> (Bloch & Schneider)	1352
Subgenus <i>Grammatens</i> , Poey	1353
<i>brachysomus</i> (Lockington)	1355
<i>leucosteus</i> , Jordan & Gilbert	1353
<i>macrops</i> (Poey)	1354
<i>macrops</i> (Poey)	1354
<i>penna</i> (Cuvier & Valenciennes)	1354
<i>aretifrons</i> , Goode & Bean	1355
<i>medius</i> (Poey)	1356
Genus <i>Pagrus</i> , Cuvier	1356
<i>pagrus</i> (Linnaeus)	1356
Genus <i>Lagodon</i> , Holbrook	1357
<i>rhomboides</i> (Linnaeus)	1358
Genus <i>Archosargus</i> , Gill	1358
Subgenus <i>Salema</i> , Jordan & Evermann	1359
<i>unimaculatus</i> (Bloch)	1359
<i>portalesii</i> (Steindachner)	1360
<i>tridens</i> (Poey)	1360
Subgenus <i>Archosargus</i>	1361
<i>probatoccephalus</i> (Walbaum)	1361
<i>aries</i> (Cuvier & Valenciennes)	1361
Genus <i>Diplodus</i> , Rafinesque	1362
<i>holbrookii</i> (Bean)	1362
<i>argenteus</i> (Cuvier & Valenciennes)	1363
<i>sargus</i> (Linnaeus)	1363
Family <i>Moridae</i>	1364
Genus <i>Spicara</i> , Rafinesque	1364
<i>martinea</i> (Cuvier & Valenciennes)	1364
Genus <i>Emmelichthys</i> , Richardson	1365
Subgenus <i>Inermia</i> , Poey	1365
<i>viridula</i> (Poey)	1365
Family <i>Gobiidae</i>	1366
Genus <i>Eucinostomus</i> , Baird & Girard	1367
<i>dowi</i> (Gill)	1367
<i>pseudogula</i> , Poey	1368
<i>harengulus</i> , Goode & Bean	1368
<i>californiensis</i> (Gill)	1369
<i>gula</i> (Cuvier & Valenciennes)	1370
Genus <i>Vlamingia</i> , Jordan & Evermann	1371
<i>leffroyi</i> (Goode)	1371
Genus <i>Nyctema</i> , Jordan & Evermann	1372
<i>cinereum</i> (Walbaum)	1372
Genus <i>Gobius</i> , Cuvier	1373
Subgenus <i>Moharra</i> , Poey	1374
<i>rhombus</i> , Cuvier & Valenciennes	1374
Subgenus <i>Diapterus</i> , Ranzani	1375
<i>aureolus</i> , Jordan & Gilbert	1375

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHENOPTERI—Continued.	
Family <i>Gerridae</i> —Continued.	
Genus <i>Gerres</i> , Cuvier—Continued.	
Subgenus <i>Diapterus</i> , Ranzani—Continued.	
<i>peruvianus</i> , Cuvier & Valenciennes	1376
<i>olisthostomus</i> , Goode & Bean	1376
Subgenus <i>Gerres</i>	1377
<i>brevimanus</i> , Günther	1377
<i>lineatus</i> (Humboldt)	1377
<i>brasilianus</i> , Cuvier & Valenciennes	1378
<i>embryx</i> , Jordan & Starks	1379
<i>plumieri</i> , Cuvier & Valenciennes	1379
<i>mexicanus</i> , Steindachner	1380
Family <i>Kyphosidae</i>	1380
Genus <i>Girella</i> , Gray	1381
<i>nigricans</i> (Ayres)	1382
Genus <i>Doydixodon</i> , Valenciennes	1382
<i>freminvillei</i> , Valenciennes	1382
Genus <i>Hermosilla</i> , Jenkins & Evermann	1383
<i>azurea</i> , Jenkins & Evermann	1383
Genus <i>Kyphosus</i> , Lacépède	1384
<i>analogus</i> (Gill)	1385
<i>incisor</i> (Cuvier & Valenciennes)	1386
<i>elegans</i> (Peters)	1387
<i>sectatrix</i> (Linnaeus)	1387
<i>lutescens</i> (Jordan & Gilbert)	1388
Genus <i>Sectator</i> , Jordan & Fesler	1389
<i>ocyrus</i> (Jordan & Gilbert)	1389
Genus <i>Medialuna</i> , Jordan & Fesler	1390
<i>californiensis</i> (Steindachner)	1391
Family <i>Sciænidae</i>	1392
Genus <i>Seriplus</i> , Ayres	1397
<i>politus</i> , Ayres	1397
Genus <i>Isopisthus</i> , Gill	1398
<i>remifer</i> , Jordan & Gilbert	1398
<i>parvipinnis</i> (Cuvier & Valenciennes)	1399
Genus <i>Buccone</i> , Jordan & Evermann	1400
<i>predatoria</i> (Jordan & Gilbert)	1400
Genus <i>Cynoscion</i> , Gill	1400
Subgenus <i>Cynoscion</i>	1403
<i>acoupa</i> (Lacépède)	1403
<i>squamipinnis</i> (Günther)	1404
<i>othonopterus</i> , Jordan & Gilbert	1404
<i>obliquatus</i> (Valenciennes)	1405
<i>jamaicensis</i> (Vaillant & Bocourt)	1406
<i>nothus</i> (Holbrook)	1406
<i>regalis</i> (Bloch & Schneider)	1407
<i>thalassinus</i> (Holbrook)	1407
<i>reticulatus</i> (Günther)	1408
<i>nebulosus</i> (Cuvier & Valenciennes)	1409
<i>parvipinnis</i> , Ayres	1410
<i>xanthulus</i> , Jordan & Gilbert	1410
<i>albus</i> (Günther)	1411
<i>macdonaldi</i> , Gilbert	1411
<i>stolzmanni</i> (Steindachner)	1412

	Page.
CLASS PISCES.—Continued.	
SUBCLASS TELEOSTOMI.—Continued.	
ORDER ACANTHOPTERI.—Continued.	
SUBORDER RHENOPTERI.—Continued.	
Family <i>Sciaenidae</i> .—Continued.	
Genus <i>Cynoscion</i> , Gill.—Continued.	
Subgenus <i>Atractoscion</i> , Gill.....	1413
<i>nobilis</i> (Ayres).....	1413
<i>phoxocephalus</i> , Jordan & Gilbert.....	1413
<i>lelarchus</i> (Cuvier & Valenciennes).....	1414
<i>virescens</i> (Cuvier & Valenciennes).....	1415
<i>microlepidotus</i> (Cuvier & Valenciennes).....	1415
Genus <i>Sagenichthys</i> , Berg.....	1416
<i>ancylodon</i> (Bloch & Schneider).....	1416
Genus <i>Nebria</i> , Cuvier & Valenciennes.....	1416
<i>microps</i> , Cuvier & Valenciennes.....	1417
<i>occidentalis</i> , Vaillant.....	1417; 3173
Genus <i>Plagioscion</i> , Gill.....	1418
<i>squamosissimus</i> (Heckel).....	1418
<i>heterolepis</i> (Bleeker).....	1419
<i>surinamensis</i> (Bleeker).....	1419
Genus <i>Larimus</i> , Cuvier & Valenciennes.....	1420
Subgenus <i>Amblyscion</i> , Gill.....	1421
<i>argenteus</i> (Gill).....	1421
Subgenus <i>Larimus</i>	1421
<i>effulgens</i> , Gilbert.....	1421
<i>acelivis</i> , Jordan & Bristol.....	1422
<i>breviceps</i> , Cuvier & Valenciennes.....	1423
<i>pacificus</i> , Jordan & Bollman.....	1424
<i>fasciatus</i> , Holbrook.....	1424
Genus <i>Odontoscion</i> , Gill.....	1425
<i>dentex</i> (Cuvier & Valenciennes).....	1425
<i>xanthops</i> , Gilbert.....	1426
Genus <i>Corvula</i> , Jordan & Eigenmann.....	1427
<i>macrops</i> , (Steindachner).....	1427
<i>sialis</i> , Jordan & Eigenmann.....	1428
<i>subaequalis</i> (Poey).....	1429
<i>sanctae-lucie</i> , Jordan.....	1429
<i>batabana</i> (Poey).....	1430
Genus <i>Elattarchus</i> , Jordan & Evermann.....	1431
<i>archidium</i> (Jordan & Gilbert).....	1431
Genus <i>Bairdiella</i> , Gill.....	1432
Subgenus <i>Bairdiella</i>	1432
<i>chrysota</i> (Lacepede).....	1432
<i>ensifera</i> (Jordan & Gilbert).....	1434
<i>icistia</i> (Jordan & Gilbert).....	1435
<i>ronchus</i> (Cuvier & Valenciennes).....	1436
Subgenus <i>Sector</i> , Jordan & Evermann.....	1436
<i>armata</i> , Gill.....	1436
<i>alata</i> , Jordan & Gilbert.....	1437
<i>chrysolenca</i> (Günther).....	1438
<i>micacantha</i> (Boulenger).....	3173
Genus <i>Stellifer</i> (Cuvier) Oken.....	1439
Subgenus <i>Zostis</i> , Gilbert.....	1440
<i>ocellans</i> (Jordan & Gilbert).....	1440
<i>furthi</i> (Steindachner).....	1441
Subgenus <i>Zestidium</i> , Gilbert.....	1442
<i>ilicebrosus</i> , Gilbert.....	1442

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER RHEGNOPTERI—Continued.	
Family <i>Scianidae</i> —Continued.	
Genus <i>Stellifer</i> (Cuvier) Oken—Continued.	
Subgenus <i>Stellifer</i>	1443
stellifer (Bloch)	1443
lanceolatus (Holbrook)	1443
ericymba (Jordan & Gilbert)	1444
micros (Steindachner)	1445
Subgenus <i>Stellicarens</i> , Gilbert	1445
zestocarus, Gilbert	1445
Genus <i>Ophioscion</i> , Gill	1446
Subgenus <i>Ophioscion</i>	1447
adustus (Agassiz)	1447
typicus, Gill	1448
trabo, Gilbert	1448
simulus, Gilbert	1449
iniceps (Jordan & Gilbert)	1451
scierus (Jordan & Gilbert)	1452
Subgenus <i>Signatus</i> , Gilbert	1452
vermicularis (Günther)	1452
Genus <i>Scianops</i> , Gill	1453
ocellatus (Linnaeus)	1453
Genus <i>Sciana</i> (Artedi) Linnaeus	1454
Subgenus <i>Callaus</i> , Jordan	1455
deliciosa (Tschudi)	1455
Subgenus <i>Cheilotrema</i> , Tschudi	1456
saturna (Girard)	1456
Genus <i>Roncador</i> , Jordan & Gilbert	1457
stearnsi (Steindachner)	1457
Genus <i>Leiostomus</i> , Lacépède	1458
xanthurus, Lacépède	1458
Genus <i>Pachypops</i> , Gill	1459
furcatus (Lacépède)	1459
Genus <i>Genyonemus</i> , Gill	1460
lineatus (Ayres)	1460
Genus <i>Micropogon</i> , Cuvier & Valenciennes	1461
undulatus (Linnaeus)	1461
furnieri (Desmarest)	1462
megalops, Gilbert	1463
ectenes, Jordan & Gilbert	1463
altipinnis, Günther	1464
Genus <i>Umbrina</i> , Cuvier	1465
broussonetii, Cuvier & Valenciennes	1466
coroidea, Cuvier & Valenciennes	1466
roncador, Jordan & Gilbert	1467
xanti, Gill	1467
sinaloa, Scofield	1468
galapagorum, Steindachner	1468
dorsalis, Gill	1469
Genus <i>Menticirrhus</i> , Gill	1469
simus, Jordan & Eigenmann	1472
nasus (Günther)	1473
panamensis (Steindachner)	1473
martinicensis (Cuvier & Valenciennes)	1473
americanus (Linnaeus)	1474

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

ORDER ACANTHOPTERI—Continued.

SUBORDER KESHOPTERI—Continued.

Family *Sciaenidae*—Continued.Genus *Menticirrhus*, Gill—Continued.

saxatilis (Bloch & Schneider).....	1475
------------------------------------	------

undulatus (Girard).....	1476
-------------------------	------

Subgenus <i>Umbrula</i> , Jordan & Eigenmann.....	1476
---	------

elongatus (Günther).....	1476
--------------------------	------

litigialis (Hobbs).....	1477
-------------------------	------

Genus <i>Paralichthys</i> , Bocourt.....	1477
--	------

Subgenus <i>Polydemus</i> , Berg.....	1478
---------------------------------------	------

demigillii (Bocourt).....	1478
---------------------------	------

Subgenus <i>Zenoscion</i> , Jordan & Evermann.....	1479
--	------

rathbuni (Jordan & Bollman).....	1479
----------------------------------	------

Subgenus <i>Zaclemus</i> , Gilbert.....	1480
---	------

goodei, Gilbert.....	1480
----------------------	------

Subgenus <i>Paralichthys</i>	1481
------------------------------------	------

petersi, Bocourt.....	1481
-----------------------	------

Genus <i>Lonchichthys</i> , Bloch.....	1481
--	------

lanceolatus (Bloch).....	1481
--------------------------	------

Genus <i>Pogonias</i> , Lacépède.....	1482
---------------------------------------	------

chromis (Linnaeus).....	1482
-------------------------	------

courbina (Lacépède).....	1483
--------------------------	------

Genus <i>Aplodinotus</i> , Rafinesque.....	1483
--	------

grunniens, Rafinesque.....	1484
----------------------------	------

Genus <i>Eques</i> , Bloch.....	1485
---------------------------------	------

Subgenus <i>Pareques</i> , Gill.....	1486
--------------------------------------	------

cola, Gilbert.....	1486
--------------------	------

acuminatus (Bloch & Schneider).....	1487
-------------------------------------	------

umbrosus, Jordan & Eigenmann.....	1487
-----------------------------------	------

punctatus, Bloch & Schneider.....	1488
-----------------------------------	------

pulcher, Steindachner.....	1489
----------------------------	------

Subgenus <i>Eques</i>	1489
-----------------------------	------

lanceolatus (Linnaeus).....	1489
-----------------------------	------

Group <i>Cirrhitidae</i>	1489
--------------------------------	------

Family <i>Cirrhitidae</i>	1489
---------------------------------	------

Genus <i>Cirrhitus</i> , Lacépède.....	1491
--	------

rivulatus, Valenciennes.....	1491
------------------------------	------

betaurus, Gill.....	1492
---------------------	------

SUBORDER HOLCONOTI.....	1493
-------------------------	------

Family <i>Embiotocidae</i>	1493
----------------------------------	------

Genus <i>Hysterothorax</i> , Gibbons.....	1495
---	------

traski, Gibbons.....	1496
----------------------	------

Genus <i>Abeona</i> , Girard.....	1496
-----------------------------------	------

minima (Gibbons).....	1497
-----------------------	------

aurora, Jordan & Gilbert.....	1497
-------------------------------	------

Genus <i>Cymatogaster</i> , Gibbons.....	1498
--	------

aggregatus, Gibbons.....	1498
--------------------------	------

Genus <i>Brachyliotus</i> , Gill.....	1499
---------------------------------------	------

frenatus, Gill.....	1499
---------------------	------

Genus <i>Zalenbicus</i> , Jordan & Evermann.....	1499
--	------

rosaceus (Jordan & Gilbert).....	1500
----------------------------------	------

Genus <i>Hypocritichthys</i> , Gill.....	1500
--	------

analis (Alexander Agassiz).....	1500
---------------------------------	------

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER HOLCONOTI—Continued.	
Family Embiotocidae—Continued.	
Genus <i>Hyperprosopon</i> , Gibbons.....	1501
<i>argenteus</i> , Gibbons.....	1501
<i>agassizii</i> , Gill.....	1502
Genus <i>Holconotus</i> , Agassiz.....	1502
<i>rhodoterus</i> , Agassiz.....	1502
Genus <i>Amphistieus</i> , Agassiz.....	1503
<i>argenteus</i> , Agassiz.....	1503
Genus <i>Embiotoca</i> , Agassiz.....	1504
<i>jacksoni</i> , Agassiz.....	1504
Genus <i>Tanilotoca</i> , Alexander Agassiz.....	1505
<i>lateralis</i> (Agassiz).....	1505
Genus <i>Phanerodon</i> , Girard.....	1506
<i>furcatus</i> , Girard.....	1506
<i>artipes</i> (Jordan & Gilbert).....	1507
Genus <i>Rhacochilus</i> , Agassiz.....	1507
<i>toxotes</i> , Agassiz.....	1507
Genus <i>Hypsurus</i> , Alexander Agassiz.....	1508
<i>caryi</i> (Agassiz).....	1508
Genus <i>Damalichthys</i> , Girard.....	1509
<i>argyrosomus</i> (Girard).....	1509
SUBORDER CHROMIDES.....	1511
Family Cichlidae.....	1512
Genus <i>Petenia</i> , Günther.....	1513
<i>splendida</i> , Günther.....	1513
Genus <i>Æquidens</i> , Eigenmann & Bray.....	1513
<i>cæruleopunctatus</i> (Kner & Steindachner).....	1514
Genus <i>Cichlasoma</i> , Swainson.....	1514
Subgenus <i>Cichlasoma</i>	1515
<i>rectangulare</i> (Steindachner).....	1515
<i>bartoni</i> (Bean).....	1515
<i>godmani</i> (Günther).....	1516
<i>sieboldii</i> (Kner & Steindachner).....	1516
<i>intermedium</i> (Günther).....	1517
<i>anguliferum</i> (Günther).....	1517
<i>fenestratum</i> (Günther).....	1518
<i>montezuma</i> (Heckel).....	1518
<i>macracanthum</i> (Günther).....	1518
<i>parma</i> (Günther).....	1519
<i>margaritifera</i> (Günther).....	1519
<i>spilurum</i> (Günther).....	1520
<i>longimanus</i> (Günther).....	1520
<i>bifasciatum</i> (Steindachner).....	1521
<i>helleri</i> (Steindachner).....	1521
<i>balteatum</i> (Gill & Bransford).....	1521
<i>rostratum</i> (Gill & Bransford).....	1522
<i>melanopogon</i> (Steindachner).....	1523
<i>melanurum</i> (Günther).....	1523
<i>nebuliferum</i> (Günther).....	1524
<i>lentiginosum</i> (Steindachner).....	1524
<i>deppii</i> (Heckel).....	1524
Subgenus <i>Archocentrus</i> , Gill.....	1525
<i>nigrofasciatum</i> (Günther).....	1525

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER CHROMIDES—Continued.	
Family Cichlidae—Continued.	
Genus <i>Cichlasoma</i> , Swainson—Continued.	
Subgenus <i>Archocentrus</i> , Gill—Continued.	
<i>multispinosum</i> (Günther)	1525
<i>centrarchus</i> (Gill & Bransford)	1526
<i>steindachneri</i> , Jordan & Snyder	3173
Genus <i>Heros</i> , Heckel	1526
<i>friedrichshali</i> , Heckel	1528
<i>salvini</i> , Günther	1528
<i>adonis</i> , Günther	1529
<i>maculipinnis</i> , Steindachner	1529
<i>trimaaculatus</i> , Günther	1529
<i>lobatus</i> , Günther	1530
<i>lobochilus</i> , Günther	1530
<i>erythreus</i> , Günther	1531
<i>basilaris</i> , Gill & Bransford	1532
<i>nicaraguensis</i> , Günther	1532
<i>managuensis</i> , Günther	1533
<i>aureus</i> , Günther	1533
<i>citrinellus</i> , Günther	1534
<i>motaguensis</i> , Günther	1534
<i>oblongus</i> , Günther	1535
<i>doxii</i> , Günther	1535
<i>gibbiceps</i> , Steindachner	1536
<i>microphthalmus</i> , Günther	1536
<i>urophthalmus</i> , Günther	1537
<i>troscheli</i> , Steindachner	1537
<i>cyanoguttatus</i> (Baird & Girard)	1537
<i>pavonaceus</i> , Garman	1538
<i>altifrons</i> , Kner & Steindachner	1538
<i>beani</i> , Jordan	1538
<i>tetracanthus</i> (Cuvier & Valenciennes)	1539
<i>istlanus</i> , Jordan & Snyder	3174
Genus <i>Theraps</i> , Günther	1540
<i>irregularis</i> , Günther	1540
Genus <i>Neotroplus</i> , Günther	1541
<i>nematopus</i> , Günther	1541
<i>nicaraguensis</i> , Gill & Bransford	1542
<i>carpintis</i> , Jordan & Snyder	3175
Genus <i>Satanoperca</i> , Günther	1542
<i>crassilabris</i> (Steindachner)	1542
Family Pomacentridae	1543
Genus <i>Azurina</i> , Jordan & McGregor	1544
<i>hirundo</i> , Jordan & McGregor	1544
Genus <i>Chromis</i> , Cuvier	1545
Subgenus <i>Eurearia</i> , Poey	1546
<i>atrilobatus</i> , Gill	1546
<i>cyathostomus</i> (Poey)	1547
<i>multilineatus</i> (Guichenot)	1547
Subgenus <i>Ayresia</i> , Cooper	1548
<i>peruviana</i> (Cuvier)	1548
Subgenus <i>Heliases</i> , Cuvier & Valenciennes	1548
<i>insolatus</i> (Cuvier & Valenciennes)	1548
<i>enchrysurus</i> , Jordan & Gilbert	1548

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

Page.

ORDER ACANTHOPTERI—Continued.

SUBORDER CHROMIDES—Continued.

Family Pomacentridæ—Continued.

Genus <i>Eupomacentrus</i> , Bleeker	1549
Subgenus <i>Eupomacentrus</i>	1551
<i>leucurus</i> (Gilbert)	1551
<i>adustus</i> (Troschel)	1551
<i>fuscus</i> (Cuvier & Valenciennes)	1552
<i>dieneus</i> , Jordan & Rutter	1552
<i>rectifranum</i> (Gill)	1553; 3176
<i>analis</i> (Poey)	1554
<i>otophorus</i> (Poey)	1555
<i>leucostictus</i> (Müller & Troschel)	1555
<i>flaviventer</i> (Troschel)	1557
<i>partitus</i> (Poey)	1558
<i>planifrons</i> (Cuvier & Valenciennes)	1559
Genus <i>Nexilarius</i> , Gilbert	1559
<i>concolor</i> (Gill)	1559
Genus <i>Abudefduf</i> , Forskål	1560
Subgenus <i>Glyphisodon</i> , Lacépède	1561
<i>saxatilis</i> (Linnaeus)	1561
Subgenus <i>Euschistodus</i> , Gill	1562
<i>declivifrons</i> (Gill)	1562
<i>analogus</i> (Gill)	1563
<i>taurus</i> (Müller & Troschel)	1563
<i>rudis</i> (Poey)	1563
Genus <i>Hypsypops</i> , Gill	1564
<i>rubicundus</i> (Girard)	1564
Genus <i>Microspathodon</i> , Günther	1565
<i>bairdii</i> (Gill)	1566
<i>chrysurus</i> (Cuvier & Valenciennes)	1567
<i>niveatus</i> (Poey)	1567
<i>dorsalis</i> (Gill)	1568
SUBORDER PHARYNGOGNATHI	1571
<i>Family Labridæ</i>	1571
Genus <i>Centrolabrus</i> , Günther	1575
<i>exoletus</i> (Linnaeus)	1576
Genus <i>Tautoglabrus</i> , Günther	1576
<i>adpersus</i> (Walbaum)	1577
Genus <i>Tautoga</i> , Mitchell	1577
<i>onitis</i> (Linnaeus)	1578
Genus <i>Lachnolaimus</i> , Cuvier & Valenciennes	1579
<i>maximus</i> (Walbaum)	1579
Genus <i>Harpe</i> , Lacépède	1581
<i>diplotenia</i> , Gill	1582
<i>rufa</i> (Linnaeus)	1583
<i>eclancheri</i> (Valenciennes)	1583
<i>pulchella</i> (Poey)	1584
Genus <i>Decodon</i> , Günther	1584
<i>puellaris</i> (Poey)	1584
Genus <i>Pimelometopon</i> , Gill	1585
<i>pulcher</i> (Ayres)	1585
<i>darwinii</i> (Jenyns)	1586
Genus <i>Clepticus</i> , Cuvier	1586
<i>parre</i> (Bloch & Schneider)	1586

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER PHARYNGOGNATHI—Continued.	
Family <i>Labridæ</i> —Continued.	
Genus <i>Iridio</i> , Jordan & Evermann	1587
<i>radiatus</i> (Linnaeus)	1589
<i>nicholsi</i> (Jordan & Gilbert)	1591
<i>sellifer</i> (Gilbert)	1592
<i>semicinctus</i> (Ayres)	1592
<i>garnoti</i> (Cuvier & Valenciennes)	1593
<i>cynocephalus</i> (Bloch)	1594
<i>maculipinna</i> (Müller & Troschel)	1594
<i>bivittatus</i> (Bloch)	1595
<i>diapylus</i> (Günther)	1595
<i>kirschii</i> , Jordan & Evermann	1598
<i>poeyi</i> (Steindachner)	1599
<i>carolinus</i> (Pom.)	1599
<i>pittus</i> (Pom.)	1599
Genus <i>Oxyjulis</i> , Gill	1601
<i>californicus</i> (Günther)	1601
Genus <i>Emmeekia</i> , Jordan & Evermann	1601
<i>venusta</i> (Jenkins & Evermann)	1602
Genus <i>Julidio</i> , Jordan & Evermann	1602
<i>adustus</i> (Gilbert)	1602
<i>notospilus</i> (Günther)	1603
Genus <i>Pseudojulis</i> , Bleeker	1604
<i>inornatus</i> , Gilbert	1604
<i>melanotis</i> , Gilbert	1605
Genus <i>Thalassoma</i> , Swainson	1605; 2859
<i>lucasanum</i> (Gill)	1607; 2859
<i>socorroense</i> , Gilbert	1607; 2859
<i>nitidum</i> (Günther)	1608; 2859
<i>nitidissimum</i> (Goode)	1608; 2859
<i>steindachneri</i> (Jordan)	1609; 2859
<i>bifasciatum</i> (Bloch)	1609; 2859
<i>grammaticum</i> , Gilbert	1610; 2859
<i>virens</i> , Gilbert	1610; 2859
Genus <i>Doratonotus</i> , Günther	1611
<i>megalepis</i> , Günther	1611
<i>decoris</i> , Evermann & Marsh	3177
Genus <i>Xyrula</i> , Jordan	1612
<i>jessiae</i> (Jordan)	1612
Genus <i>Novaeuclithys</i> , Bleeker	1613
<i>rosipes</i> (Jordan & Gilbert)	1614
<i>ventralis</i> (Bean)	1615
<i>infirmus</i> (Bean)	1616
<i>martinezensis</i> (Cuvier & Valenciennes)	1616
Genus <i>Xyrichtys</i> , Cuvier	1617
<i>mundiceps</i> , Gill	1618
<i>psittacus</i> (Linnaeus)	1618
<i>modestus</i> , Poey	1619
Genus <i>Etmopterus</i> , Gill	1620
<i>mundicorpus</i> , Gill	1620
Family <i>Serranæ</i>	1620
Genus <i>Cryptotomus</i> , Cope	1621
<i>dentatus</i> (Poey)	1623
<i>repens</i> (Cope)	1623
<i>ustus</i> (Cuvier & Valenciennes)	1624

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER PHARYNGOGNATHI—Continued.	
Family Scaridæ—Continued.	
Genus <i>Cryptotomus</i> , Cope—Continued.	
<i>auropunctatus</i> (Cuvier & Valenciennes).....	1624
<i>beryllinus</i> , Jordan & Swain.....	1625
<i>roseus</i> , Cope.....	1626
Genus <i>Calotomus</i> , Gilbert.....	1626
<i>xenodon</i> , Gilbert.....	1626
Genus <i>Sparisoma</i> , Swainson.....	1627
Subgenus <i>Sparisoma</i>	1630
<i>xystrodon</i> , Jordan & Swain.....	1630
<i>atomarium</i> (Poey).....	1631
<i>radians</i> (Cuvier & Valenciennes).....	1631
<i>hoplomystax</i> (Cope).....	1632
<i>niphobles</i> , Jordan & Bollman.....	1633
<i>aurofrenatum</i> (Cuvier & Valenciennes).....	1634
<i>oxybrachium</i> (Poey).....	1634
<i>abildgaardi</i> (Bloch).....	1635
<i>distinctum</i> (Poey).....	1635
<i>chrysopterum</i> (Bloch & Schneider).....	1636
<i>lorito</i> , Jordan & Swain.....	1637
<i>viride</i> (Bonnaterre).....	1638
Subgenus <i>Euscarus</i> , Jordan & Evermann.....	1639
<i>strigatum</i> (Günther).....	1639
<i>flavescens</i> (Bloch & Schneider).....	1639
<i>rubripinne</i> (Cuvier & Valenciennes).....	1640
<i>brachiale</i> (Poey).....	1641
<i>maschalespilos</i> (Bleeker).....	1641
<i>frondosum</i> (Cuvier).....	1642
Genus <i>Searus</i> , Forskål.....	1642
Subgenus <i>Searus</i>	1645
<i>punctulatus</i> (Cuvier & Valenciennes).....	1645
<i>bollmani</i> , Jordan & Evermann.....	1646
<i>teniopterus</i> , Desmarest.....	1646
<i>aracanga</i> (Günther).....	1647
<i>trispinosus</i> , Cuvier & Valenciennes.....	1648
<i>cuzamilla</i> , Bean.....	1648
<i>vetula</i> , Bloch & Schneider.....	1649
<i>gnathodus</i> , Poey.....	1650
Subgenus <i>Calliodon</i> (Gronow) Schneider.....	1650
<i>croicensis</i> (Bloch).....	1650
<i>evermanni</i> , Jordan.....	1651
<i>flavomarginatus</i> , Cuvier & Valenciennes.....	1652
<i>acutus</i> , Poey.....	1652
<i>ceruleus</i> (Bloch).....	1652
<i>emblematicus</i> , Jordan & Rutter.....	1654
Genus <i>Pseudoscarus</i> , Bleeker.....	1655
Subgenus <i>Pseudoscarus</i>	1655
<i>celestinus</i> (Cuvier & Valenciennes).....	1655
<i>simplex</i> , Poey.....	1656
<i>pleianus</i> (Poey).....	1656
Subgenus <i>Loro</i> , Jordan & Evermann.....	1657
<i>guacamaia</i> (Cuvier).....	1657
<i>perrieo</i> (Jordan & Gilbert).....	1658
Group <i>Zeoidea</i>	1659

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER PHARYNGOGNATHI—Continued.	
Family Zenopidae	1660
Genus Zenopsis, Gill	1660
ocellatus (Storer)	1660
Genus Zenion, Jordan & Evermann	1661
hololepis (Goode & Bean)	1661
Genus Oreosoma, Cuvier & Valenciennes	1662
atlanticum, Cuvier & Valenciennes	1662
Group Caproides	1663
Family Caproides	1663
Genus Antigonia, Lowe	1664
capros, Lowe	1665
SUBORDER SQUAMIPINNES	1665
Family Ippichthyidae	1666
Genus Chaetodipterus, Lacépède	1667
faber (Broussonet)	1668
zonatus (Girard)	1668
Genus Parapsettus, Steindachner	1669
panamensis, Steindachner	1669
Family Chaetodontidae	1669
Genus Prognathodes, Gill	1671
aculeatus (Poey)	1671
Genus Forcipiger, Jordan & McGregor	1671
flavissimus, Jordan & McGregor	1671
Genus Chaetodon (Artedi) Linnaeus	1672
Subgenus Chaetodontops, Bleeker	1673
nigrirostris (Gill)	1673
ocellatus, Bloch	1674
humeralis, Günther	1674
sedentarius, Poey	1675
asa, Jordan	1675
atenuatus (Poey)	1676
striatus, Linnaeus	1677
Subgenus Chaetodon	1677
capistratus, Linnaeus	1677
bricei, Smith	1678
Genus Pomacanthus, Lacépède	1679
Subgenus Pomacanthus	1679
acuminatus (Linnaeus)	1679
paru (Bloch)	1680
Subgenus Pomacanthodes, Gill	1681
zonipectus (Gill)	1681
Genus Holacanthus, Lacépède	1682
passer, Valenciennes	1682
clarionensis, Gilbert	1683
tricolor (Bloch)	1684
Genus Angelichthys, Jordan & Evermann	1684
edwardsi (Johannes)	1684
isabellia, Jordan & Rutter	1685
isidicus, Jordan & Rutter	1686
Family Zanclus	1687
Genus Zanclus, Cuvier & Valenciennes	1687
cornutus (Johannes)	1687
Family Torichthidae	1688
Genus Torichthys, Linnaeus	1689
torquatus (Linnaeus)	1689

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER ACANTHOPTERI—Continued.	
SUBORDER SQUAMIPINNES—Continued.	
Family <i>Teuthididae</i> —Continued.	
Genus <i>Teuthis</i> , Linnaeus—Continued.	
<i>caeruleus</i> (Bloch & Schneider)	1691
<i>hepatus</i> , Linnaeus	1691
<i>crestonis</i> , Jordan & Starks	1692
<i>bahianus</i> (Castlenau)	1693
<i>aliala</i> (Lesson)	1693
Genus <i>Xesurus</i> , Jordan & Evermann	1694
<i>punctatus</i> (Gill)	1694
<i>clarionis</i> , Gilbert & Starks	1695
<i>laticlavus</i> (Valenciennes)	1695
ORDER PLECTOGNATHI	1696
SUBORDER SCLERODERMI	1697
Family <i>Triacanthidae</i>	1697
Genus <i>Hollardia</i> , Poey	1697
<i>hollardi</i> , Poey	1698
Family <i>Balistidae</i>	1698
Genus <i>Balistes</i> (Artedi) Linnaeus	1699
Subgenus <i>Capriscus</i> , Rafinesque	1700
<i>polylepis</i> , Steindachner	1700
<i>naufragium</i> , Jordan & Starks	1700
<i>carolinensis</i> , Gmelin	1701
<i>forcipatus</i> , Gmelin	1702
Subgenus <i>Balistes</i>	1703
<i>vetula</i> , Linnaeus	1703
Genus <i>Pachynathus</i> , Swainson	1703
<i>capistratus</i> (Shaw)	1704
Genus <i>Canthidermis</i> , Swainson	1705
<i>sobaco</i> , Poey	1705
<i>sufflamen</i> (Mitchill)	1706
<i>maculatus</i> (Bloch)	1706
<i>willughbeii</i> (Lay & Bennett)	1707
Genus <i>Xanthichthys</i> , Kaup	1708
<i>ringens</i> (Linnaeus)	1709
<i>mento</i> (Jordan & Gilbert)	1710
Genus <i>Melichthys</i> , Swainson	1711
<i>piceus</i> (Poey)	1711
<i>bispinosus</i> , Gilbert	1711
Family <i>Monacanthidae</i>	1712
Genus <i>Cantherines</i> , Swainson	1713
<i>pullus</i> (Ranzani)	1713
<i>carole</i> , Jordan & McGregor	1713
Genus <i>Monacanthus</i> , Cuvier	1714
<i>ciliatus</i> (Mitchill)	1714
<i>hispidus</i> (Linnaeus)	1715
<i>spilonotus</i> , Cope	1716
<i>oppositus</i> , Poey	1716
Genus <i>Pseudomonacanthus</i> , Bleeker	1717
<i>amphioxys</i> (Cope)	1717
Genus <i>Ceratacanthus</i> , Gill	1718; 2860
<i>schepfli</i> (Walbaum)	1718; 2860
<i>punctatus</i> (Agassiz)	1718; 2860
Subgenus <i>Osbeckia</i> , Jordan & Evermann	1719
<i>scriptus</i> (Osbeck)	1719; 2860
Genus <i>Alutera</i> , Cuvier	1717; 2860
<i>monoceros</i> (Osbeck)	1720; 2860; 3178

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER OSTRACODERMI	1720
<i>Family Ostraciidae</i>	1721
Genus <i>Lactophrys</i> , Swainson	1721
Subgenus <i>Rhinesomus</i> , Swainson	1722
<i>trispinosus</i> (Linnaeus)	1722
Subgenus <i>Chapinus</i> , Jordan & Evermann	1723
<i>bieaudalis</i> (Linnaeus)	1723
Subgenus <i>Lactophrys</i>	1723
<i>trispinosus</i> (Linnaeus)	1723
Subgenus <i>Acanthostracion</i> , Bleeker	1724
<i>tricornis</i> (Linnaeus)	1724
SUBORDER GYMNOBONTES	1726
<i>Family Tetraodontidae</i>	1726
Genus <i>Lagocephalus</i> , Swainson	1727
<i>lavigatus</i> (Linnaeus)	1728
<i>pachycephalus</i> (Ranzani)	1728
Genus <i>Spheroides</i> , Lacépède	1729
Subgenus <i>Spheroides</i>	1730
<i>angusticeps</i> (Jenyns)	1731
<i>lobatus</i> (Steindachner)	1731
<i>spengleri</i> (Bloch)	1732
<i>maculatus</i> (Bloch & Schneider)	1733
<i>nepheus</i> (Goode & Bean)	1733; 3178
<i>marmoratus</i> (Ranzani)	1733
Subgenus <i>Cheilichthys</i> , Müller	1734
<i>testudineus</i> (Linnaeus)	1734
<i>annulatus</i> (Jenyns)	1735
<i>politus</i> (Girard)	1736
<i>formosus</i> (Günther)	1736
<i>furthi</i> (Steindachner)	1737
<i>trichocephalus</i> (Cope)	1737
<i>pachygaster</i> (Müller & Troschel)	1738
Genus <i>Ovoides</i> , Lacépède	1738
<i>erethizon</i> (Jordan & Gilbert)	1739
<i>setosus</i> (Rosa Smith)	1739
Genus <i>Colomesus</i> , Gill	1740
<i>psittacus</i> (Bloch & Schneider)	1740
<i>Family Canthigasteridae</i>	1740
Genus <i>Canthigaster</i> , Swainson	1741
<i>punctatissimus</i> (Günther)	1741
<i>rostratus</i> (Bloch)	1741
<i>Family Diodontidae</i>	1742
Genus <i>Trichodiodon</i> , Bleeker	1743
<i>pilosus</i> (Mitchill)	1743
Genus <i>Diodon</i> , Linnaeus	1744
<i>hystrix</i> , Linnaeus	1745
<i>holacanthus</i> , Linnaeus	1746
<i>maculifer</i> , Kaup	1747
Genus <i>Chilomycterus</i> , Hilbron	1747
Subgenus <i>Cyelichthys</i> , Kaup	1748
<i>schepfi</i> (Walbaum)	1748
<i>spinosus</i> , Linnaeus	1749
<i>antillarum</i> , Jordan & Rutter	1749
<i>antennatus</i> (Cuvier)	1750
Subgenus <i>Chilomycterus</i>	1750
<i>atinga</i> (Linnaeus)	1750
<i>californiensis</i> , Eigenmann	1751

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER GYMNOTONTES—Continued.	
Family <i>Diodontidae</i> —Continued.	
Genus <i>Lyosphaera</i> , Evermann & Kendall.....	1751
globosa, Evermann & Kendall.....	1751
Family <i>Molidae</i>	1752
Genus <i>Mola</i> , Cuvier.....	1753
mola (Linnæus).....	1753
Genus <i>Ranzania</i> , Nardo.....	1755
truncata (Retzius).....	1755
SUBORDER LORICATI.....	1756
Family <i>Scorpenidae</i>	1758
Genus <i>Sebastes</i> , Cuvier.....	1760
marinus (Linnæus).....	1760
Genus <i>Sebastolobus</i> , Gill.....	1761
alascanus, Bean.....	1761
altivelis, Gilbert.....	1763
Genus <i>Sebastodes</i> , Gill.....	1765
Subgenus <i>Emmelas</i> , Jordan & Evermann.....	1777
glaucus (Hilgendorf).....	1777
Subgenus <i>Sebastodes</i>	1778
jordani, Gilbert.....	1778
goodei, Eigenmann & Eigenmann.....	1779
paucispinis (Ayres).....	1780
Subgenus <i>Sebastosomus</i> , Gill.....	1781
flavidus (Ayres).....	1781
serranoides, Eigenmann & Eigenmann.....	1782
melanops (Girard).....	1782
Subgenus <i>Primospina</i> , Eigenmann & Beeson.....	1783
ciliatus (Tilesius).....	1783
mystinus, Jordan & Gilbert.....	1784
Subgenus <i>Acutomentum</i> , Eigenmann & Beeson.....	1785
entomelas (Jordan & Gilbert).....	1785
rufus, Eigenmann & Eigenmann.....	1786
macdonaldi (Eigenmann & Beeson).....	1786
brevispinis (Bean).....	1787
ovalis (Ayres).....	1788
eigenmanni, Cramer.....	1789
hopkinsi, Cramer.....	1789
alutus (Gilbert).....	1790
proriger (Jordan & Gilbert).....	1792
Subgenus <i>Rosicola</i> , Jordan & Evermann.....	1793
pinniger (Gill).....	1793
miniatus (Jordan & Gilbert).....	1794
atrorubens (Gilbert).....	1796
atrovirens (Jordan & Gilbert).....	1797
Subgenus <i>Zalopyr</i> , Jordan & Evermann.....	1795; 2860
aleutianus, Jordan & Evermann.....	1795; 2860
Subgenus <i>Eosebastes</i> , Jordan & Evermann.....	1798
saxicola (Gilbert).....	1798
crameri, Jordan.....	1799
semicinctus, Gilbert.....	1800
diploproa (Gilbert).....	1801
aurora (Gilbert).....	1802
melanostomus, Eigenmann & Eigenmann.....	1803
introniger (Gilbert).....	1803

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLEUROGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family Scorpanidae—Continued.	
Genus Sebastodes, Gill—Continued.	
Subgenus Sebastomus, Gill	1805
ruberrimus, Cramer	1805
constellatus (Jordan & Gilbert)	1806
umbrosus (Jordan & Gilbert)	1807
rosaceus (Girard)	1808
ayresii, Gilbert & Cramer	1808
rhodochloris (Jordan & Gilbert)	1809
eos, Eigenmann & Eigenmann	1810
gilli, Eigenmann & Eigenmann	1811
chlorostictus (Jordan & Gilbert)	1811
rupestris (Gilbert)	1812
Subgenus Hispaniscus, Cramer	1813
sinensis (Gilbert)	1813
zacentrus (Gilbert)	1814
elongatus (Ayres)	1815
levis (Eigenmann & Eigenmann)	1816
rubrivinctus (Jordan & Gilbert)	1817
Subgenus Auctospina, Eigenmann & Beeson	1817
auriculatus (Girard)	1817
dallii (Eigenmann & Beeson)	1818
Subgenus Pteropodus, Eigenmann & Beeson	1819
rastrelliger (Jordan & Gilbert)	1819
caurinus (Richardson)	1820
vexillaris (Jordan & Gilbert)	1821
maliger (Jordan & Gilbert)	1822
gilberti, Cramer	1823
carnatus (Jordan & Gilbert)	1824
chrysomelas (Jordan & Gilbert)	1825
nebulosus (Ayres)	1826
Subgenus Sebastichthys, Gill	1827
serriceps (Jordan & Gilbert)	1827
nigrocinctus (Ayres)	1827
Subgenus Sebastosomus, Gill	1829; 2860
taczanowskii (Steindachner)	1831; 2860
Genus Sebastopsis, Gill	1835
xyris, Jordan & Gilbert	1835
Genus Helicolenus, Goode & Bean	1836
dactylopterus (De la Roche)	1837
maderensis, Goode & Bean	1837
Genus Scorpena (Artedi) Linneus	1839
agassizii, Goode & Bean	1840
cristulata, Goode & Bean	1841
brasiliensis, Cuvier & Valenciennes	1842
histrionicus, Jenyns	1843
paucispina, Cramer	1845
guttata, Girard	1847
plumieri, Bloch	1848
mystes, Jordan & Starks	1849
grandicornis, Cuvier & Valenciennes	1850
russula, Jordan & Bollman	1851
sonora, Jenkins & Evermann	1852
inermis, Cuvier & Valenciennes	1853
nematophthalmus, (Günther)	2861

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family <i>Scorpenidae</i> —Continued.	
Genus <i>Pontinus</i> , Poey	1854
<i>macrolepis</i> , Goode & Bean	1855
<i>castor</i> , Poey	1856
<i>pollux</i> , Poey	1857
<i>rathbuni</i> , Goode & Bean	1857
<i>longispinis</i> , Goode & Bean	1858
<i>sierra</i> (Gilbert)	1859
Genus <i>Setarches</i> , Johnson	1860
<i>parmatus</i> , Goode	1860
Family <i>Anoploponatidae</i>	1861
Genus <i>Anoplopoma</i> , Ayres	1861
<i>fimbria</i> (Pallas)	1862
Genus <i>Erilepis</i> , Gill	1862
<i>zonifer</i> (Lockington)	1863
Family <i>Hexagrammidae</i>	1863
Genus <i>Pleurogrammus</i> , Gill	1864
<i>monopterygius</i> (Pallas)	1864
Genus <i>Hexagrammos</i> (Steller) Tilesius	1866
<i>decagrammus</i> (Pallas)	1867
<i>octagrammus</i> (Pallas)	1869
<i>stelleri</i> , Tilesius	1871
<i>supercilius</i> (Pallas)	1872
<i>lagocephalus</i> (Pallas)	1873
Genus <i>Ophiodon</i> , Girard	1875
<i>elongatus</i> , Girard	1875
Genus <i>Zaniolepis</i> , Girard	1876
<i>latipinnis</i> , Girard	1876
<i>frenatus</i> , Eigenmann	1877
Genus <i>Oxylebius</i> , Gill	1878
<i>pictus</i> , Gill	1878
Family <i>Cottidae</i>	1879
Genus <i>Jordania</i> , Starks	1884
<i>zonope</i> , Starks	1884
Genus <i>Paricelinus</i> , Eigenmann & Eigenmann	1885
<i>hopliticus</i> , Eigenmann & Eigenmann	1886
Genus <i>Aleidea</i> , Jordan & Evermann	1886
<i>thoburni</i> (Gilbert)	1887
Genus <i>Scorpenichthys</i> , Girard	1889
<i>marmoratus</i> (Ayres)	1889
Genus <i>Chitonotus</i> , Lockington	1889
<i>pugetensis</i> (Steindachner)	1890
Genus <i>Tarandichthys</i> , Jordan & Evermann	1891
<i>cavifrons</i> (Gilbert)	1891
<i>filamentosus</i> (Gilbert)	1892
<i>tenuis</i> (Gilbert)	1893
Genus <i>Icelinus</i> , Jordan	1894
<i>fimbriatus</i> , Gilbert	1894
<i>oculatus</i> , Gilbert	1895
<i>borealis</i> , Gilbert	1896
<i>quadriseiatus</i> (Lockington)	1897
<i>strabo</i> , Starks	1897
Genus <i>Astrolytes</i> , Jordan & Starks	1898
<i>notospilotus</i> (Girard)	1899
<i>fenestralis</i> (Jordan & Gilbert)	1899

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family Cottidae—Continued.	
Genus <i>Archistes</i> , Jordan & Gilbert	1900
<i>plumarius</i> , Jordan & Gilbert	1900
Genus <i>Artedius</i> , Girard	1902
<i>lateralis</i> (Girard)	1902
<i>asperulus</i> , Starks	1903
Genus <i>Axyrias</i> , Starks	1903
<i>harringtoni</i> , Starks	1904
Genus <i>Artediellus</i> , Jordan	1905
<i>uncinatus</i> (Reinhardt)	1905
<i>atlanticus</i> , Jordan & Evermann	1906
<i>pacificus</i> , Gilbert	1906
Genus <i>Ruscarius</i> , Jordan & Starks	1908
<i>meanyi</i> , Jordan & Starks	1908
Genus <i>Rastrinus</i> , Jordan & Evermann	1909
<i>seutiger</i> (Bean)	1909
Genus <i>Icelus</i> , Kröyer	1911
<i>bicornis</i> (Reinhardt)	1911
<i>spiniger</i> , Gilbert	1914
<i>euryops</i> , Bean	1915
<i>vicinialis</i> , Gilbert	1916
<i>canaliculatus</i> , Gilbert	1917
<i>australis</i> , Eigenmann & Eigenmann	1918
Genus <i>Radulinus</i> , Gilbert	1919
<i>beleoides</i> , Gilbert	1919
<i>asprellus</i> , Gilbert	1920
Genus <i>Stelgistrum</i> , Jordan & Gilbert	1921
<i>stejnegeri</i> , Jordan & Gilbert	1921
Genus <i>Triglops</i> , Reinhardt	1923
<i>pingeli</i> , Reinhardt	1923
<i>beani</i> , Gilbert	1924
<i>scriptus</i> , Gilbert	1925
Genus <i>Sternias</i> , Jordan & Evermann	1926
<i>xenostethus</i> (Gilbert)	1927
Genus <i>Prionistius</i> , Bean	1927
<i>macellus</i> , Bean	1928
Genus <i>Elanura</i> , Gilbert	1930
<i>forticata</i> , Gilbert	1930
Genus <i>Melleles</i> , Bean	1932
<i>papilio</i> , Bean	1932
Genus <i>Hemilepidotus</i> , Cuvier	1934
<i>jordani</i> , Bean	1934
<i>hemilepidotus</i> (Tilesius)	1935
Genus <i>Calycepidotus</i> , Ayres	1936
<i>spinosus</i> , Ayres	1937
Genus <i>Enophrys</i> , Swainson	1937
Subgenus <i>Aspicottus</i> , Girard	1938
<i>bison</i> (Girard)	1938
Subgenus <i>Enophrys</i>	1938
<i>claviger</i> (Cuvier & Valenciennes)	1938
Genus <i>Ceratocottus</i> , Gill	1939
<i>luensi</i> , Jordan & Gilbert	1940
<i>dicerans</i> (Pallas)	1940

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER LORICATI—Continued.

Family Cottidae—Continued.

Genus <i>Cottus</i> (Artemi) Linnaeus	1941
Subgenus <i>Pegedictis</i> , Rafinesque	1944
<i>asper</i> , Richardson	1944
<i>gulosus</i> (Girard)	1944
<i>evermanni</i> , Gilbert	1945
<i>rhotheus</i> , Rosa Smith	1946
<i>shasta</i> , Jordan & Starks	1947
<i>punctulatus</i> (Gill)	1948
<i>semiscaber</i> (Cope)	1949
<i>ictalops</i> (Rafinesque)	1950
Subgenus <i>Tauridea</i> , Jordan & Rice	1952
<i>ricci</i> , Nelson	1952
Subgenus <i>Cottus</i>	1953
<i>onychus</i> , Eigenmann & Eigenmann	1953
<i>pollicaris</i> (Jordan & Gilbert)	1953
<i>cognatus</i> , Richardson	1954
<i>perplexus</i> , Gilbert & Evermann	1955
<i>klamathensis</i> , Gilbert	1955
<i>alcuticus</i> , Gilbert	1957
<i>minutus</i> , Pallas	1958
<i>beldingii</i> , Eigenmann & Eigenmann	1958
<i>philonips</i> , Eigenmann & Eigenmann	1959
<i>annae</i> , Jordan & Starks	1960
<i>spilotus</i> (Cope)	1961
<i>leiopomus</i> , Gilbert & Evermann	1962
<i>princeps</i> , Gilbert	1962
Genus <i>Uranidea</i> , De Kay	1963
<i>bendirei</i> (Bean)	1964
<i>greeni</i> , Gilbert & Culver	1965
<i>marginata</i> , Bean	1965
<i>tennis</i> , Evermann & Meek	1966
<i>franklini</i> (Agassiz)	1967
<i>kumlienii</i> , Hoy	1967
<i>gracilis</i> (Heckel)	1968
<i>formosa</i> (Girard)	1969
<i>hoyi</i> , Putnam	1969
Genus <i>Myoxocephalus</i> (Steller) Tilesius	1970
Subgenus <i>Acanthocottus</i> , Girard	1971
<i>bubalis</i> (Euphrasen)	1971
<i>arcticus</i> (Mitchill)	1972
<i>scorpioides</i> (Fabricius)	1973
<i>scorpius</i> (Linnaeus)	1974
<i>grœnlandicus</i> (Cuvier & Valenciennes)	1974
<i>octodecimspinosus</i> (Mitchill)	1976
Subgenus <i>Myoxocephalus</i>	1976
<i>polyacanthocephalus</i> , Pallas	1976
<i>jack</i> (Cuvier & Valenciennes)	1977
<i>verrucosus</i> (Bean)	1979
<i>axillaris</i> (Gill)	1980
<i>stelleri</i> , Tilesius	1981
<i>mednius</i> , B. A. Bean	1983
<i>nivosus</i> (Herzenstein)	1984
<i>niger</i> (Bean)	1985

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family Cottidae—Continued.	
Genus <i>Megalocottus</i> , Gill	1987
<i>platycephalus</i> (Pallas)	1987
<i>laticeps</i> (Gilbert)	1988
Genus <i>Zesticelus</i> , Jordan & Evermann	1990
<i>profundorum</i> (Gilbert)	1990
Genus <i>Dasycottus</i> , Bean	1991
<i>setiger</i> , Bean	1991
Genus <i>Cottunculus</i> , Collett	1992
<i>microps</i> , Collett	1992
<i>thomsonii</i> (Günther)	1993
Genus <i>Malacocottus</i> , Bean	1994
<i>zonurus</i> , Bean	1994
Genus <i>Argyrocottus</i> , Herzenstein	1995
<i>zanderi</i> , Herzenstein	1995
Genus <i>Parocottus</i> , Gill	1996
<i>cellaris</i> (Gilbert)	1996
<i>quadratus</i> , B. A. Bean	1998
<i>polaris</i> (Sabine)	1998
<i>quadrifilis</i> , Gill	1999
<i>tentaculatus</i> (Kner)	2000
<i>bradfordi</i> , Rutter	2862
Genus <i>Oncocottus</i> , Gill	2000
<i>quadricornis</i> (Linnaeus)	2001
<i>hexacornis</i> (Richardson)	2002
Genus <i>Triglopsis</i> , Girard	2005
<i>thompsoni</i> , Girard	2005
Genus <i>Gymnocanthus</i> , Swainson	2006
<i>pistilliger</i> (Pallas)	2006
<i>tricusps</i> (Reinhardt)	2008
<i>galeatus</i> (Bean)	2010
Genus <i>Lefocottus</i> , Girard	2010
<i>hirundo</i> , Girard	2011
Genus <i>Leptocottus</i> , Girard	2011
<i>armatus</i> , Girard	2012
Genus <i>Clinocottus</i> , Gill	2012
<i>analis</i> (Girard)	2012
Genus <i>Oligocottus</i> , Girard	2013
<i>maculosus</i> , Girard	2013
<i>borealis</i> , Jordan & Snyder	2014
<i>snyderi</i> , Greeley	2871
Genus <i>Sigmistes</i> , Rutter	2863
<i>caulias</i> , Rutter	2863
Genus <i>Blennicottus</i> , Gill	2017; 2864
Subgenus <i>Oxycottus</i> , Jordan & Evermann	2015; 2864
<i>aeniceps</i> (Gilbert)	2015; 2864
<i>embryum</i> (Jordan & Starks)	2016; 2864
<i>S. blennioides</i> , <i>Blennicottus</i>	2016; 2864
<i>resolvus</i> , Greeley	3178
<i>globiceps</i> (Girard)	2017
<i>bryosus</i> , Jordan & Starks	2017
Genus <i>Rusciculus</i> , Greeley	3179
<i>rimensis</i> , Greeley	3179
Genus <i>Dialarchus</i> , Greeley	3180
<i>snyderi</i> , Greeley	3182

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family Cottidae—Continued.	
Genus <i>Eximia</i> , Greeley	3182
<i>rubellio</i> , Greeley	3182
Genus <i>Histiocottus</i> , Gill	2018
<i>bilobus</i> (Cuvier & Valenciennes)	2018
Genus <i>Blepsias</i> , Cuvier	2018
<i>cirrhus</i> (Pallas)	2018
Genus <i>Nautiscus</i> , Jordan & Evermann	2019
<i>pribilovius</i> , Jordan & Gilbert	2019
Genus <i>Nautichthys</i> , Girard	2020
<i>oculofasciatus</i> (Girard)	2021
Genus <i>Ucla</i> , Jordan & Evermann	2021
<i>marmorata</i> (Bean)	2021
Genus <i>Hemitripterus</i> , Cuvier	2022
<i>americanus</i> (Gmelin)	2023
<i>cavifrons</i> , Lockington	2023
Genus <i>Synchirus</i> , Beau	2023
<i>gilli</i> , Bean	2024
Genus <i>Ascelichthys</i> , Jordan & Gilbert	2024
<i>rhodorus</i> , Jordan & Gilbert	2025
Genus <i>Psychrolutes</i> , Günther	2025
<i>paradoxus</i> , Günther	2026
Genus <i>Gilbertidia</i> , Berg	2027; 3183
<i>sigolutes</i> , Jordan & Starks	2028
Family <i>Ramphocottidae</i>	2029
Genus <i>Ramphocottus</i> , Günther	2030
<i>richardsoni</i> , Günther	2030
Family <i>Agonidae</i>	2031
Genus <i>Percis</i> , Scopoli	2033
<i>japonicus</i> (Pallas)	2034
Genus <i>Agonomalus</i> , Guichenot	2036
<i>proboscoidalis</i> (Valenciennes)	2037
Genus <i>Hypsagonus</i> , Gill	2038
<i>quadricornis</i> (Cuvier & Valenciennes)	2038
Genus <i>Stellerina</i> , Cramer	2041
<i>xyosterna</i> (Jordan & Gilbert)	2042
Genus <i>Ocea</i> , Jordan & Evermann	2043
<i>verrucosa</i> (Lockington)	2043
<i>dodecaedron</i> (Tilesius)	2044
Genus <i>Brachyopsis</i> , Gill	2046
<i>rostratus</i> (Tilesius)	2046
<i>segaliensis</i> (Tilesius)	2048
Genus <i>Pallasina</i> , Cramer	2048
<i>barbata</i> (Steindachner)	2049
<i>aix</i> , Starks	2050
Genus <i>Leptagonus</i> , Gill	2052
<i>decagonus</i> (Bloch & Schneider)	2052
Genus <i>Podothecus</i> , Gill	2054
<i>accipiter</i> , Jordan & Starks	2055
<i>hamlini</i> , Jordan & Gilbert	2056
<i>gilberti</i> (Collett)	2058
<i>thompsoni</i> , Jordan & Gilbert	2060
<i>acipenserinus</i> (Tilesius)	2061
<i>veterinus</i> , Jordan & Starks	2063

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER LORICATI—Continued.	
Family Agonidae—Continued.	
Genus Agonus, Bloch & Schneider.....	2064
cataphractus, Linnaeus.....	2065
Genus Stelgis, Cramer.....	2067
vulsus (Jordan & Gilbert).....	2067
Genus Avertucus, Jordan & Starks.....	2069
emmelane, Jordan & Starks.....	2069
sterletus, Gilbert.....	2071
Genus Sarritor, Cramer.....	2072
frenatus, Gilbert.....	2073
leptorhynchus (Gilbert).....	2075
Genus Xystes, Jordan & Starks.....	2076
axinophrys, Jordan & Starks.....	2076
Genus Bathyagonus, Gilbert.....	2077
nigripinnis, Gilbert.....	2078
Genus Xenochirus, Gilbert.....	2079
pentacanthus, Gilbert.....	2080
alascanus, Gilbert.....	2081
latifrons, Gilbert.....	2082
triacanthus, Gilbert.....	2084
Genus Odontopyxis, Lockington.....	2085
tripinosus, Lockington.....	2085
Genus Bothragonus, Gill.....	2086
swanii (Steindachner).....	2086
Genus Aspidophoroides, Lacépède.....	2088
Subgenus Uleina, Cramer.....	2089
olriki, Lütken.....	2089
guntheri, Bean.....	2090
monopterygius (Bloch).....	2091
bartoni, Gilbert.....	2092
Subgenus Anoplagonus, Gill.....	2093
inermis, Günther.....	2093
Family Cyclopteridae.....	2094
Genus Cyclopterus (Artedi) Linnaeus.....	2096
lumpus, Linnaeus.....	2096
Genus Eumicrotremus, Gill.....	2097
spinosus (Müller).....	2098
orbis (Günther).....	2099
Genus Lethotremus, Gilbert.....	2100
muticus, Gilbert.....	2101
vinolentus, Jordan & Starks.....	2101
Genus Cyclopteroides, Garman.....	2102
gyrinops, Garman.....	2102
Genus Cyclopterichthys, Steindachner.....	2103
ventricosus (Pallas).....	2104
Genus Liparops, Garman.....	2104
stelleri (Pallas).....	2104
Family Liparichthys.....	2105
Genus Neoliparis, Steindachner.....	2106
atlanticus, Jordan & Evermann.....	2107
rutteri, Gilbert & Snyder.....	2108
callyodon (Pallas).....	2110
flavescens (A. J. S. 1881).....	2111
florae, Jordan & Starks.....	2111
greeni, Jordan & Starks.....	2112

CLASS PISCES—Continued.

• Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER LORICATI—Continued.

Family Liparididae—Continued.

Genus Neoliparis, Steindachner—Continued.

fissuratus, Starks 2113

Genus Liparis (Artedi) Scopoli 2114

Subgenus Liparis 2116

liparis (Linnaeus) 2116

cyclopus, Günther 2118

fucensis, Gilbert 2119

tunicatus, Reinhardt 2120

agassizii, Putnam 2121

herschelinus, Scofield 2123

dennyi, Jordan & Starks 2124

cyclostigma, Gilbert 2125

Subgenus Lyoliparis, Jordan & Evermann 2126

pulchellus, Ayres 2126

Subgenus Actinochir, Gill 2127

major (Gill) 2127

Genus Crystallichthys, Jordan & Gilbert 2864

mirabilis, Jordan & Gilbert 2865

Genus Bathypasma, Gilbert 2128

ovigerum, Gilbert 2128

Genus Careproctus, Kröyer 2129

Subgenus Caremitra, Jordan & Evermann 2131

simus, Gilbert 2131

Subgenus Careproctus 2131

colletti, Gilbert 2131

phasma, Gilbert 2132

spectrum, Bean 2133

reinhardi (Kröyer) 2133

ramula (Goode & Bean) 2134

ostentum, Gilbert 2134

gelatinosus (Pallas) 2134

Subgenus Allochir, Jordan & Evermann 2135

melanurus, Gilbert 2135

Subgenus Allinectes, Jordan & Evermann 2136; 2866

cctenes, Gilbert 2136

Genus Prognurus, Jordan & Evermann 2866

cypselurus, Jordan & Gilbert 2866

Genus Gyrinichthys, Gilbert 2137

minytremus, Gilbert 2137

Genus Amitra, Goode 2138

liparina, Goode 2138

Genus Paraliparis, Collett 2139

Subgenus Paraliparis 2140

holomelas, Gilbert 2140

Subgenus Amitrichthys, Jordan & Evermann 2141

cephalus, Gilbert 2141

rosaceus, Gilbert 2142

mento, Gilbert 2142

copei, Goode & Bean 2143

dactylosus, Gilbert 2144

Subgenus Hilgendorfia, Goode & Bean 2144

ulochir, Gilbert 2144

Genus Rhinoliparis, Gilbert 2145

barbullifer, Gilbert 2145

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER CHAETIDI.....	2146
Family Triglidae.....	2147
Genus Prionotus, Lacépède.....	2148
Subgenus Gurnardus, Jordan & Evermann.....	2152
bitorstratus, Richardson.....	2152
gymnotethus, Gilbert.....	2153
xenisma, Jordan and Bollman.....	2154
loxus, Jordan.....	2155
Subgenus Merluinus, Jordan & Evermann.....	2156
carolinus (Linnaeus).....	2156
scutellus, Jordan.....	2157
roseus, Jordan & Evermann.....	2158
alatus, Goode & Bean.....	2159
Subgenus Prionotus.....	2160
miles, Jenyns.....	2160
stephanophrys, Lockington.....	2161
quiescens, Jordan & Bollman.....	2161
albirostris, Jordan & Bollman.....	2163
rubio, Jordan.....	2164
ophryas, Jordan & Swain.....	2164
stearnsi, Jordan & Swain.....	2166
strigatus (Cuvier & Valenciennes).....	2167
evolans (Linnaeus).....	2168
punctatus (Bloch).....	2169
beanii, Goode.....	2170
tribulus (Cuvier).....	2171
horrens, Richardson.....	2172
Genus Bellator, Jordan & Evermann.....	2173
militaris (Goode & Bean).....	2173
egretta (Goode & Bean).....	2174
Genus Trigla (Artedi) Linnaeus.....	2176
carolinus, Linnaeus.....	2177
Family Peristediidae.....	2177
Genus Peristedion, Lacépède.....	2178
miniatum, Goode.....	2178
longispathum, Goode & Bean.....	2178
gracile, Goode & Bean.....	2179
platycephalum, Goode & Bean.....	2180
Genus Valsiculus, Jordan & Evermann.....	2181
imberbis (Poey).....	2181
Family Cephalacanthidae.....	2182
Genus Cephalacanthus, Lacépède.....	2183
volitans (Linnaeus).....	2183
Group Gobioiden.....	2184
Family Callionymidae.....	2184
Genus Callionymus, Linnaeus.....	2185
bairdi, Jordan.....	2185
agassizii, Goode & Bean.....	2186
callinus, Eigenmann & Eigenmann.....	2187
paracallinus, Gill.....	2188
Family Gobiidae.....	2188
Genus Ioglossus, Bean.....	2192
callinus, Bean.....	2193
Genus Philypnus, Cuvier & Valenciennes.....	2194
dormitor (Lacépède).....	2194
lateralis, Gill.....	2195

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER CRANIOMI—Continued.	
Family <i>Gobiidae</i> —Continued.	
Genus <i>Dormitator</i> , Gill.....	2195
<i>maculatus</i> (Bloch).....	2196
Genus <i>Guavina</i> , Bleeker.....	2198
<i>guavina</i> (Cuvier & Valenciennes).....	2198
Genus <i>Eleotris</i> (Gronow) Bloch & Schneider.....	2199
<i>amblyopsis</i> Cope.....	2199
<i>abacurus</i> , Jordan & Gilbert.....	2200
<i>pisonis</i> (Gmelin).....	2200
<i>perniger</i> (Cope).....	2201
<i>pictus</i> (Kner & Steindachner).....	2201
Genus <i>Alexurus</i> , Jordan.....	2202
<i>armiger</i> , Jordan & Richardson.....	2203
Genus <i>Erotelis</i> , Poey.....	2203
<i>smaragdus</i> (Cuvier & Valenciennes).....	2204
Genus <i>Gymneleotris</i> , Bleeker.....	2204
<i>seminudus</i> (Günther).....	2204
Genus <i>Chriolepis</i> , Gilbert.....	2205
<i>minutillus</i> , Gilbert.....	2205
Genus <i>Sicydium</i> , Cuvier & Valenciennes.....	2205
<i>plumieri</i> (Bloch).....	2206
<i>antillarum</i> , Ogilvie-Grant.....	2206
<i>vincente</i> , Jordan & Evermann.....	2207
<i>punctatum</i> , Perugia.....	2207
<i>caguitæ</i> , Evermann & Marsh.....	2208
Genus <i>Cotylopus</i> , Guichenot.....	2207
Subgenus <i>Sicyosus</i> , Jordan & Evermann.....	2207; 2207
<i>gymnogaster</i> (Ogilvie-Grant).....	2207
<i>salvini</i> (Ogilvie-Grant).....	2208
Genus <i>Evorthodus</i> , Gill.....	2208
<i>breviceps</i> , Gill.....	2208
Genus <i>Lophogobius</i> , Gill.....	2209
<i>cyprinoides</i> (Pallas).....	2209
Genus <i>Gobius</i> (Artedi) Linnaeus.....	2210
Subgenus <i>Gobius</i>	2216
<i>soporator</i> , Cuvier & Valenciennes.....	2216
Subgenus <i>Ctenogobius</i> , Gill.....	2218
<i>nicholsii</i> , Bean.....	2218
<i>eigenmanni</i> , Garman.....	2218
<i>glaucofrænum</i> (Gill).....	2219
<i>manglicola</i> , Jordan & Starks.....	2220
<i>stigmaturus</i> , Goode & Bean.....	2220
<i>quadriporus</i> , Cuvier & Valenciennes.....	2221
<i>shufeldti</i> , Jordan & Eigenmann.....	2221
<i>holosoma</i> , Jordan & Gilbert.....	2221
<i>fasciatus</i> (Gill).....	2222
<i>encæromus</i> , Jordan & Gilbert.....	2223
<i>stigmaticus</i> (Poey).....	2224
<i>lyrius</i> , Girard.....	2224
<i>garmani</i> , Eigenmann & Eigenmann.....	2225
<i>zebra</i> , Gilbert.....	2226; 2226
Subgenus <i>Euctenogobius</i> , Gill.....	2226
<i>poeyi</i> , Steindachner.....	2226
<i>badius</i> (Gill).....	2227

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER CRANOMI—Continued.

Family Gobiidae—Continued.

Genus *Gobius* (Artedj) Linnaeus—Continued.

Subgenus <i>Gobionellus</i> , Girard	2227
<i>microdon</i> , Gilbert	2227
<i>smaragdus</i> , Cuvier & Valenciennes	2227
<i>strigatus</i> , O'Shaughnessy	2228
<i>sagittula</i> (Günther)	2228
<i>hastatus</i> (Girard)	2229
<i>oceanicus</i> , Pallas	2230
<i>bayamonensis</i> , Evermann & Marsh	2184
Subgenus <i>Lythrypnus</i> , Jordan & Evermann	2230
<i>dalli</i> , Gilbert	2230
Genus <i>Garmannia</i> , Jordan & Evermann	2231
Subgenus <i>Garmannia</i>	2232
<i>paradoxa</i> (Günther)	2232
<i>hemigymna</i> (Eigenmann & Eigenmann)	2233
Subgenus <i>Enypnias</i> , Jordan & Evermann	2233
<i>seminuda</i> (Günther)	2233
Genus <i>Awaous</i> , Steindachner	2234
<i>flavus</i> (Cuvier & Valenciennes)	2235
<i>nelsoni</i> , Evermann	2235
<i>tainiaica</i> (Lichtenstein)	2236
<i>mexicanus</i> (Günther)	2237
Genus <i>Dollmannia</i> , Jordan	2237
<i>ocellata</i> , Gilbert	2238
<i>chlamydes</i> , Jordan	2238
<i>macropoma</i> , Gilbert	2239
<i>stigmatura</i> , Gilbert	2239
<i>boqueronensis</i> , Evermann & Marsh	2185
Genus <i>Aboma</i> , Jordan & Starks	2240
<i>ethiostoma</i> , Jordan & Starks	2240
<i>lucetiae</i> (Eigenmann & Eigenmann)	2241
<i>chiquita</i> (Jenkins & Evermann)	2241
Genus <i>Microgobius</i> , Poey	2242
<i>gulosus</i> (Girard)	2243
<i>eulepis</i> , Eigenmann & Eigenmann	2244
<i>meeki</i> , Evermann & Marsh	2185
<i>thalassinus</i> , Jordan & Gilbert	2245
<i>signatus</i> , Poey	2246
Genus <i>Zalypnus</i> , Jordan & Evermann	2246
<i>cyclolepis</i> (Gilbert)	2246
<i>emblematicus</i> (Jordan & Gilbert)	2247
Genus <i>Eucyclogobius</i> , Gill	2248
<i>newberryi</i> (Girard)	2248
Genus <i>Lepidogobius</i> , Gill	2249
<i>legidus</i> (Linnaeus)	2249
Genus <i>Gillichthys</i> , Cooper	2249
<i>mirabilis</i> , Cooper	2250
<i>detrusus</i> , Gilbert & Seale	2251
Genus <i>Quietula</i> , Jordan & Evermann	2251
<i>y-canda</i> (Jenkins & Evermann)	2251
Genus <i>Ilypnus</i> , Jordan & Evermann	2253
<i>gilberti</i> (Eigenmann & Eigenmann)	2253

CLASS PISCES—Continued.

SUBCLASS TELEOSTOMI—Continued.

Page.

ORDER PLECTOGNATHI—Continued.

SUBORDER CRANIOMI—Continued.

Family Gobiidae—Continued.

Genus <i>Clevelandia</i> , Eigenmann & Eigenmann.....	2254
<i>ios</i> (Jordan & Gilbert).....	2254
<i>rose</i> , Jordan & Evermann.....	2255
Genus <i>Evermannia</i> , Jordan.....	2256
<i>longipinnis</i> (Steindachner).....	2256
<i>zosterura</i> , (Jordan & Gilbert).....	2256
Genus <i>Gobiosoma</i> , Girard.....	2257
<i>histrio</i> , Jordan.....	2258
<i>molestum</i> , Girard.....	2258
<i>bosci</i> (Lacépède).....	2259
<i>crenatale</i> , Gilbert.....	2259
<i>multifasciatum</i> , Steindachner.....	2260
Genus <i>Barbulifer</i> , Eigenmann & Eigenmann.....	2260
<i>ceuthœus</i> (Jordan & Gilbert).....	2260
Genus <i>Typhlogobius</i> , Steindachner.....	2261
<i>californiensis</i> , Steindachner.....	2262
Genus <i>Tyntastes</i> , Günther.....	2262
<i>brevis</i> (Günther).....	2262
<i>sagitta</i> (Günther).....	2263
Genus <i>Gobioides</i> , Lacépède.....	2263; 2268
<i>broussonnetii</i> , Lacépède.....	2263
<i>peruanus</i> (Steindachner).....	2264
Genus <i>Cayennia</i> , Sauvage.....	2265
<i>guichenoti</i> , Sauvage.....	2265
SUBORDER DISCOCEPHALI.....	2265
Family <i>Echeneidae</i>	2265
Genus <i>Phtheichthys</i> , Gill.....	2268
<i>lineatus</i> (Menzies).....	2268
Genus <i>Echeneis</i> (Artemis) Linnaeus.....	2268
<i>naucrates</i> , Linnaeus.....	2269
<i>naucrateoides</i> , Zuiw.....	2270
Genus <i>Remilegia</i> , Gill.....	2270
<i>australis</i> (Bennett).....	2270
Genus <i>Remora</i> , Gill.....	2271
Subgenus <i>Remora</i>	2271
<i>remora</i> (Linnaeus).....	2271
Subgenus <i>Remorina</i> , Jordan & Evermann.....	2272
<i>albescens</i> (Temminck & Schlegel).....	2272
Subgenus <i>Remoropsis</i> , Gill.....	2272
<i>brachyptera</i> (Lowe).....	2272
Genus <i>Rhombochirus</i> , Gill.....	2273
<i>osteoichir</i> (Cuvier).....	2273
Group <i>Trachinoidea</i>	2276
Family <i>Malacanthidae</i>	2274
Genus <i>Malacanthus</i> , Cuvier.....	2275
<i>plumieri</i> (Bloch).....	2275
Genus <i>Caulolatilus</i> , Gill.....	2276
<i>princeps</i> (Jenyns).....	2276
<i>microps</i> , Goode & Bean.....	2277
<i>cyanops</i> , Poey.....	2278
Genus <i>Lopholatilus</i> , Goode & Bean.....	2278
<i>chamaeleonticeps</i> , Goode & Bean.....	2278

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER DEICHOCEPHALI—Continued.	
Family <i>Ophiognathidae</i>	2279
Genus <i>Ophiognathus</i> , Cuvier.....	2280
<i>lonchurum</i> , Jordan & Gilbert.....	2281
<i>punctatum</i> , Peters.....	2281
<i>macrognaethum</i> , Poey.....	2281
<i>ommatum</i> , Jenkins & Evermann.....	2282
Genus <i>Gnathypops</i> , Gill.....	2283
<i>scops</i> , Jenkins & Evermann.....	2283
<i>maxillosa</i> (Poey).....	2284
<i>macrops</i> (Poey).....	2284
<i>rhomalea</i> (Jordan & Gilbert).....	2285
<i>snyderi</i> , Jordan & Evermann.....	2285
<i>mystacinus</i> , Jordan.....	2286
Genus <i>Lonchopisthus</i> , Gill.....	2286
<i>micrognathus</i> (Poey).....	2287
Family <i>Bathymasteridae</i>	2287
Genus <i>Bathymaster</i> , Cope.....	2288
<i>signatus</i> , Cope.....	2288
Genus <i>Ronquilus</i> , Jordan & Starks.....	2289
<i>jordanii</i> (Gilbert).....	2289
Genus <i>Rathbunella</i> , Jordan & Evermann.....	2289
<i>hypoplecta</i> (Gilbert).....	2290
Family <i>Chiasmodontidae</i>	2291
Genus <i>Chiasmodon</i> , Johnson.....	2291
<i>niger</i> , Johnson.....	2291
Genus <i>Pseudoscopelus</i> , Lütken.....	2292
<i>scriptus</i> , Lütken.....	2292
Family <i>Channichthyidae</i>	2293
Genus <i>Hypsicoetes</i> , Goode.....	2293
<i>goodei</i> , Goode.....	2294
Family <i>Trachichthyidae</i>	2295
Genus <i>Trichodon</i> (Steller) Cuvier.....	2295
<i>trichodon</i> (Tilesius).....	2295
Genus <i>Arctoscopus</i> , Jordan & Evermann.....	2297
<i>japonicus</i> (Steindachner).....	2297
Family <i>Dactyloscopidae</i>	2297
Genus <i>Gillellus</i> , Gilbert.....	2298
<i>semicinctus</i> , Gilbert.....	2298
<i>arenicola</i> , Gilbert.....	2299
<i>celatus</i> , Gilbert.....	2299
Genus <i>Dactyloscopus</i> , Gill.....	2300
Subgenus <i>Dactyloscopus</i>	2301
<i>pectoralis</i> , Gill.....	2301
<i>tridigitatus</i> , Gill.....	2301
<i>poeyi</i> , Gill.....	2302
<i>lunaticus</i> , Gilbert.....	2302
Subgenus <i>Esloscopus</i> , Jordan & Evermann.....	2303
<i>zelotes</i> , Jordan & Gilbert.....	2303
Genus <i>Dactylagnus</i> , Gill.....	2304
<i>pseudus</i> , Gill.....	2304
Genus <i>Myxodagnus</i> , Gill.....	2305
<i>opercularis</i> , Gill.....	2305

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER DISCOCEPHALI—Continued.	
<i>Family Uranoscopidae</i>	2305
Genus <i>Astroscopus</i> , Brevoort	2306
<i>y-græcum</i> (Cuvier & Valenciennes)	2307
<i>zephyreus</i> , Gilbert & Starks	2309
<i>guttatus</i> (Abbott)	2310
Genus <i>Kathetostoma</i> , Günther	2311
<i>averruncus</i> , Jordan & Bollman	2311
<i>albiguttum</i> , Bean	2312
SUBORDER HAEMULOCY 2313	2313
<i>Family Batrachoididae</i>	2313
Genus <i>Batrachoides</i> , Lacépède	2314; 2368
<i>surinamensis</i> (Bloch & Schneider)	2314
<i>pacifici</i> (Günther)	2314
Genus <i>Opsanus</i> , Rafinesque	2315
<i>tau</i> (Linnaeus)	2315
<i>pardus</i> (Goode & Bean)	2316
Genus <i>Porichthys</i> , Girard	2317
<i>porosissimus</i> (Cuvier & Valenciennes)	2319
<i>notatus</i> , Girard	2321
<i>margaritatus</i> (Richardson)	2322
Genus <i>Thalassophryne</i> , Günther	2323
<i>maculosa</i> , Günther	2324
<i>reticulata</i> , Günther	2325
Genus <i>Dactor</i> , Jordan & Evermann	2325
<i>dowi</i> (Jordan & Gilbert)	2325
SUBORDER XENOPTERYGII 2326	2326
<i>Family Gobiesocidae</i>	2326
Genus <i>Cantharus</i> , Gill	2327
<i>meandricus</i> (Girard)	2328
Genus <i>Bryssoteres</i> , Jordan & Evermann	2328
<i>pinniger</i> (Gilbert)	2328
Genus <i>Gobiesox</i> , Lacépède	2329
Subgenus <i>Bryssophilus</i> , Jordan & Evermann	2330
<i>papillifer</i> , Gilbert	2330
Subgenus <i>Gobiesox</i>	2331
<i>gyrinus</i> , Jordan & Evermann	2331
<i>nigripinnis</i> (Peters)	2331
<i>cephalus</i> , Lacépède	2332
<i>tudes</i> , Richardson	2333
<i>strumosus</i> , Cope	2333
<i>virgatulus</i> , Jordan & Gilbert	2333
<i>adustus</i> , Jordan & Gilbert	2334
<i>funebri</i> , Gilbert	2334
<i>poecilophthalmus</i> , Jenyns	2335
<i>rhodospilus</i> , Günther	2335
<i>macrophthalmus</i> , Günther	2335
<i>cerasinus</i> , Cope	2336
Subgenus <i>Sicyases</i> , Müller & Troschel	2336
<i>erythropterus</i> , Jordan & Gilbert	2336
<i>rubiginosus</i> (Poey)	2337
<i>carneus</i> (Poey)	2337
<i>hæres</i> , Jordan & Bollman	2337
<i>punctulatus</i> (Poey)	2338
<i>fasciatus</i> (Peters)	2338

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
Family <i>Gobiesocidae</i> —Continued.	
Genus <i>Rimicola</i> , Jordan & Evermann.....	2338
<i>muscarum</i> (Meek & Pierson).....	2338
<i>eigenmanni</i> (Gilbert).....	2339
Genus <i>Arbaeosa</i> , Jordan & Evermann.....	2340
<i>rhessodon</i> (Rosa Smith).....	2340
<i>humeralis</i> (Gilbert).....	2341
<i>rupestris</i> (Poey).....	2341
<i>zebra</i> (Jordan & Gilbert).....	2341
<i>eos</i> (Jordan & Gilbert).....	2343
Group <i>Blennioidea</i>	2343
Family <i>Blenniidae</i>	2344
Genus <i>Emmeaneetes</i> , Jordan & Evermann.....	2349
<i>carinialis</i> (Jordan & Gilbert).....	2350
Genus <i>Gillias</i> , Evermann & Marsh.....	3186
<i>jordani</i> , Evermann & Marsh.....	3186
Genus <i>Dialommus</i> , Gilbert.....	2868
<i>fusus</i> , Gilbert.....	2868
Genus <i>Heterostichus</i> , Girard.....	2350
<i>rostratus</i> , Girard.....	2351
Genus <i>Gibbonsia</i> , Cooper.....	2351
<i>elegans</i> (Cooper).....	2353
<i>evides</i> (Jordan & Gilbert).....	2352; 2869
Genus <i>Neoclinus</i> , Girard.....	2354
Subgenus <i>Neoclinus</i>	2354
<i>blanchardi</i> , Girard.....	2354
Subgenus <i>Pterognathus</i> , Girard.....	2355
<i>satiricus</i> , Girard.....	2355
Genus <i>Malacoctenus</i> , Gill.....	2356
<i>ocellatus</i> (Steindachner).....	2356; 2869
<i>varius</i> (Poey).....	2357
<i>macropus</i> (Poey).....	2357
<i>lugubris</i> (Poey).....	2357
<i>culebrae</i> , Evermann & Marsh.....	3187
<i>gillii</i> (Steindachner).....	2358
<i>puertoricensis</i> , Evermann & Marsh.....	3189
<i>bimaculatus</i> (Steindachner).....	2358
<i>moorei</i> , Evermann & Marsh.....	3188
<i>delalandi</i> (Cuvier & Valenciennes).....	2358
<i>versicolor</i> (Poey).....	2359
<i>biguttatus</i> (Cope).....	2360
Genus <i>Labrisomus</i> , Swainson.....	2360
<i>herminier</i> (Le Sueur).....	2361
<i>nuchipinnis</i> (Quoy & Gaimard).....	2362
<i>xanti</i> , Gill.....	2362
<i>bucciferus</i> , Poey.....	2363
<i>microlepidotus</i> , Poey.....	2363
Genus <i>Miierpes</i> , Jordan & Evermann.....	2364
<i>macrocephalus</i> (Günther).....	2364
Genus <i>Gobioclinus</i> , Gill.....	2364
<i>gobio</i> (Cuvier & Valenciennes).....	2365
Genus <i>Starkesia</i> , Jordan & Evermann.....	2365
<i>cremnobates</i> (Gilbert).....	2365
Genus <i>Cryptotrema</i> , Gilbert.....	2366
<i>corallinum</i> , Gilbert.....	2366

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
Family Blenniidae—Continued.	
Genus Exerpes, Jordan & Evermann	2367
asper (Jenkins & Evermann)	2367
Genus Auchenistius, Evermann & Marsh	3190
stahli, Evermann & Marsh	3190
Genus Auchenopterus, Günther	2369
Subgenus Corallicola, Jordan & Evermann	2369
nigripinnis (Steindachner)	2369
altivelis (Lockington)	2370
marmoratus (Steindachner)	2371
Subgenus Auchenopterus	2371
afinis (Steindachner)	2371
monophthalmus, Günther	2372
integripinnis (Rosa Smith)	2372
albicaudus, Evermann & Marsh	3191
rubescens, Evermann & Marsh	3191
cingulatus, Evermann & Marsh	3192
fajardo, Evermann & Marsh	3193
fasciatus (Steindachner)	2373
nox (Jordan & Gilbert)	2373
Genus Paraclinus, Mocquard	2374
chaperi, Mocquard	2374
Genus Emmnion, Jordan	2375
bristole, Jordan	2375
Genus Atopoclinus, Vaillant	2376
ringens, Vaillant	2376
Genus Runula, Jordan & Bollman	2377
azalea, Jordan & Bollman	2377
Genus Blennius (Artedi) Linnaeus	2377
Subgenus Lipophrys, Gill	2378
carolinus (Cuvier & Valenciennes)	2378
fucorum, Cuvier & Valenciennes	2379
stearnsi, Jordan & Gilbert	2379
favosus, Goode & Bean	2380
pilicornis, Cuvier & Valenciennes	2380
marmoreus, Poey	2381
truncatus (Poey)	2381
vinetus, Poey	2382
cristatus, Linnaeus	2382
Genus Scartella, Jordan	2384
microstoma (Poey)	2384
Genus Hypleurochilus, Gill	2385
geminatus (Wood)	2385
Genus Hypsoblennius, Gill	2386
Subgenus Hypsoblennius	2386
gilberti (Jordan)	2386
gentilis (Girard)	2387
striatus (Steindachner)	2388
ionthas (Jordan & Gilbert)	2388
hantz (Le Sueur)	2390
Subgenus Blenniulus, Jordan & Evermann	2390
brevipinnis (Günther)	2390
Genus Chasmodes, Cuvier & Valenciennes	2391
jenkinsi (Jordan & Evermann)	2391
quadrifasciatus (Wood)	2392

CLASS PISCES—Continued.

Page

SUBCLASS TELEOSTOMI—Continued.

ORDER PLEUROGNATHI—Continued.

SUBORDER XENOPTERYGII—Continued.

Family Blenniidae—Continued.

Genus Chasmodes, Cuvier & Valenciennes—Continued.

<i>saburra</i> , Jordan & Gilbert	2392
<i>novemlineatus</i> (Wood)	2393
<i>hosquianus</i> (Lacépède)	2394
Genus <i>Homesites</i> , Gilbert	2394
<i>caulopus</i> , Gilbert	2394
Genus <i>Seartichthys</i> , Jordan & Evermann	2395
<i>rubropunctatus</i> (Cuvier & Valenciennes)	2396
Genus <i>Rupiscartes</i> , Swainson	2396
<i>atlanticus</i> (Cuvier & Valenciennes)	2397
Genus <i>Entomacrodus</i> , Gill	2397
<i>chiostictus</i> (Jordan & Gilbert)	2398
<i>margaritaceus</i> (Poey)	2398
<i>decoratus</i> , Poey	2399
<i>nigricans</i> , Gill	2400
Genus <i>Salartichthys</i> , Guichenot	2400
<i>textilis</i> (Quoy & Gaimard)	2400
Genus <i>Coralliozetus</i> , Evermann & Marsh.	3194
<i>cardone</i> , Evermann & Marsh.	3194
Genus <i>Ophioblennius</i> , Gill	2400
<i>webbii</i> (Valenciennes)	2401
<i>steindachneri</i> , Jordan & Evermann	2401
Genus <i>Emblemaria</i> , Jordan & Gilbert	2401
<i>atlantica</i> , Jordan & Evermann	2402
<i>nivipes</i> , Jordan & Gilbert	2402
<i>oculocirris</i> , Jordan	2403
Genus <i>Chenopsis</i> , Gill	2403
<i>ocellatus</i> , Poey	2403
Genus <i>Lucioblennius</i> , Gilbert	2404
<i>alepidotus</i> , Gilbert	2404
Genus <i>Pholidichthys</i> , Bleeker	2405
<i>anguilliformis</i> , Lockington	2405
Genus <i>Pseudoblennius</i> , Jenkins & Evermann	2406
<i>hypacanthus</i> , Jenkins & Evermann	2406
Genus <i>Stathmonotus</i> , Bean	2407
<i>hemphilli</i> , Bean	2407
Genus <i>Bryostemma</i> , Jordan & Starks	2408
<i>polyactocephalum</i> (Pallas)	2408
<i>nugator</i> , Jordan & Williams	2410
Genus <i>Apodichthys</i> , Girard	2411
<i>dauidus</i> , Girard	2411
<i>univittatus</i> , Lockington	2412
Genus <i>Xerocpes</i> , Jordan & Gilbert	2413
<i>fucorum</i> (Jordan & Gilbert)	2413
Genus <i>Ulveola</i> , Gilbert	2413
<i>maculata</i> , Williams	2413
Genus <i>Pholis</i> (Grenow) Scopoli	2414
Subgenus <i>Urocentrus</i> , Kner	2415
<i>punctatus</i> (Lacépède)	2415
Subgenus <i>Rhodymenichthys</i> , Jordan & Evermann	2416
<i>delilegnatus</i> (Pallas)	2416
Subgenus <i>Pholis</i>	2417
<i>fasciatus</i> (Bloch & Schneider)	2417

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
Family <i>Blenniidae</i> —Continued.	
Genus <i>Pholis</i> (Gronow) Scopoli—Continued.	
Subgenus <i>Pholis</i> —Continued.	
<i>gunnellus</i> (Linnaeus).....	2419
<i>ornatus</i> (Girard).....	2419
Genus <i>Gunnellops</i> , Bleeker.....	2420
<i>roseus</i> (Pallas).....	2420
Genus <i>Asternopteryx</i> , Rüppell.....	2420
<i>gunnelliformis</i> , Rüppell.....	2420
Genus <i>Anoplarchus</i> , Gill.....	2421
<i>atropurpureus</i> (Kittlitz).....	2422; 2869
Genus <i>Alectrias</i> , Jordan & Evermann.....	2869
<i>alectrolophus</i> (Pallas).....	2421; 2869
Genus <i>Xiphistes</i> , Jordan & Starks.....	2423
<i>ulvae</i> , Jordan & Starks.....	2423
<i>chirus</i> (Jordan & Gilbert).....	2424
Genus <i>Xiphidion</i> , Girard.....	2424
<i>mucosum</i> , Girard.....	2425
<i>rupestre</i> (Jordan & Gilbert).....	2426
Genus <i>Cebedichthys</i> , Ayres.....	2426
<i>violaceus</i> (Ayres).....	2427
Genus <i>Plagiogrammus</i> , Bean.....	2427
<i>hopkinsi</i> , Bean.....	2428
Genus <i>Opisthocentrus</i> , Kner.....	2428
<i>ocellatus</i> (Tilesius).....	2429
Genus <i>Pholidapus</i> , Bean & Bean.....	2430
<i>dybowskii</i> (Steindachner).....	2430
Genus <i>Plectobranchnus</i> , Gilbert.....	2431
<i>evides</i> , Gilbert.....	2432
Genus <i>Leptoclinus</i> , Gill.....	2432
<i>maculatus</i> (Fries).....	2433
Genus <i>Poroclinus</i> , Bean.....	2433
<i>rothrocki</i> , Bean.....	2434
Genus <i>Lumpenus</i> , Reinhardt.....	2435
Subgenus <i>Anisarchus</i> , Gill.....	2435
<i>medius</i> (Reinhardt).....	2435
Subgenus <i>Lumpenus</i>	2436
<i>anguillaris</i> (Pallas).....	2436
<i>mackayi</i> (Gilbert).....	2436
<i>fabricii</i> (Cuvier & Valenciennes).....	2437
<i>lampetraeformis</i> (Walbaum).....	2438
Genus <i>Stichæus</i> , Reinhardt.....	2439
<i>punctatus</i> (Fabricius).....	2439
Genus <i>Ulvaria</i> , Jordan & Evermann.....	2440
<i>subbifurcata</i> (Storer).....	2440
Genus <i>Eumesogrammus</i> , Gill.....	2441
<i>precisus</i> (Krøyer).....	2441
Family <i>Cryptacanthodidae</i>	2442
Genus <i>Delolepis</i> , Bean.....	2442
<i>virgatus</i> , Bean.....	2442
Genus <i>Cryptacanthodes</i> , Storer.....	2443
<i>maculatus</i> , Storer.....	2443
Genus <i>Lyconectes</i> , Gilbert.....	2444
<i>aleutensis</i> , Gilbert.....	2444

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
Family <i>Anarhichthidae</i>	2445
Genus <i>Anarhichas</i> (Artedi) Linnaeus	2445
<i>latifrons</i> , Steenstrup & Hallgrímsson	2446
<i>minor</i> , Olaisen	2446
<i>lupus</i> , Linnaeus	2446
<i>lepturus</i> , Bean	2447
<i>orientalis</i> , Pallas	2447
Genus <i>Anarhichthys</i> , Ayres	2447
<i>collatus</i> , Ayres	2448
Family <i>Cordalidae</i>	2448
Genus <i>Cordale</i> , Jordan & Gilbert	2448
<i>ionthas</i> , Jordan & Gilbert	2449
Genus <i>Microdesmus</i> , Günther	2450
<i>dipus</i> , Günther	2450
<i>retropinnis</i> , Jordan & Gilbert	2450
Family <i>Ptilichthyidae</i>	2451
Genus <i>Ptilichthys</i> , Bean	2452
<i>goodei</i> , Bean	2452
Group <i>Opindioidea</i>	2453
Family <i>Scytalinidae</i>	2453
Genus <i>Scytalina</i> , Jordan & Gilbert	2454
<i>cordale</i> , Jordan & Gilbert	2454
Family <i>Zoarcidae</i>	2455
Genus <i>Zoarces</i> , Gill	2456
Subgenus <i>Macrozoarces</i> , Gill	2457
<i>anguillaris</i> (Peck)	2457
Genus <i>Embryx</i> , Jordan & Evermann	2458
<i>crassilabris</i> (Gilbert)	2458
<i>crotalinus</i> (Gilbert)	2458
Genus <i>Lycodopsis</i> , Collett	2460
<i>pacificus</i> (Collett)	2460
Genus <i>Aprodon</i> , Gilbert	2460
<i>cortezianus</i> , Gilbert	2461
Genus <i>Lycodes</i> , Reinhardt	2461
Subgenus <i>Lycodes</i>	2463
<i>esmarkii</i> , Collett	2463
<i>vahlhi</i> , Reinhardt	2463
<i>concolor</i> , Gill & Townsend	2463
<i>zoarchus</i> , Goode & Bean	2464
<i>reticulatus</i> , Reinhardt	2465
<i>perspicillum</i> , Kröyer	2465
<i>frigidus</i> , Collett	2465
<i>terra-nova</i> , Collett	2466
<i>digitatus</i> , Gill & Townsend	2466
<i>palearis</i> , Gilbert	2466
<i>brevipes</i> , Bean	2467
Subgenus <i>Lycelas</i> , Jordan & Evermann	2468
<i>nebulosus</i> , Kröyer	2468
<i>seminudus</i> , Reinhardt	2468
Genus <i>Lycodalepis</i> , Bleeker	2468
<i>polaris</i> (Sabine)	2468
<i>mucosus</i> (Richardson)	2470
Genus <i>Lycenchelys</i> , Gill	2470
<i>verrilli</i> (Goode & Bean)	2470

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
Family <i>Zoarcidæ</i> —Continued.	
Genus <i>Lyconchelys</i> , Gill—Continued.	
paxillus (Goode & Bean)	2471
muræna (Collett)	3195
porifer (Gilbert)	2471
Genus <i>Furcimanus</i> , Jordan & Evermann	2472
diapterus (Gilbert)	2472
Genus <i>Lycodonus</i> , Goode & Bean	2473
mirabilis, Goode & Bean	2474
Genus <i>Lycenema</i> , Gilbert	2474
barbatum, Gilbert	2474
Genus <i>Bothrocara</i> , Bean	2475
pusilla (Bean)	2476
mollis, Bean	2476
Genus <i>Gymnelis</i> , Reinhardt	2477
viridis (Fabricius)	2477
stigma (Lay & Bennett)	2477
Genus <i>Lycocara</i> , Gill	2478
parrii (Ross)	2478
Genus <i>Melanostigma</i> , Günther	2478
gelatinosum, Günther	2479
panmelas, Gilbert	2479
Family <i>Derepodichthyidæ</i>	2480
Genus <i>Derepodichthys</i> , Gilbert	2480
alepidotus, Gilbert	2480
Family <i>Ophidiidæ</i>	2481
Genus <i>Lepophidium</i> , Gill	2482
marmoratum (Goode & Bean)	2482
emmelas (Gilbert)	2483
stigmatistium (Gilbert)	2483
profundorum (Gill)	2484
cervinum (Goode & Bean)	2484
prorates (Jordan & Bollman)	2485
brevibarbe (Cuvier)	2485
pardale (Gilbert)	2486
microlepis (Gilbert)	2486
Genus <i>Ophidion</i> (Artedi) Linnaeus	2487
beani, Jordan & Gilbert	2487
holbrookii (Putnam)	2487
gruellsi, Poey	2488
Genus <i>Chilara</i> , Jordan & Evermann	2488
taylori (Girard)	2489
Genus <i>Rissola</i> , Jordan & Evermann	2489
marginata (De Kay)	2489
Genus <i>Otophidium</i> , Gill	2490
omostigmum (Jordan & Gilbert)	2490
indefatigabile, Jordan & Bollman	2490
galeoides (Gilbert)	2491
Family <i>Lycodapodidæ</i>	2491
Genus <i>Lycodapus</i> , Gilbert	2492
dermatinus, Gilbert	2492
fieraster, Gilbert	2493
parviceps, Gilbert	2493
extensus (Gilbert)	2494

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER NASOIDEI—Continued.	
Family <i>Atherinidae</i>	2494
Genus <i>Fierasfer</i> , Cuvier.....	2495
<i>atlalis</i> (Günther).....	2495
<i>arenicola</i> , Jordan & Gilbert.....	2496
<i>bermudensis</i> (Jones).....	2497
Family <i>Brotulidae</i>	2498
Genus <i>Brotula</i> , Cuvier.....	2500
<i>barbata</i> (Bloch & Schneider).....	2500
Genus <i>Stygiola</i> , Gill.....	2500
<i>dentatus</i> (Poey).....	2500
Genus <i>Lucifuga</i> , Poey.....	2501
<i>subterraneus</i> , Poey.....	2501
Genus <i>Brosomphycis</i> , Gill.....	2502
<i>marginatus</i> (Ayres).....	2502
Genus <i>Ogilbia</i> , Jordan & Evermann.....	2502
<i>ventralis</i> (Gill).....	2503
<i>cayorum</i> , Evermann & Kendall.....	2503
Genus <i>Bythites</i> , Reinhardt.....	2504
<i>fuscus</i> , Reinhardt.....	2504
Genus <i>Catactyx</i> Günther.....	2504
<i>rubrostris</i> , Gilbert.....	2505
Genus <i>Dicromita</i> , Goode & Bean.....	2506
<i>agassizii</i> , Goode & Bean.....	2506
Genus <i>Bassozetes</i> , Gill.....	2507
<i>normalis</i> , Gill.....	2507
<i>compressus</i> (Günther).....	2508
<i>catena</i> , Goode & Bean.....	2509
<i>tania</i> (Günther).....	2510
Genus <i>Mobia</i> , Goode & Bean.....	2510
<i>promelas</i> (Gilbert).....	2511
Genus <i>Neobythites</i> , Goode & Bean.....	2512
<i>gillii</i> , Goode & Bean.....	2512
<i>marginatus</i> , Goode & Bean.....	2513
Genus <i>Benthocometes</i> , Goode & Bean.....	2514
<i>robustus</i> , Goode & Bean.....	2514
Genus <i>Bassogigas</i> , Gill.....	2515
<i>gillii</i> , Goode & Bean.....	2515
<i>stelliferoides</i> (Gilbert).....	2516
Genus <i>Barathrodemus</i> , Goode & Bean.....	2517
<i>manatus</i> , Goode & Bean.....	2517
Genus <i>Nematomus</i> , Günther.....	2518
<i>pectoralis</i> , Goode & Bean.....	2518
Genus <i>Porogadus</i> , Goode & Bean.....	2519
<i>miles</i> , Goode & Bean.....	2520
Genus <i>Penopus</i> , Goode & Bean.....	2520
<i>macdonaldi</i> , Goode & Bean.....	2521
Genus <i>Dicrolene</i> , Goode & Bean.....	2522
<i>introugra</i> , Goode & Bean.....	2522
Genus <i>Mixonus</i> , Günther.....	2523
<i>laticeps</i> (Günther).....	2523
Genus <i>Barathronus</i> , Goode & Bean.....	2524
<i>bicolor</i> , Goode & Bean.....	2524
Genus <i>Aphyonius</i> , Günther.....	2525
<i>mollis</i> , Goode & Bean.....	2525

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER XENOPTERYGII—Continued.	
<i>Family Bregmacerotidae</i>	2525
Genus <i>Bregmaceros</i> , Thompson.....	2526
<i>maclellandii</i> , Thompson.....	2526
<i>atlanticus</i> , Goode & Bean.....	2527
SUBORDER ANACANTHINI.....	2528
<i>Family Merlucciidae</i>	2529
Genus <i>Merluccius</i> , Rafinesque.....	2529
<i>merluccius</i> (Linnaeus).....	2530
<i>bilinearis</i> (Mitchill).....	2530
<i>productus</i> (Ayres).....	2531
<i>Family Gadidae</i>	2531
Genus <i>Boreogadus</i> , Günther.....	2531
<i>saida</i> (Lepechin).....	2533
Genus <i>Pollachius</i> , Nilsson.....	2534
<i>virens</i> (Linnaeus).....	2534
Genus <i>Theragra</i> , Lucas.....	2535
<i>chaleogramma</i> (Pallas).....	2535
<i>fuensis</i> (Jordan & Gilbert).....	2536
Genus <i>Eleginus</i> , Fischer.....	2537
<i>navaga</i> (Kolreuter).....	2537
Genus <i>Microgadus</i> , Gill.....	2538
<i>proximus</i> (Girard).....	2539
<i>tomcod</i> (Walbaum).....	2540
Genus <i>Gadus</i> (Artedi) Linnaeus.....	2540
<i>callarias</i> , Linnaeus.....	2541
<i>macrocephalus</i> , Tilesius.....	2541
<i>ogac</i> , Richardson.....	2542
Genus <i>Melanogrammus</i> , Gill.....	2542
<i>aglefusus</i> , Linnaeus.....	2542
Genus <i>Lepidion</i> , Swainson.....	2543
<i>verecundum</i> , Jordan & Cramer.....	2543
Genus <i>Antimora</i> , Günther.....	2544
<i>viola</i> (Goode & Bean).....	2544
<i>microlepis</i> , Bean.....	2545
Genus <i>Uraleptus</i> , Costa.....	2545
<i>maraldi</i> (Risso).....	2545
Genus <i>Lotella</i> , Kaup.....	2546
<i>maxillaris</i> , Bean.....	2546
Genus <i>Physiculus</i> , Kaup.....	2547
<i>fulvus</i> , Bean.....	2547
<i>nematopus</i> , Gilbert.....	2548
<i>kaupi</i> , Poey.....	2548
<i>rastrelliger</i> , Gilbert.....	2549
Genus <i>Lota</i> (Cuvier) Oken.....	2550
<i>maculosa</i> (Le Sueur).....	2550
Genus <i>Molva</i> , Fleming.....	2551
<i>molva</i> (Linnaeus).....	2551
Genus <i>Urophycis</i> , Gill.....	2552
Subgenus <i>Urophycis</i>	2552
<i>regius</i> (Walbaum).....	2553
<i>cirratus</i> (Goode & Bean).....	2553
<i>floridanus</i> (Bean & Dresel).....	2554
<i>earli</i> (Bean).....	2554
Subgenus <i>Emphycus</i> , Jordan & Evermann.....	2554
<i>tenuis</i> (Mitchill).....	2555

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER ANACANTHINI—Continued.	
Family Gadidae—Continued.	
Genus <i>Trophycis</i> , Gill—Continued.	
Subgenus <i>Emphyceus</i> , Jordan & Evermann—Continued.	
<i>chuss</i> (Walbaum)	2555
<i>chesteri</i> (Goode & Bean)	2556
Genus <i>Lamnonema</i> , Günther	2556
<i>barbatulum</i> , Goode & Bean	2556
<i>melanurum</i> , Goode & Bean	2557
Genus <i>Gaidropsarus</i> , Rafinesque	2557
<i>ensis</i> (Reinhardt)	2558
<i>argentatus</i> (Reinhardt)	2559
<i>septentrionalis</i> (Collett)	2559
Genus <i>Enchelyopus</i> , Bloch & Schneider	2560
<i>cimbrius</i> (Linnaeus)	2560
Genus <i>Brosme</i> (Cuvier) Oken	2561
<i>brosme</i> (Müller)	2561
Family <i>Moraoidae</i>	2561
Genus <i>Bathygadus</i> , Günther	2563
<i>arenatus</i> , Goode & Bean	2564
<i>favosus</i> , Goode & Bean	2565
<i>macrops</i> , Goode & Bean	2566
<i>longifilis</i> , Goode & Bean	2566
Genus <i>Steindachneria</i> , Goode & Bean	2567
<i>argentea</i> , Goode & Bean	2568
Genus <i>Trachyrhynchus</i> , Giorna	2568
<i>helolepis</i> , Gilbert	2569
Genus <i>Malacocephalus</i> , Günther	2569
<i>occidentalis</i> , Goode & Bean	2570
Genus <i>Moseleya</i> , Goode & Bean	2570
<i>cyclolepis</i> (Gilbert)	2570
Genus <i>Nematonurus</i> , Günther	2571
<i>goodei</i> (Günther)	2571
<i>suborbitalis</i> (Gill & Townsend)	2572
Genus <i>Albatrossia</i> , Jordan & Evermann	2573
<i>pectoralis</i> (Gilbert)	2573
Genus <i>Bogoslavia</i> , Jordan & Evermann	2574
<i>clarki</i> , Jordan & Gilbert	2575
<i>firmsquamis</i> (Gill & Townsend)	2575
Genus <i>Chalinura</i> , Goode & Bean	2576
<i>scrulla</i> , Bean	2576
<i>filifera</i> , Gilbert	2577
<i>simula</i> , Goode & Bean	2578
Genus <i>Coryphaenoides</i> , Gunner	2578
<i>capitatus</i> , Gunner	2579
<i>carapinus</i> , Goode & Bean	2579
Genus <i>Hymenocephalus</i> , Giglioli	2580
<i>cavernosus</i> (Goode & Bean)	2580
Genus <i>Macrourus</i> , Bloch	2581
<i>berghii</i> , Lacépède	2582
<i>holotrachys</i> , Günther	2582
<i>bairdii</i> , Goode & Bean	2583
<i>lepturus</i> , Gill & Townsend	2584
<i>astrolepis</i> , Bean	2585
<i>stegolepis</i> , Gilbert	2585

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECTOGNATHI—Continued.	
SUBORDER ANACANTHINI—Continued.	
Family <i>Macrouridae</i> —Continued.	
Genus <i>Macrourus</i> , Bloch—Continued.	
<i>cinereus</i> , Gilbert	2586
<i>ingoli</i> , Lütken	3195
Genus <i>Ceolorhynchus</i> , Giorna	2587
<i>occa</i> (Goode & Bean)	2588
<i>carminatus</i> (Goode)	2588
<i>caribbeus</i> (Goode & Bean)	2589
<i>scaphopsis</i> (Gilbert)	2590
Genus <i>Trachonurus</i> , Günther	2591
<i>sulcatus</i> (Goode & Bean)	2591
Genus <i>Lionurus</i> , Günther	2592
<i>filicauda</i> (Günther)	2592
<i>holepis</i> , Gilbert	2593
SUBORDER TENIOSOMI	2594
Family <i>Regalecidae</i>	2595
Genus <i>Regalecus</i> , Brännich	2595
<i>glesne</i> (Ascanius)	2596
Family <i>Trachypteridae</i>	2597
Genus <i>Trachypterus</i> , Gouan	2599
<i>rex-salmonorum</i> , Jordan & Gilbert	2599
<i>trachyurus</i> , Poey	2600
Family <i>Stylephoridae</i>	2601
Genus <i>Stylephorus</i> , Shaw	2601
<i>chordatus</i> , Shaw	2601
SUBORDER HETEROSOMATA	2602
Family <i>Pleuronectidae</i>	2602
Genus <i>Atheresthes</i> , Jordan & Gilbert	2609
<i>stomias</i> (Jordan & Gilbert)	2609
Genus <i>Reinhardtius</i> , Gill	2610
<i>hippoglossoides</i> (Walbaum)	2611
Genus <i>Hippoglossus</i> , Cuvier	2611
<i>hippoglossus</i> (Linnaeus)	2611
Genus <i>Lyopsetta</i> , Jordan & Goss	2612
<i>exilis</i> (Jordan & Gilbert)	2612
Genus <i>Eopsetta</i> , Jordan & Goss	2613
<i>jordani</i> (Lockington)	2613
Genus <i>Hippoglossoides</i> , Gottsche	2614
<i>platessoides</i> (Fabricius)	2614
<i>classodon</i> , Jordan & Gilbert	2615
<i>robustus</i> , Gill & Townsend	2616
<i>hamiltoni</i> , Jordan & Gilbert	2616
Genus <i>Psettichthys</i> , Girard	2617
<i>melanostictus</i> , Girard	2618
Genus <i>Verasper</i> , Jordan & Gilbert	2618
<i>moseri</i> , Jordan & Gilbert	2619
Genus <i>Hippoglossina</i> , Steindachner	2620
<i>stomata</i> , Eigenmann & Eigenmann	2620
<i>macrops</i> , Steindachner	2621
<i>bolmani</i> , Gilbert	2621
<i>sabauensis</i> , Boulenger	3196
Genus <i>Lioglossina</i> , Gilbert	2622
<i>tetrophthalma</i> , Gilbert	2622

CLASS PISCES—Continued

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER HETEROSOMATA—Continued.

Family Pleuronectidae—Continued.

Genus <i>Xystocheilus</i> , Jordan & Gilbert.....	2629
<i>holepis</i> , Jordan & Gilbert.....	2629
Genus <i>Paralichthys</i> , Girard.....	2633
<i>californicus</i> (Ayres).....	2633
<i>californicus</i> , Abbott.....	2633
<i>testinarinus</i> , Gilbert & Seefield.....	2633
<i>brasilensis</i> (Ranzani).....	2633
<i>sinusae</i> , Jordan & Abbott.....	2627, 2633
<i>woolmani</i> , Jordan & Williams.....	2633
<i>dentatus</i> (Linnaeus).....	2633
<i>lethostigmus</i> , Jordan & Gilbert.....	2633
<i>squamulentus</i> , Jordan & Gilbert.....	2633
<i>albiguttus</i> , Jordan & Gilbert.....	2633
<i>edwardsi</i> (Mitchill).....	2633
Genus <i>Ramularia</i> , Jordan & Evermann.....	2638
<i>dendritica</i> (Gilbert).....	2638
Genus <i>Ancylosetta</i> , Gill.....	2644
<i>quadrocellata</i> , Gill.....	2644
Genus <i>Notosema</i> , Goode & Bean.....	2646
<i>dilectum</i> , Goode & Bean.....	2646
Genus <i>Gastropsetta</i> , B. A. Bean.....	2648
<i>frontalis</i> , B. A. Bean.....	2636
Genus <i>Pleuronichthys</i> , Girard.....	2637
<i>decurrens</i> , Jordan & Gilbert.....	2637
<i>verticalis</i> , Jordan & Gilbert.....	2638
<i>cynosus</i> , Girard.....	2638
Genus <i>Hypsopsetta</i> , Gill.....	2639
<i>ottidata</i> Girard.....	2639
Genus <i>Parophrys</i> , Girard.....	2640
<i>vetulus</i> , Girard.....	2640
Genus <i>Inopsetta</i> , Jordan & Goss.....	2641
<i>ischyra</i> (Jordan & Gilbert).....	2641
Genus <i>Isopsetta</i> , Lockington.....	2642
<i>isolepis</i> (Lockington).....	2642
Genus <i>Lepidopsetta</i> , Gill.....	2642
<i>bilineata</i> (Ayres).....	2643
Genus <i>Limanda</i> , Gottsche.....	2644
<i>heringacea</i> Stead.....	2644
<i>aspera</i> (Pallas).....	2645
<i>proboscidea</i> , Gilbert.....	2645
<i>beauforti</i> , Goode.....	2645
Genus <i>Pseudopleuronectes</i> , Bleeker.....	2646
<i>americanus</i> (Walbaum).....	2647
<i>pinnifasciatus</i> (Kner).....	2647
Genus <i>Pleuronectes</i> (Arted) Linnaeus.....	2648
<i>quadrifurciculatus</i> , Pallas.....	2648
Genus <i>Liopsetta</i> , Gill.....	2649
<i>glacialis</i> (Pallas).....	2649
<i>setacea</i> (Gill).....	2649
<i>obscura</i> (Herzenstein).....	2651
Genus <i>Platichthys</i> , Girard.....	2651
<i>stellatus</i> (Pallas).....	2651

CLASS PISCES—Continued.

Page.

SUBCLASS TELEOSTOMI—Continued.

ORDER PLECTOGNATHI—Continued.

SUBORDER HETEROSOMATA—Continued.

Family Pleuronectidae—Continued.

Genus <i>Microstomus</i> , Gottsche	2653
<i>kitt</i> (Walbaum)	2654
<i>pacificus</i> (Lockington)	2655
Genus <i>Embassichthys</i> , Jordan & Evermann	2655
<i>bathybius</i> (Gilbert)	2655
Genus <i>Glyptocephalus</i> , Gottsche	2656
<i>cynoglossus</i> (Linnaeus)	2657
<i>zachirus</i> , Lockington	2658
Genus <i>Lophopsetta</i> , Gill	2659
<i>maculata</i> (Mitchill)	2660
Genus <i>Platophrys</i> , Swainson	2660
<i>spinus</i> (Poey)	2662
<i>constellatus</i> , Jordan	2663
<i>ocellatus</i> (Agassiz)	2663
<i>maculifer</i> (Poey)	2664
<i>ellipticus</i> (Poey)	2665
<i>lunatus</i> (Linnaeus)	2665
<i>leopardinus</i> (Günther)	2666
Genus <i>Perissias</i> , Jordan & Evermann	2667
<i>teniopterus</i> (Gilbert)	2667
Genus <i>Engyophrys</i> , Jordan & Bollman	2668
<i>sancti-laurentii</i> , Jordan & Bollman	2668
Genus <i>Trichopsetta</i> , Gill	2669
<i>ventralis</i> (Goode & Bean)	2669
Genus <i>Syacium</i> , Ranzani	2670
<i>papillosum</i> (Linnaeus)	2671
<i>micurum</i> , Ranzani	2672
<i>latifrons</i> (Jordan & Gilbert)	2673
<i>ovale</i> (Günther)	2674
Genus <i>Cyclopsetta</i> , Gill	2675
<i>querna</i> (Jordan & Bollman)	2675
<i>chittendeni</i> , B. A. Bean	2676
<i>fimbriata</i> (Goode & Bean)	2676
Genus <i>Azevia</i> , Jordan	2677
<i>panamensis</i> (Steindachner)	2677
Genus <i>Citharichthys</i> , Bleeker	2678
Subgenus <i>Orthopsetta</i> , Gill	2679
<i>sordidus</i> (Girard)	2679
<i>fragilis</i> , Gilbert	2680
<i>xanthostigmus</i> , Gilbert	2680
<i>stigmaeus</i> , Jordan & Gilbert	2681
Subgenus <i>Citharichthys</i>	2682
<i>diceros</i> , Goode & Bean	2682
<i>platophrys</i> , Gilbert	2683
<i>aretifrons</i> , Goode	2683
<i>unicornis</i> , Goode	2683
<i>uhleri</i> , Jordan	2684
<i>macrops</i> , Dressel	2684
<i>spilopterus</i> , Günther	2685
<i>gilberti</i> , Jenkins & Evermann	2686
Genus <i>Etropus</i> , Jordan & Gilbert	2687
<i>microstomus</i> (Gill)	2687

	Page.
CLASS PISCES—Continued.	
SUBCLASS TELEOSTOMI—Continued.	
ORDER PLECOGNATHI—Continued.	
Family Pleuronectidae—Continued.	
Genus <i>Etropus</i> , Jordan & Gilbert—Continued.	
<i>rimosus</i> , Goode & Bean	2688
<i>crossotus</i> , Jordan & Gilbert	2689
Genus <i>Monolene</i> , Goode	2690
<i>atrimana</i> , Goode & Bean	2692
Family Soleidae	2692
Genus <i>Achirus</i> , Lacépède	2693
Subgenus <i>Balostoma</i> , Bean	2695
<i>achirus</i> (Linnaeus)	2695
<i>inscriptus</i> , Gosse	2696
<i>klunzingeri</i> (Steindachner)	2697
<i>lineatus</i> (Linnaeus)	2697
<i>mazatlanus</i> (Steindachner)	2698
<i>fonsecensis</i> (Günther)	2699
<i>fischeri</i> (Steindachner)	2699
<i>scottii</i> (Günther)	2700
Subgenus <i>Achirus</i>	2700
<i>limbriatus</i> (Günther)	2700
<i>fasciatus</i> , Lacépède	2700
<i>panamensis</i> (Steindachner)	2702
Genus <i>Apionichthys</i> , Kaup	2702
<i>ancolor</i> (Günther)	2702
Genus <i>Gymnachirus</i> , Kaup	2703
<i>fasciatus</i> , Günther	2703
Genus <i>Symphurus</i> , Rafinesque	2704
Subgenus <i>Symphurus</i>	2705
<i>piger</i> (Goode & Bean)	2705
<i>marginatus</i> (Goode & Bean)	2706
<i>atramentatus</i> , Jordan & Bollman	2706
<i>fasciolaris</i> , Gilbert	2707
<i>elongatus</i> (Günther)	2707
<i>atricaudus</i> (Jordan & Gilbert)	2707
<i>leei</i> , Jordan & Bollman	2708
<i>plagusia</i> (Bloch & Schneider)	2709
<i>plagiusa</i> (Linnaeus)	2710
<i>pusillus</i> (Goode & Bean)	2710
<i>diomedeanus</i> (Goode & Bean)	2711
<i>williamsi</i> , Jordan & Culver	2711
Subgenus <i>Acedia</i> , Jordan	2712
<i>nebulosus</i> (Goode & Bean)	2712
ORDER PERICLATI	2712
Family Lophiidae	2713
Genus <i>Lophius</i> (Artedi) Linnaeus	2713
<i>piscatorius</i> , Linnaeus	2713
Genus <i>Lophomus</i> , Gill	2714
<i>setigerus</i> (Vahl)	2714
Family Antennariidae	2715
Genus <i>Pterophryne</i> , Gill	2715
<i>histrio</i> (Linnaeus)	2716
<i>gibba</i> (Mitchill)	2717
Genus <i>Antennarius</i> , Lacépède	2717
<i>inops</i> , Poey	2718

CLASS PISCES—Continued.	Page.
SUBCLASS TELEOSTOMI—Continued.	
ORDER PEDICULATI—Continued.	
Family Antennariidae—Continued.	
Genus Antennarius—Continued.	
principis (Cuvier & Valenciennes)	2719
tenebrosus (Poey)	2719
reticularis, Gilbert	2719
strigatus, Gill	2720
sanguineus, Gill	2721
ocellatus (Bloch & Schneider)	2721
scaber (Cuvier)	2722
tigris, Poey	2723
nuttingii, Garman	2723
multiocellatus (Cuvier & Valenciennes)	2724
radiosus, Garman	2725
Genus Chaunax, Lowe	2726
pietus, Lowe	2726
nuttingii, Garman	2727
Family Ceratiidae	2727
Genus Ceratias, Kröyer	2729
holbolli, Kröyer	2729
Genus Mancalias, Gill	2729
uranoscopius (Murray)	2729
shufeldti (Gill)	2730
Genus Cryptopsaras, Gill	2731
cuesii, Gill	2731
Genus Oncirodes, Lütken	2732
eschrichtii, Lütken	2732
Genus Himantolophus, Reinhardt	2732
greenlandicus, Reinhardt	2733
Genus Corynolophus, Gill	2733
reinhardti (Lütken)	2733
Genus Liocetus, Günther	2733
murrayi (Günther)	2733
Genus Linophryne, Collett	2734
lucifer, Collett	2734
Genus Caulophryne, Goode & Bean	2734
jordani, Goode & Bean	2735
Family Ogocephalidae	2735
Genus Ogocephalus, Fischer	2736
vespertilio (Linnaeus)	2737
nasutus (Cuvier & Valenciennes)	2737
radiatus (Mitchill)	2738
Genus Zalieutes, Jordan & Evermann	2738
elater (Jordan & Gilbert)	2738
Genus Halieutichthys, Poey	2739
aculeatus (Mitchill)	2739
caribbaeus, Garman	2741
Genus Halieutaea, Cuvier & Valenciennes	2741
spongiosa, Gilbert	2741
Genus Halieutella, Goode & Bean	2742
lappa, Goode & Bean	2742
Genus Dibranchius, Peters	2743
atlanticus Peters	2743

ADDITIONAL ADDENDA.

Since the publication of Part III of this work a number of new genera and species of fishes have been described from localities within our limits, and our knowledge regarding the relations and distribution of previously known species has been enlarged. These additions and corrections are given in the following pages:

Page 130. After *Hexamenatichthys rugispinus* (Cuvier & Valenciennes), insert the following:

195 (a). GALEICHTHYS LABIATUS (Boulenger).

Head $3\frac{1}{2}$; width of head $1\frac{2}{3}$ in its length; depth 5; eye 9 in head. D. 1, 7; A. 17. Band of premaxillary teeth 4 times longer than wide, the width half the eye; palatine teeth conical, in 2 small oblique groups, much smaller than eye, and separated by a space equal to $\frac{2}{3}$ the length of premaxillary band; eye situated above level of mouth, in anterior half of head, 4 in interocular space; occiput and occipital prolongation granular, this last a little longer than wide, with an obtuse spine; fontanelle narrow, not distinct, followed by a groove which does not reach the occipital prolongation; lips thick, the upper overhanging the lower, as in *G. rugispinus*, to which this species is closely related; barbels flattened; maxillary $1\frac{2}{3}$ in head, not reaching edge of opercle; external mandible $1\frac{1}{2}$ times as long as internal, 2 in head; gill membrane with a free, unbroken edge; dorsal spine with indistinct serrations, covered with skin, its length a little less than $\frac{1}{2}$ head; adipose dorsal as long at base as rayed dorsal, twice as far from it as from the caudal; humeral prolongation smooth; pectoral spine $2\frac{1}{2}$ in head, enveloped in skin like the dorsal spine, much shorter than the soft rays; ventral shorter, reaching origin of anal; caudal deeply forked, with pointed lobes; caudal peduncle $2\frac{1}{2}$ times longer than deep; no maxillary pore. Blackish gray above, silvery below; all the fins blackish. Length 470 mm. Known only from a single specimen from Rio Peripa, Ecuador. (Boulenger.) (*labiatus*, having large lips.)

Arius labiatus, BOULENGER, Bollettino dei Mus. di Zool. ed. Anat. Comp. della Univ. di Torino, Vol. XIII, No. 329, 6, Dec. 2, 1898, Rio Peripa, Ecuador. (Coll. Dr. Enrico Festa.)

Page 132. After *Tachysurus melanopus* (Günther), insert the following:

200 (a). *TACHYSURUS FESTE* (Boulenger).

Head 4; depth 4; eye $6\frac{1}{2}$, above level of mouth, in anterior part of head. D. 17; A. 23. Premaxillary band of teeth 4 times longer than broad, its width $2\frac{1}{2}$ in eye, or equal to width of groups of vomer and palatine teeth, these last granular, forming 2 large, oblique groups, separated on the median line by a space equal to $\frac{1}{2}$ diameter of eye; width of head $1\frac{1}{2}$ in its length; occiput and occipital prolongation granular, the last as long as wide, and with blunt spine; fontanelle narrow, commencing in a groove between the anterior nostrils and reaching occiput, not reaching occipital prolongation; barbels flattened; maxillary as long as head, reaching beyond base of pectoral spine; external mandible a little shorter, as long as the internal; gill-membrane with a free border broken at the isthmus; anal spine striated, $1\frac{1}{2}$ in head, its anterior edge feebly toothed except at extremity, which has, like the posterior edge, stronger and more retrorse teeth; adipose dorsal twice as far from rayed dorsal as from caudal, its base $1\frac{1}{2}$ in base of rayed dorsal; pectoral spine $1\frac{1}{2}$ in head, its external edge furnished with a series of soft, small tubercles on its basal half, anterior edge armed with feeble retrorse teeth; ventral shorter, reaching origin of anal; caudal deeply forked; caudal peduncle twice as long as deep; axillary pore present, much smaller than the nostril. Color steel blue above, silvery below. This species closely resembles *Tachysurus liopus*, Bristol. Length 210 mm. One specimen known, from Narrangal, Ecuador. (Boulenger.) (Named for the collector of the type, Dr. Enrico Festa.)

Arius festa, BOULENGER, Bollettino dei Mus. di Zool. ed. Anat. Comp. della Univ. di Torino, Vol. XIII, No. 329, 5, Dec. 2, 1898, Narrangal, Ecuador.

Page 135. After *Ictalurus meridionalis* (Günther), insert:

76 (a). *ISTLARIUS*, Jordan & Snyder.

Istlarius, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 118 (*balsamus*).

Body rather deep and compressed; head not widened, nor greatly depressed; eye large; lower jaw included; teeth in villiform bands on premaxillaries and dentaries; the premaxillary band convex anteriorly, with a short angular posterior extension on each side, no division of the band at symphysis; dentary band broad anteriorly, growing narrow and pointed posteriorly, with a distinct median division; no teeth on vomer or palatines; villiform teeth on upper and lower pharyngeals; gill-rakers on first arch 17, long and slender; branchiostegals 8; air bladder very large, extending almost to posterior end of body cavity, divided by a transverse constriction into two parts of nearly equal length, the anterior heart-shaped, posterior part oval; supraoccipital bone widely separated from interspinal; humeral process short, almost hidden by the skin; lateral line extending from below insertion of dorsal to caudal; skin covered with minute, hairlike villi; skin of head completely concealing bones of skull; barbels 8. Spines with

distal parts soft, not branched, continuous with the hard parts; basal part of pectoral spine grooved posteriorly, weakly serrate above the groove.

Istlarius has some of the characters of the genus *Leptops*, notably the dentition of the upper jaw and the weakness of the fin-spines; but it more closely resembles *Ictalurus*, and its relationship is probably with that genus.

(Named for the Rio Ixtla, the type locality of the type species.)

208 (a). *ISTLARIUS BALSANUS*, Jordan & Snyder.

Head 4; depth $4\frac{2}{3}$; depth of caudal peduncle $2\frac{1}{2}$ in head; eye $5\frac{1}{2}$; snout $2\frac{2}{3}$; distance between eyes $2\frac{1}{2}$; height of dorsal $1\frac{1}{3}$; length of base of dorsal 3; height of anal $1\frac{2}{3}$; length of base of anal 1; length of pectoral $1\frac{1}{2}$; ventrals $1\frac{2}{3}$; caudal 1; D. I, 6; A. 24. Body deep and somewhat compressed, deepest above ventrals, widest between pectorals; head narrow, not greatly depressed; eye large, nearer tip of snout than to posterior edge of opercle a distance equal to diameter of eye; interorbital space convex; width of mouth $2\frac{1}{2}$ in head, lower jaw included; upper jaw projecting a distance equal to diameter of pupil; barbels 8; of the inferior ones the median pair shorter; distance between their bases equal to the diameter of pupil; the outer pair when extended directly backward reach the edges of gill covers; maxillary barbels longest, reaching upper angle of gill opening; nostril barbels reaching middle of pupil. Teeth in broad villiform bands on premaxillaries and dentaries, the band on upper jaw convex anteriorly, with a short, angular posterior extension on each side, no apparent division of the band at symphysis; band on lower jaw broad anteriorly, narrow and pointed posteriorly, a distinct median division; no teeth on vomer or palatines; upper pharyngeal teeth in oval villiform bands; lower pharyngeal teeth in 2 narrow oblong bands; gill-rakers on first arch 17, long and slender; branchiostegals 8; anterior nostril tubular, the posterior with a raised rim extending on each side from the barbel to the posterior edge of the opening, where it is divided; skin of head completely concealing the bones of skull; supraoccipital bone not in contact with interspinal; humeral process about as long as vertical diameter of eye, almost hidden by the thick skin; lateral line extending from a perpendicular through insertion of dorsal to caudal; skin covered with minute, hair-like villi; dorsal spine with its distal third soft, preceded by a small, angular, immature spine; first branched ray longest, the others gradually shorter; adipose fin large, above middle of anal; length of the posterior free edge 3 times diameter of pupil; third or fourth anal ray longest, edge of fin rounded posteriorly; caudal deeply forked, the lower lobe rounded, the upper rather pointed; pectoral rays 1, 11, distal two-thirds of spine soft, not branched, continuous with the hard part; basal part grooved posteriorly, weakly serrate above the groove; ventrals reaching origin of anal. Color bluish slate above, light silvery below; a few small dark spots on the head and body; fins with dusky coloring; inferior barbels light; maxillary barbels with upper half dark; nasal barbules with light edges. Some specimens have many well-defined color

spots, while others have few or none. The young have no spots. Our specimens vary in length from 10 to 60 centimeters.

Istilarius balsanus has a large and rather complex air bladder. It lies close to the spinal column and extends almost to the posterior end of the body cavity. It is divided by a deep transverse constriction into two halves. The anterior part is heart-shaped, constricted dorso-ventrally. It is separated by a T-shaped partition into 3 chambers. Of these the anterior, transverse chamber is partly divided on the median line by a fold of the dorsal wall of the bladder over the vertebral column. The transverse chamber is connected on each side with the 2 posterior lateral chambers by large openings in the ends of the transverse wall. The posterior half of the bladder is without partitions. It is connected with the left lateral chamber only by a small opening. (Jordan & Snyder.)

Known only from Rio Ixtla at Puente de Ixtla, Morelos, Mexico. (Type, No. 6149, L. S. Jr. Univ. Mus. Coll. Jordan & Snyder.)

Istilarius balsanus, JORDAN & SNYDER, Bull. U. S. Fish Com., 1899 (1900), 118, Rio Ixtla, Morelos, Mexico.

Page 211. After *Algansea tincella* (Cuvier & Valenciennes), insert:

337 (b). *ALGANSEA LACTSTRIS*, Steindachner.

Head 3.67; depth 5; eye 4.75; snout 3.6; interorbital 3. D. III, 7; A. iii, 6; P. 17; V. 9; scales 76-13. Body elongate, strongly compressed behind; caudal peduncle long and slender, its length 5 in head, its depth 10; head pointed, rounded above, greatly increasing in width behind the eyes where the width is half the head's length; mouth slightly oblique, jaws equal; tip of chin slightly thickened; maxillary nearly reaching eye; gape 4 in head; preorbital boat-shaped, concave above, convex below, equal to eye, or 1.6 longer than wide; teeth 4-4, hooked, with compressed crowns. Origin of dorsal midway between anterior border of eye and base of caudal, a little in front of ventrals, whose origin is equally distant between center of eye and base of caudal; height of dorsal 1.75 in head, its base half its height; height of anal 2.14 in head, or twice its base; caudal forked, 1.2 in head, the middle rays not quite half length of longest; ventrals short, 2.17 in head, their tips not reaching vent; pectoral 1.6 in head. Scales firm, half-oval in shape, larger posteriorly; lateral line on middle of side, descending somewhat anteriorly. Color dark brownish gray above, a darker band along middle of side; color below lateral line becoming abruptly lighter gray, merging into silvery on under parts. One example 20 cm. long from Lake Patzenaro, Mexico. (Steindachner.)

Algansea lactstris, STEINDACHNER, Einige Fischarten Mex., 10, pl. III, figs. 1-1b, 1895, Lake Patzenaro, Mexico. (Coll. Princess Theresa von Bayern.)

Page 254. *Orcella*, proposed by us for a subgenus in *Notropis*, is pre-occupied by *Orcella*, Gray, 1866, a genus of Cetacea. For our use of it we substitute *Orcula*.

Orcula, JORDAN & EVERMANN, new subgenus in *Notropis* (*oreo*).

Page 260. After *Notropis anogenus*, Forbes, insert:

404 (a). *NOTROPIS MUSKOKA*, Meek.

Head 4; depth 5.5; eye 3.25; snout 3.75; D. 8; scales 36, 10 in series from dorsal to ventral fin; longest dorsal ray 1.34 in head; pectoral 1.5; ventral 2, reaching anal. Teeth 4-4, slightly hooked, grinding surface narrow.

Body rather terete and slender; snout bluntish; mouth small and slightly oblique; lower jaw the shorter, slightly included; posterior end of maxillary scarcely reaching vertical from the front of orbit. Eighteen scales between nape and dorsal fin, the scales in this region being smaller and more crowded than on sides and posterior dorsal region, much resembling *Pimephales notatus* in this respect; lateral line incomplete, not extending beyond the fourth scale on each side. Origin of the first ray of dorsal fin midway between the base of the caudal fin and the tip of the snout; the longest (anterior) dorsal rays nearly three times the length of the posterior ones, the tips of the former extending considerably beyond the tips of the latter when the fin is deflexed. Color olivaceous, darker above, very pale below; a dark band about $\frac{2}{3}$ diameter of eye around snout and on side to base of caudal fin; on the snout this band is confined to the upper jaw; between this band and the darker color on the dorsal region is a lighter band of about the same width; a dark vertebral line present, also a similar one from base of anal to caudal fin. In some specimens the lateral line is absent on the first scales and appears at intervals on about 12 scales, but it is occasionally absent altogether. It is less developed in this species than in any other of the genus.

Close to *N. cayuga*, from which it differs in the reduced size of the scales before the dorsal, the more slender body, the sharper snout, the slightly larger and more oblique mouth, and the more incomplete lateral line. It is also a larger fish than *N. cayuga*.

Known only from Gull Lake, near Muskoka Lake, Ontario, where 24 specimens were obtained by Dr. Meek in September, 1899. They vary in length from 1.31 to 2.91 inches. (Named for Muskoka Lake.)

Notropis muskoka, MEEK, Notes on a Collection of Fishes and Amphibians from Muskoka and Gull Lakes: Publication 41, Field Columbian Museum, Zoological Series, Vol. I, No. 17, 308, November, 1899, Gull Lake, Ontario. (Type, No. 2964, Field Columbian Museum. Coll. Dr. Meek.)

Page 264. After *Notropis proce* (Cope), insert:

412 (a). *NOTROPIS RASCONIS*, Jordan & Snyder.

Head 4; depth $3\frac{1}{2}$; eye $2\frac{2}{3}$ in head; snout $3\frac{1}{2}$; interorbital space 3; depth of caudal peduncle $2\frac{1}{2}$; height of dorsal $4\frac{1}{2}$ in length; anal 5; length of pectoral $5\frac{1}{2}$; ventral $5\frac{1}{2}$; caudal $3\frac{1}{2}$; D. I, 8; A. I, 8; P. 12; scales 33, 15 between dorsal and occiput, 10 between dorsal and ventral fins. Dorsal outline of body evenly rounded from snout to insertion of dorsal fin, slightly concave from latter point to base of caudal; ventral outline evenly rounded to end of anal base; deepest part of body just anterior to insertion of dorsal; width of body $\frac{1}{2}$ of its length. Snout pointed; mouth

oblique, lower jaw included; maxillary not quite reaching vertical from anterior margin of orbit. Teeth 4-4, frail and easily detached from the arch, slightly hooked, no evident grinding surface; gill-rakers short and blunt, reduced to slight elevations on lower part of first arch. First ray of dorsal fin longest, last ray much shorter; when the fin is elevated, the posterior margin is straight, when depressed, it is somewhat falcate; anal fin similar in shape; pectoral pointed; tips of ventrals reaching anal; caudal deeply forked, the lobes pointed. Color silvery, a dark lateral band, the width of a scale, extending from tip of snout through eye to base of caudal, where it ends in an elongate, black spot; body above lateral band stippled with black, the dots grouped closely together on top of head, and in a narrow dorsal band extending from occiput to insertion of dorsal, in a sharply defined black line along base of dorsal fin, and also on the edges of the dorsal scales; body below dark band immaculate, except a dusky line along base of anal fin; all the fin rays dusky, especially the partly developed caudal rays, which are noticeably darker than the others.

Notropis rasconis is closely related to *N. nigrotentatus*, from which it differs in having a more compressed body, a longer snout, larger eye, longer and more pointed fins, and in having the color-band narrower on the body and more marked on the snout. (Jordan & Snyder.)

Known only from the Rio Verde near Rascon, San Luis Potosi, Mexico, where the type (No. 6153, L. S. Jr. Univ. Mus.) was collected by J. O. Snyder.

(Named for Rascon, near which place the type was obtained.)

Notropis rasconis, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 121, Rio Verde, near Rascon, Mexico.

Page 302. Before *Eriocymba*, Cope, insert:

123 (a). **XYSTROSUS**, Jordan & Snyder.

Xystroxus, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 123 (*popoche*).

Body long, compressed; interorbital space low and flat; mouth terminal, oblique; jaws subequal; premaxillaries protractile; no barbel; no pseudo-branchiae; gill-rakers 6+6, long, slender, crowded on arch; teeth 4-4, hooked, grinding surface oblique, grooved; alimentary canal about twice as long as body; peritoneum dusky; lateral line complete, decurved above pectoral; scales 61, evenly distributed over body; fins falcate; dorsal inserted directly above insertion of ventral; caudal deeply forked; anal basis short. Allied to *Notropis*; differing in the long gill-rakers, the small scales, and the absence of pseudobranchiae. *ξύστρον*, (gill-)raker.

123 (a). **XYSTROSUS POPOCHE**, Jordan & Snyder.

Head 3½; depth 4½; eye 4½ in head; snout ¾; depth of caudal peduncle 2½; height of dorsal 5 in length; anal 6; length of pectoral 6; ventral 6½; caudal 4; D. 8; A. 7; P. 16; scales 61, 24 between dorsal and occiput, 16 between dorsal and lateral line. Body long and slender; caudal peduncle deep, compressed; head long, its upper contour straight;

interorbital space broad and flat; eye large; its longitudinal diameter contained 2 times in interorbital space; snout sharp, slightly turned up at end; mouth large, oblique; lower jaw included; lips thin; maxillary not quite extending to orbit; gill-rakers 6+6, on first arch, close together, slender, the longest $\frac{1}{2}$ diameter of orbit. Teeth 4-4, strong, hooked, grinding surface oblique, narrow, grooved, a notch just below the hook; alimentary canal almost twice the length of body; peritoneum dusky. Scales not crowded anteriorly, evenly distributed over body; lateral line shaped like the contour of body, except above pectoral fin, where it is sharply decurved; dorsal inserted directly above ventral, first ray highest, nearly 3 times height of last; when depressed, the fin is falcate; when elevated, its edge is concave; anal similar in shape; caudal deeply forked, the tips sharp; ventrals pointed, not reaching vent; pectoral slightly rounded. Color silvery; darker above, especially on median dorsal area, where a more or less dusky band extends the length of the body; rays of dorsal fin and tips of caudal dusky; lower fins white.

Exact measurements of the only specimen obtained are here given: Length of body in millimeters 92; depth of body, expressed in hundredths of length, 23; depth of caudal peduncle $11\frac{1}{2}$; length of head $28\frac{1}{2}$; width of interorbital space $11\frac{1}{2}$; length of snout 8; diameter of orbit 6; distance from snout to dorsal fin 52; height of longest dorsal rays 20; distance from snout to anal fin 73; height of longest anal rays 17; distance from anal to caudal fin 21; length of caudal fin 25; length of pectoral fin 18; distance from snout to ventral fin 53; length of ventral fin 16. (Jordan & Snyder.)

Only the type known (No. 6151, L. S. Jr. Univ. Mus.) collected by J. O. Snyder in Laguna de Chapala, near Ocotlan, Jalisco, Mexico.

Xystrosus popoche, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 123, Laguna de Chapala, Mexico.

123 (b). FALCULA, Jordan & Snyder.

Falcula, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 124 (*chapalae*).

Body long, compressed; caudal slender; mouth large, lips thin, premaxillaries protractile; no barbel; teeth in 1 row, 4-4, hooked, grinding surface grooved; gill-rakers few, short, far apart; alimentary canal short; peritoneum silvery; lateral line complete; scales rather small, about 50 in lateral series. Fins high, falcate; dorsal inserted directly over ventrals; anal basis short; first simple rays of dorsal and anal rudimentary and closely adnate to first branched ray; caudal long, deeply notched.

The genus *Falcula* is related to *Notropis*, from which it differs in its small scales and in its very high falcate fins. (*falc*, scythe.)

498 (b). FALCULA CHAPALE, Jordan & Snyder.

Head 4; depth $4\frac{1}{2}$; eye $3\frac{3}{8}$ in head; snout $3\frac{5}{8}$; interorbital space $3\frac{3}{8}$; depth of caudal peduncle $9\frac{1}{2}$; height of dorsal 4 in length; anal 5; length of pectoral $4\frac{1}{2}$; ventral $5\frac{3}{4}$; caudal $3\frac{1}{2}$; D. 8; A. 8; P. 17; scales 50, 19 between dorsal and occiput, 16 between dorsal and ventral fins.

Body long, slender, compressed; snout pointed, its length equal to diameter of orbit or to interorbital space; mouth almost horizontal, its cleft extending to vertical from anterior edge of orbit; lips thin; teeth 4-4, strong, slightly hooked, the hook barely evident on lower tooth; three upper teeth with a grooved grinding surface; gill-rakers 3+7, short, pyramidal, and far apart; alimentary canal short; peritoneum silvery; lateral line complete, decurved to a point in a vertical midway between pectoral and ventral fins, from which it extends in a straight line a little below middle of body to the caudal; fins all very high and pointed; dorsal inserted directly over origin of ventrals, falcate when depressed, its first ray longest; anal similar in shape, inserted at a point $\frac{2}{3}$ the distance from tip of snout to base of caudal; ventrals extending to vent, tip of pectoral reaching ventrals; caudal deeply forked. Color silvery; a narrow, dark median band extending down from occiput to base of caudal; dorsal scales with fine dots which give their edges a dusky color.

One specimen known, careful measurements of which are given: Length of body in millimeters 74; depth of body, expressed in hundredths of length, 25; depth of caudal peduncle 11; length of head 25; width of interorbital space 7; length of snout 7; diameter of orbit 7; distance from snout to dorsal fin 47; height of longest dorsal rays 26; distance from snout to anal fin 67; height of longest anal rays 21; distance from anal to caudal fin 27; length of caudal fin $3\frac{1}{2}$; length of pectoral fin 22; distance from snout to ventral fin 62; length of ventral fin 21. (Jordan & Snyder.)

Only the type known (No. 6152, L. S. Jr. Univ. Mus.) collected by J. O. Snyder in Laguna de Chapala, near Ocotlan, Jalisco, Mexico.

(Named for the type locality.)

Faleula chapala, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 124, Laguna de Chapala, Mexico.

Page 311. Before *Agosia nubila* (Girard), insert the following:

514 (a). *AGOSIA KLAMATHENSIS*, Evermann & Meek.

Head 4; depth $4\frac{1}{2}$; eye $4\frac{1}{2}$ in head; snout $3\frac{1}{2}$; D. I, 8; A. I, 7; scales about 14-78-10 (average, 73 in 49 specimens).

Body robust, subcylindrical, back somewhat elevated; snout rather long, mouth inferior, little oblique, the lower jaw included; maxillary not reaching front of orbit; upper lip without frenum; barbel present, but small. Lateral line incomplete, interrupted in many places, about 30 pores developed. Origin of dorsal fin midway between front of pupil and base of caudal fin; pectoral rather short, reaching about three-fourths the distance to base of ventrals; ventrals reaching vent; anal large, its longest ray $1\frac{1}{2}$ in head; caudal widely forked.

Color in alcohol: Olivaceous, mottled and blotched with darker on back and side; under parts pale; an obscure pale streak from eye to base of caudal fin, below which is a broad dark band; dorsal, pectoral, and caudal dusky; other fins plain; a black blotch at base of caudal.

An examination of 48 specimens shows all the important characters to

be fairly constant. The barbel is in a few cases obscure or possibly absent. The number of scales in a transverse line varies from 68 to 78, the average being 73. The lateral line is in all cases incomplete, though in different degrees. Sometimes it is continuous for only 6 or 8 scales, after which there are several interruptions and only 8 to 10 more pores. In others there are 20 to 30 pores in a continuous series.

Close to *A. nubila*.

Upper Klamath Lake, Oregon.

Agosia klamathensis, EVERMANN & MEEK, Bull. U. S. Fish Com. 1897 (Jan. 6, 1898), 74, fig. 5, Pelican Bay, Upper Klamath Lake, Oregon. (Type, No. 48225, U. S. N. M. Coll. Meek & Alexander.)

Page 333. After *Piabucina panamensis*, Gill, insert the following:

552 (a). **PIABUCINA FESTE**, Boulenger.

Head $4\frac{1}{2}$; depth 4; eye $4\frac{1}{2}$; snout $4\frac{1}{2}$; interorbital width 9; D. 9; A. 11; scales 28-8; lower jaw longer than snout; teeth 26 above, 32 in external mandibular series; maxillary reaching eye; origin of dorsal equally distant between end of snout and caudal sinus, a little behind base of ventrals; adipose dorsal very small; anal with 8 branched rays; pectoral $1\frac{1}{2}$ in head, longer than ventrals; caudal strongly emarginate, scaled on basal half. Very deep olive brown above, whitish below; fins uniformly gray. Length 160 mm. (Boulenger.) From tributary of Lake Pita, Darien; only the type known. (Named for the collector, Dr. Enrico Festa.)

Piabucina festa, BOULENGER, Bollettino dei Mus. di Zool. ed Anat. Comp. della Univ. de Torino, Vol. XIV, No. 346, April 29, 1899, Rio Sabina, Darien. (Coll. Dr. Enrico Festa.)

Page 367. *Serrivomer beanii* has recently been taken by the *Ingolf* at Stations 12 and 20, lat. $61^{\circ} 38' N.$, long. $32^{\circ} 37' W.$, and lat. $58^{\circ} 20' N.$, long. $40^{\circ} 48' W.$, in Denmark Strait and SSE. of Cape Farewell, in 1,040 and 1,695 fathoms, respectively.

Page 398. After *Lycodontis obscuratus* (Poey), insert:

656 (a). **LYCODONTIS JORDANI**, Evermann & Marsh.

Head 7 in total length; depth about 14; eye 8 in head; snout 5; gape 2.2; interorbital a little less than snout. Teeth uniserial, strong, sharp, not close set, all entire and without basal lobes; tail considerably longer than rest of body; gill-opening smaller than eye; snout rather pointed, lower jaw the shorter, the mouth capable of being completely closed. Dorsal fin high, much higher than anal; nasal tube long, about 3 in eye.

Color: Tawny-ochraceous, paler below; upper jaw gray; iris blue; longitudinal brown stripes on side of head in front of gill-opening; head and body covered with numerous small, round, white spots, those on head smallest; a series of larger ones along upper part of side, and 1 or 2 irregular series of large ones on side of belly; between these on the middle of side the spots are smaller; dorsal with an irregular series of small white spots along the base, and another series of about 16 much larger, more quadrate spots of same color along edge of fin, some of the spots cutting the border, which is black; anal similarly spotted and with black

border. In alcohol the general color is grayish black, yellowish below, the tawny-ochraceous or yellow becoming darker, almost black, and the white spots on body becoming yellowish.

This species seems to be related to *L. obscuratus* (Poey), but differs from it markedly in color. Puerto Rico; only the type known, a specimen 15 inches long collected by the U. S. Fish Commission steamer *Fish Hawk* at Mayagüez, January 20, 1899. (Named for David Starr Jordan.)

Lucidentis jordani, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19), 352, Mayagüez, P. R. (Type, No. 49356, U. S. N. M. Coll. Evermann & Marsh.)

Page 447. After *Stolephorus productus* (Poey), insert:

734 (a). *STOLEPHORUS GILBERTI*, Evermann & Marsh.

Head 3.25; depth 3.4; eye 4; snout 6; maxillary 1.7; mandible 1.7; interorbital 4.9; D. 15; A. 23; pectoral 2.1; ventral 3.5; caudal 1.3; scales 42-9.

Body comparatively deep and strongly compressed, the belly trenchant, without serrations; snout thick, much projecting; maxillary reaching nearly to root of mandible, scarcely serrate; eye moderate; tip of lower jaw reaching vertical from front of eye; distance from lower posterior angle of cheek to vertical from posterior margin of opercle much less than from same point to eye; dorsal inserted far in advance of anal, just behind insertion of ventrals, midway between anterior edge of eye and base of caudal.

Color in spirits: Back light olivaceous with dark punctulations; rest of body below a line from shoulder to upper base of caudal silvery; faint traces of golden behind eye; no lateral band.

This species is very close to *Stolephorus garmani*, Evermann & Marsh, differing chiefly in the much smaller eye, the more uniform color of the back, the somewhat more sharply compressed belly, and the more nearly entire maxillary.

Puerto Rico; only the type, a specimen 4.5 inches long, known. This was collected by the U. S. Fish Commission expedition to Puerto Rico, at Palo Seco, near San Juan, January 13, 1899, associated with *S. productus*. (Named for Dr. Charles Henry Gilbert.)

Stolephorus gilberti, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 352, Palo Seco, P. R. (Type, No. 49359, U. S. N. M. Coll. Evermann & Marsh.)

734 (b). *STOLEPHORUS GARMANI*, Evermann & Marsh.

Head 3.2; depth 3.3; eye 3.5; snout 5.5; maxillary 1.7; mandible 1.7; interorbital 5; D. 14; A. 23; pectoral 2; ventral 3.5; caudal 1.3; scales 42-9.

Body comparatively deep and strongly compressed; the belly not strongly trenchant, without serrulations; snout thick, much projecting; maxillary reaching nearly to root of mandible, very finely and weakly serrate; eye large; tip of lower jaw reaching vertical from front of eye; distance from lower posterior angle of cheek to vertical from posterior margin of opercle much less than from same point to eye; dorsal inserted far in advance of anal, just behind insertion of ventrals, midway between anterior edge of pupil and base of caudal.

Color in spirits: Back dark near the median line, below this somewhat reddish; rest of body below a line from shoulder to upper base of caudal silvery; some golden on snout and behind eye; no lateral band.

This species has a general resemblance to *Stolephorus productus*, but is unquestionably distinct from it; the anal is much shorter and inserted farther back, the body is deeper, the eye larger, and the snout longer. It is very close to *Stolephorus gilberti*, Evermann & Marsh, differing chiefly in the larger eye, in the color of the back, and the somewhat less sharply compressed belly.

Puerto Rico; only the type, a specimen 4.5 inches long, known. This was collected by the U. S. Fish Commission expedition to Puerto Rico at Puerto Real, January 27, 1899. (Named for Prof. Samuel Garman, of the Museum of Comparative Zoology.)

Stolephorus garmani, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 352, Puerto Real, P. R. (Type, No. 49360, U. S. N. M. Coll. Evermann & Marsh.)

Page 497. Before *Salmo gairdneri*, Richardson, insert the following:

780 (k). *SALMO CLARKII DECLIVIFRONS*, Meek.

(SALMON TROUT OF LAKE SOUTHERLAND.)

Head 3.8; depth 4.6; eye 5.14; snout 4.5; maxillary 1.6; scales 148; D. 10; A. 11; branchiostegals 10; gill-rakers 7 + 10. Body elongate, back elevated, anterior profile much decurved, especially so from nape forward; tip of snout below axis of body; margin of upper lip on a level with lower margin of orbit; gape nearly horizontal, more so than in other trout; maxillary broad, its greatest width 5 in its length, its posterior end reaching beyond eye; dentition strong; posterior margin of dorsal fin straight; tip of second ray reaching middle of last ray in the depressed fin, the last ray $2\frac{1}{2}$ in longest ray; pectoral 1.67 in head; ventral 2.25. Color dark blue above and on side to lateral line anteriorly, and to a short distance above lateral line posteriorly, then becoming abruptly silvery; belly nearly white; no spots on head or body, none on any of the fins, except a few on caudal fin; upper margin of lower jaw black, a dark blue patch on cheek, extending obliquely upward and backward to near top of opercle; pectoral, ventrals, and anal yellowish.

The general color of this species much resembles that of the Blue Back of Lake Crescent. It is some darker, has no spots, except on caudal fin, and the upper anterior profile is much more curved.

Professor Elliot gives the following note on this trout:

"This trout is occasionally taken in Lake Southerland, and is called the 'Salmon Trout.' It is easily recognizable, not only by the sharply curved upper outline of the fore part of the body, but also by its quite different style of coloration, resembling, as stated above, somewhat the style of the Blue Back of Lake Crescent. As there is no water connection between these lakes, and Lake Southerland is 75 feet lower than Crescent, and, moreover, the fish of that lake having no communication with the sea, on account of a very high precipitous fall a short distance from its outlet, it can not be supposed that these two forms are in any way identical. Out

of a large number of trout taken by me in Lake Southerland, only two or three specimens of this form were procured, and they were all of small size, and I did not understand that it was ever obtained of much greater dimensions. This could not be the fault of the lake, which is exceedingly deep, and nearly 3 miles in length. It is a gamey fish, takes the fly, leaps out of water, and is a good fighter for its size." (Meek.)

Length about 10 inches.

Known only from Southerland Lake, Washington, where 2 or 3 specimens (only 1 of which was preserved) were taken by Professor Elliot in 1898. (*declivus*, steep; *frons*, forehead.)

Salmo clarki declivifrons. MEEK. Notes on a collection of cold-blooded Vertebrates from the Olympic Mountains: Field Columbian Museum Publication 31, Zoological Series, Vol. 1, No. 12, 230, Feb. 1899. Southerland Lake, Washington. (Type, No. 2006, Field Columbian Museum.)

780 (1). *SALMO CLARKII* JORDANI, Meek.

(SPOTTED TROUT OF LAKE SOUTHERLAND.)

Head 3.86; depth 4.79; eye 5.89; snout 4.13; maxillary 1.78; scales 146: D. 10; A. 11; branchiostegals 10 or 11. Body elongate, not much compressed; head short, maxillary rather broad, not extending far behind orbit—its greatest width $4\frac{1}{2}$ in its length, in some specimens about $5\frac{1}{2}$, a slight curve downward under the eye; dentition not so strong as in the Speckled Trout of Lake Crescent; gill-rakers rather long, longer than in the Speckled Trout, but less so than in Blue Back of Lake Crescent; pectoral in head, 1.88; ventral 2.24; origin of dorsal midway between tip of snout and base of caudal, or slightly nearer tip of snout; origin of ventrals under first to third dorsal rays; margin of dorsal fin convex, its base 1.32 in longest ray; snout bluntish. Color in alcohol, dark steel-blue above, paler below, becoming nearly white on the belly; back, sides, and head profusely spotted with black; some specimens with black spots on the belly and on all fins; pectorals and ventrals usually without spots; upper half of lower jaw black, red under dentary bones. The life colors are given by Professor Elliot in the following note:

"This beautiful species is exceedingly gamey, takes a fly readily even as late as October, is a great leaper when hooked, and fights *à l'outrance*. In appearance it resembles *Salmo gairdneri crescentis* of the neighboring lake, being fully as brilliantly colored, but can be at once distinguished by its orange or orange-red fins, red on the jaw, and the number and blackness of its spots, and darker back and top of head. In general appearance there is not the slightest similarity between this species and the specimen from Boulder Creek. At no stage of its existence that I have seen, from fingerlings to fish weighing over 4 pounds, is there any silvery luster, but the colors are all bright-hued, some even metallic. It is one of the most active of its tribe, and I have had them leap after taking the fly in such quick succession, and with such rapid dartings about the lake, that it was impossible to imagine where they would next appear. I be-

*These comparative measurements are the averages of 24 specimens examined by Dr. Meek.

lieve it spawns in the spring, as in the middle of October, when I left Lake Southerland, the eggs of the females we caught were not enlarged, and no indication of the approach of the spawning season." (Meek.)

Length 1 to 2 feet.

Known only from Southerland Lake, Washington, where 23 specimens were collected in 1898 by Professor Elliot.

("Named for Dr. D. S. Jordan, president of Stanford University, who, more than anyone else, has studied our Western trout.") (Meek.)

Salmo clarkii jordani, MEEK, Notes on a collection of cold-blooded Vertebrates from the Olympic Mountains: Field Columbian Museum Publication 31, Zoological Series, Vol. I, No. 12, 229, February, 1899, Southerland Lake, Washington. (Type, No. 2012. Field Columbian Museum.)

Page 500. Before *Salmo irideus*, Gibbons, insert the following:

480 (a). SALMO BATHOCETOR, Meek.

(LONG-HEADED TROUT OF CRESCENT LAKE.)

Head 3.5 to 3.8; depth 5.10 to 5.75; eye 6.75 to 7.60; snout 3.33; maxillary 1.66; scales 150 to 152; gill-rakers 7 or 8 + 11 to 13; branchiostegals 9 to 11; D. 10; A. 11. Body elongate, slender; head much pointed; anterior margin of upper jaw slightly above axis of the body; maxillary very long and very slender, reaching considerably beyond posterior part of the orbit, its greatest width 7 in its length; about 24 teeth on maxillary; teeth on jaws, vomer, and palatines large, the dentition much stronger than in specimens of *Salmo gairdneri crescentis* of same size; mandible very strong; opercle very broad and contains the eye $1\frac{1}{2}$; preoperculum narrow, less than diameter of the eye; gill-rakers very short and thick; last ray of dorsal less than half longest rays, third ray longer than base of fin; when depressed, second and third ray tips reach beyond middle of last dorsal ray; pectoral $1\frac{8}{10}$ in head; ventrals $2\frac{1}{2}$. Color much as in *S. gairdneri crescentis*, except lighter. Head, body, and tail profusely spotted with black spots; ventrals and pectorals dark. No. 2036 (Field Museum) has fewer spots, none on anal and pectoral; anterior part of upper jaw very dark, darker than in the larger specimen. This species differs from *S. gairdneri crescentis* in being much more slender, its back much less elevated, head more slender and pointed, gill-rakers shorter, maxillary straighter, narrower, and longer. The general color pattern is the same, except that this species is less spotted and lighter. No red on the under jaw: the dentition is much stronger in this species than in *S. gairdneri crescentis*. (Meek.)

Prof. D. G. Elliot gives the following interesting note on this trout:

"This is a deep-water fish, keeping always near the bottom. Lake Crescent is of great depth, in some places over 700 feet, and doubtless much more in others not yet ascertained. The present species, unlike other trout, does not come to the surface, as I was informed, at any season of the year, and will not of course take a fly, or indeed a spoon, or any kind of lure. The only way it can be captured is by set-lines sunk within a foot of the bottom, and it seems that there are only a few places in the lake where it can be caught even by this means. The specimens

obtained were procured at a depth of about 200 feet. While it is a brightly colored fish, it lacks some of the iridescent hues of *S. gairdneri crescentis*, and consequently is less attractive in appearance. It is known as the long-nose, or long-headed trout." (Meek.)

Length nearly 2 feet.

Known only from Crescent Lake, Washington, where two specimens were obtained in 1898 by Prof. D. G. Elliot.

Salmo bathoector, MEER, Notes on a collection of cold-blooded Vertebrates from the Olympic Mountains: Field Columbian Museum Publication 31, Zoological Series, Vol. 1, No. 12, 227, February, 1899, Crescent Lake, Washington. (Type, No. 2095, Field Columbian Museum.)

Page 572. *Myetophum gracilis* (Lütken) is reported by Lütken from Denmark Strait, west of Iceland.

Page 583. Before *Yarrella*, Goode & Bean, insert the following:

575 (a). *CYCLOTHONE MEGALOPS*, Lütken.

Together with a great number of *Cyclothone microdon* captured at station 12—64° 38' lat. N., 32° 37' long. W., 1,040 fathoms—there occurred a single specimen of a length of 70 mm., habitually looking much like the said species, but differing by the eyes not being particularly small, and by totally wanting the light glands or "photospheres." It can, therefore, apparently, hardly be referred to the same genus. The dorsal and anal fins are very like those of *C. microdon*, though with the difference that the dorsal fin begins somewhat before the anal fin, while this, on the other hand, ends somewhat farther back than the dorsal fin. Quite black. A somewhat larger specimen (105 mm.) from station 9—64° 18' lat. N., and 27° long. W., 295 fathoms—is so badly preserved that it gives only the information that the eyes are not small and that both jaws are armed with small teeth directed obliquely backward, with a few longer ones in the foremost part of the lower jaw and the foremost part of the palate or the intermaxillary. The nearer determination of this specimen must be reserved for a future discovery.

It seems evident that these specimens belong to species else unknown, but as the material is so scanty I shall limit myself to the short preliminary notes made above. (Lütken.)

Cyclothone (?) megalops, LÜTKEN, Ichth. Results Danish *Ingolf* Exped., Vol. II, 10, 1898, west of Iceland.

Page 617. *Maedonaldia rostrata* was taken in 1895 by the *Ingolf* expedition west of Iceland.

Page 669. After *Characodon variatus*, Bean, insert:

983 (a). *CHARACODON ENCAUSTUS*, Jordan & Snyder.

Head 4; depth $3\frac{1}{2}$; depth of caudal peduncle 8; eye 3 in head; snout 4; interorbital space $3\frac{1}{4}$; height of dorsal $4\frac{1}{2}$ in length; anal $6\frac{1}{4}$; length of pectoral $5\frac{1}{2}$; ventral $6\frac{1}{4}$; caudal $4\frac{1}{2}$; D. 16; A. 15; scales 35, 13 transverse series counting upward and forward from origin of anal, 9 on caudal

peduncle. Body deep, compressed, dorsal outline almost straight from snout to origin of dorsal, concave from the latter point to base of caudal; ventral outline evenly curved from snout to posterior part of base of anal; eye very large, nearer snout than to posterior edge of opercle by a distance equal to longitudinal diameter of pupil; mouth small, its width equal to $\frac{2}{3}$ diameter of pupil; maxillary protractile; lower jaw projecting; teeth in 2 series, the outer series small, bicuspid, in a single row, rather firmly attached; inner series minute, in small patches; gill-opening restricted, not extending above base of pectoral fin; gill-rakers slender, equal in length to $\frac{1}{2}$ diameter of pupil. Alimentary canal short; air-bladder large, extending posteriorly to a point above origin of anal; dorsal fin inserted halfway between tip of snout and base of caudal, length of base a little less than height of fin; anal inserted below middle of dorsal, its edge rounded; pectoral extending to base of ventrals; ventrals extending to vent. Scales on body large; upper posterior part of head and a narrow space below and posterior to eye with scales; other parts of head naked; small scales on basal part of caudal fin; a row of large pores above eye and at lower edge of suborbital patch of scales; no lateral line. Color in alcohol light, yellowish olive; 9 short and narrow vertical bands on median part of body, the first above base of pectoral, the ninth at base of caudal; scales on dorsal region of body edged with black dots; upper part of head dark; upper half of orbit black; opercles silvery; dorsal fin with a little dusky; other fins without dark color.

This species somewhat resembles *C. eiseni* in appearance. It differs in having more rays in the dorsal and anal fins, smaller scales, a more compressed body, and less dark color on the body. (Jordan & Snyder.)

Known only from Laguna de Chapala, near Ocotlan, Jalisco, Mexico, where J. O. Snyder collected the type, a female, No. 6163, L. S. Jr. Univ. Mus. (*εγκανστός*, branded.)

Characodon encastus, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 126, Laguna de Chapala, Mexico.

Page 685. After *Goodea atripinnis*, Jordan, insert:

313 (a). **XENENDUM**, Jordan & Snyder.

Xenendum, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 127 (*caliente*).

Body deep, not much compressed; males and females of about the same size. Eye normal; mouth vertical, lower jaw projecting; teeth loosely attached, in 2 series, the first series flat, bicuspid, in 2 or 3 rows on each jaw; the second series minute, in villiform bands, sometimes absent; gill opening not restricted, extending above the pectoral fin a distance equal to the diameter of pupil. Alimentary canal long, with many convolutions; air-bladder present, large. Scales large; no lateral line. Dorsal and anal inserted posteriorly, the one directly over the other, their bases short; anal very slightly modified in male, first rays shorter, edge double-convex—the notch being between smaller and larger groups of rays; ventral fins present; caudal rounded, and not modified in male.

Xenendum differs notably from *Characodon* in having the bicuspid teeth loosely attached and in more than one series. *Characodon* has the bicuspid

teeth firmly attached and in a single series. Its actual affinities are with the genus *Goodea*, and it belongs to the subfamily *Goodeinae*, which has the general characters of the *Pacilinae*, but with bifurcate or trifurcate teeth, and no great differences between the sexes. (*ξερός*, strange; *ἐνδόν*, within.)

1008 (b). *XENENDUM CALIENTE*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth $2\frac{1}{2}$; depth of caudal peduncle $5\frac{1}{2}$; eye 4 in head; snout 3; interorbital space 2; height of dorsal $5\frac{1}{2}$ in length; anal $6\frac{1}{2}$; length of pectoral 5; ventral $7\frac{1}{2}$; caudal 5; D. 13; A. 14; scales 36, in transverse series counting upward and forward from origin of anal, 14; on caudal peduncle, 9. Body large and thick set, deepest at tip of pectoral; width $4\frac{1}{2}$ times in length; head pointed; interorbital space broad, slightly convex; length of snout about equal to diameter of orbit; mouth vertical, its width equal to length of snout; maxillary very protractile; teeth loosely attached, in 2 series, those of the first series larger, flat, and notched, in 2 rows on upper jaw, 3 rows on lower, the individual teeth of each row alternating in position with those of the next, those of the second series very minute, in a villiform band; gill-opening not restricted, extending above the pectoral a distance equal to diameter of pupil; gill-rakers long, slender, and close together, 40 on first arch. Alimentary canal long (in one specimen $4\frac{1}{2}$ times the length of body), coiled many times; peritoneum black; genital opening close to base of anal, covered by a thick, notched pad. Dorsal fin inserted posteriorly, rounded, the base short, its length less than height of fin; anal inserted under dorsal, first 5 rays crowded together and shortened; edge of fin double-convex, the notch being between the shorter and longer sets of rays; pectorals and ventrals with rounded edges; caudal evenly rounded; body and head everywhere, except jaws and preorbital area, with scales; no lateral line. Color light olive, growing darker above; medium dorsal area blackish, each scale with a dark, angular band, those of the sixth series below the dorsal darker, making an indistinct, narrow lateral band; all the fins, except ventrals, dusky.

The females differ but slightly from the males. The body is more thick set, the caudal peduncle a little less deep, the fins a little lower, and the anal evenly rounded. The young are somewhat mottled in color.

Xenendum caliente differs from *X. luitpoldii* in having fewer scales in the lateral and transverse series and on the caudal peduncle, and in a similar way from *X. salisconé*, besides having villiform teeth, which are absent in *X. salisconé*. (Jordan & Snyder.)

Known only from Rio Verde, near Aguas Calientes, Mexico. (Type, a female, No. 6147, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Xenendum caliente, JORDAN & SNYDER, Bull U. S. Fish Com. 1899 (1900), 127, Rio Verde, near Aguas Calientes, Mexico.

Characodon luitpoldii, Steindachner (p. 2832) belongs to this new genus, and should stand as

1008 (b). *XENENDUM LUTTPOLDII* (Steindachner).

1008 (c). *XENENDUM XALISCO*, Jordan & Snyder.

Head $4\frac{3}{4}$; depth $3\frac{1}{2}$; depth of caudal peduncle $6\frac{1}{2}$; eye $3\frac{1}{2}$ in head; snout 3; interorbital space $1\frac{3}{4}$; height of dorsal $6\frac{1}{2}$ in length; anal 9; length of pectoral $5\frac{1}{4}$; ventral $7\frac{1}{2}$; caudal 5; D. 13; A. 14; scales 42, transverse series, counting upward and forward from origin of anal, 17; on caudal peduncle 12. Body thick set, deepest at origin of ventrals, widest at bases of pectorals; caudal peduncle deep and long; head large and pointed; interorbital space broad, slightly convex; mouth vertical, its width equal to length of snout; maxillary very protractile; teeth loosely attached, broader at distal ends than at bases, bicuspid, in two rows on each jaw; no villiform teeth present; gill openings extending above base of pectorals a distance about equal to diameter of pupil; gill-rakers long, flat, very close together, 56 on first arch. Alimentary canal long, in many folds; peritoneum black. Dorsal fin inserted posteriorly, first ray simple, closely attached to second; edge of fin rounded; anal inserted on a vertical passing through the base of fourth dorsal ray, similar to dorsal in shape; pectoral and ventral fins rounded; edge of caudal a little convex; basal fourth with scales. Scales large, everywhere on body and head, except lower jaw and preorbital area; no lateral line. Color plain, dark above, light below, the dark color leaving off rather abruptly on the head along a line passing through lower edge of eye; on the body, along a line passing from lower edge of base of pectoral to caudal, leaving lower one-fifth of caudal peduncle light; faint traces of a dark spot at base of each scale on dorsal region of body; all the fins, except ventrals, dusky. Laguna de Chapala, Mexico.

One male individual was taken. It resembles the female in general appearance. The anal fin is not advanced nor modified into an intromittent organ. Although it is injured, it shows that the first 5 or 6 rays were close together and shortened.

Xenendum xaliscone differs from *X. caliente* in not having villiform teeth, in having more scales in the lateral and transverse series, and on the caudal peduncle. It differs from *X. luitpoldii* (Steindachner), which is the third known species of the genus, in having a much longer snout, a more pointed head, and in not having villiform teeth. (Jordan & Snyder.)

Known only from Laguna de Chapala, near Ocotlan, Jalisco, Mexico. (Type, a female, No. 6148, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

(Name from Jalisco, the type locality.)

Xenendum xaliscone, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 129, Laguna de Chapala, Mexico.

Page 698. Before *Mollienisia*, Le Sueur, insert:

1037 (a). *POECILIA LIMANTOURI*, Jordan & Snyder.

Head $3\frac{1}{2}$ in length; depth 3; depth of caudal peduncle $4\frac{3}{4}$; eye $3\frac{1}{2}$ in head; snout 3; interorbital space 2; height of dorsal $5\frac{1}{2}$ in length; anal $4\frac{1}{2}$; length of pectoral $4\frac{1}{2}$; ventral 6; caudal $3\frac{1}{2}$; D. 9; A. 8; scales 26-9, 8 on caudal peduncle. Body rather deep and compressed; dorsal outline angular, its highest point at insertion of dorsal; lowest point of

ventral outline at base of ventrals. Head pointed, interorbital space wide and flat; eye large, nearer tip of snout than to posterior edge of opercle by a distance equal to diameter of pupil; mouth very oblique, its width equal to 2 times diameter of pupil; premaxillaries protractile; distal end of maxillary visible; lower jaw projecting; teeth in two series on each jaw, the outer series in a single row, small, pointed, loosely attached; second series scarcely discernible, in bands; gill-openings extending above base of pectoral a distance equal to $\frac{1}{2}$ diameter of orbit; gill-rakers on first arch 20, small and slender; alimentary canal very long and slender. Body and entire head, except preorbital area, lips, and lower jaw, covered with large scales; 3 rows of scales on base of caudal; small scales extending on inter-radial membranes of caudal, a distance beyond the basal scales about equal to diameter of the eye. Dorsal fin inserted halfway between base of caudal and anterior edge of pupil, its base contained $6\frac{1}{2}$ times in length of head and body, its height $5\frac{1}{2}$, the last rays a little higher than the first; anal advanced close to base of ventrals, the first and second rays short, closely attached to the next, third ray greatly enlarged and lengthened, a loosely attached ovate, fleshy pad near its tip; fourth and fifth rays slender, as long as third; tips of third and fifth rays bent toward that of the fourth; sixth to eighth rays about $\frac{1}{2}$ as long as third; caudal rounded, its length contained $3\frac{1}{2}$ times in head and body; pectoral rounded, the length contained $1\frac{1}{2}$ times in head; ventrals pointed, extending to middle of longest anal ray. Color in alcohol, light yellowish olive, much lighter on breast and ventral part of head; posterior edges of scales dark; lower jaw, preorbital area, upper part of head, and a narrow, median dorsal stripe, dark; basal $\frac{2}{3}$ of dorsal fin black, distal part of fin white, the boundary between the white and black more definite on the anterior than on posterior part of fin; basal $\frac{2}{3}$ of caudal dusky, distal part without color.

Other male examples have only a few small dark spots on dorsal and caudal. The females have the body more elongate than the males, the depth of the caudal peduncle $5\frac{1}{2}$ in length. The dorsal fin is inserted in advance of the anal, its origin above anal opening, the first rays highest. The ventrals extend to the posterior edge of the vent, but do not reach the anal. The dorsal and caudal have a little dusky coloring.

Lack of material for comparison prevents our commenting on the probable affinities between this and other species of the genus. (Jordan & Snyder.)

Known only from Rio Tamesoc, near Tampico, Tamaulipas, Mexico, where several specimens were collected January 12, 1899, by Mr. Snyder. (Type, a female, No. 6165, U. S. Jr. Univ. Mus.)

(Named for Jose Limantour, the accomplished minister of the "Hacienda" in Mexico.)

Poecilichthys limantouri, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 129, Rio Tamesoc, near Tampico, Mexico.

Page 702. Before *Xiphophorus guntheri*, Jordan & Evermann, insert:

1043 (a). *XIPHOPHORUS MONTEZUMAE*, Jordan & Snyder.

Head 4; depth 3; depth of caudal peduncle 4; eye $3\frac{1}{2}$ in head; snout $3\frac{1}{2}$; interorbital space 2; height of dorsal $3\frac{1}{2}$ in length; anal 5; length of

pectoral $4\frac{1}{2}$; ventral $4\frac{1}{2}$; upper rays of caudal $3\frac{1}{2}$, lower rays $1\frac{1}{10}$; D. 13; A. 7; scales 29-9, 7 on caudal peduncle. Body deep, compressed, dorsal contour arched, its highest point at insertion of dorsal; caudal peduncle narrow and very deep; head small, pointed; interorbital space wide, slightly convex; eye large, a little nearer tip of snout than to posterior edge of opercle; mouth vertical; teeth in two series, the first in a single row, minute, flat, and pointed, the second in a villiform band, much smaller and narrower than the first, brownish-colored, strongly curved backward; gill opening extending above base of pectoral a distance equal to diameter of pupil; gill-rakers on first arch 19, slender, the length of longest equal to half diameter of eye; intestinal tract slender and long; peritoneum black; scales on head and body large, 1 large, round scale on interorbital space, followed by 2, a row of 11 from the latter to first dorsal ray; 3 rows on base of caudal fin; base of dorsal fin short, $4\frac{1}{2}$ in body, first ray shortest, the others graduated to the eighth, which is longest; ninth, tenth, and eleventh shorter; twelfth and thirteenth longer; the abrupt shortening of the ninth, tenth, and eleventh rays makes a notch in the outline of fin; anal advanced, its origin under third ray of dorsal; first ray greatly enlarged and lengthened; second and third equally lengthened, but more slender, these three with their connecting membranes forming a half tube with a pointed end; other rays half the length of first; upper lobe of caudal rounded, 5 lower rays forming a very long, blunt appendage; ventrals pointed, extending almost to tip of anal; pectoral sharply rounded; color yellowish olive, marked with black; during life there were 4 narrow, longitudinal orange bands, each extending along a row of scales on body; top of head, and a median dorsal band extending to caudal, dusky; a narrow, dusky band on edge of lower jaw; 2 short, vertical bands on snout; 6 upper rows of scales edged with black or dusky; a few black spots irregularly arranged on body above ventrals; a large black spot at base of caudal, its color extending along upper edge of prolongation; a dark line extending along lower edge of caudal peduncle to end of lower caudal rays, the caudal extension with a light central portion bordered with black, the lower border wider; underpart of head and belly without dark color; dorsal fin with black dots and lines; pectorals, ventrals, and anal plain.

Considerable variation in shape of fins and in color is shown among other male examples (cotypes, males and females, No. 6146, L. S. Jr. Univ. Mus.). In some the fins are low and short, the caudal ornament represented only by a slight lengthening of the lower rays. Among individuals, apparently fully grown, there is every graduation from the undeveloped to the very long caudal extension. In every case the scales are conspicuously dark edged. In some examples black spots, crowded together, form a more or less dark line from eye to caudal, while below this line are large, irregular black blotches. Others have no black spots, and the dark caudal patch has almost disappeared.

The females have the fins low or short, and without special modifications, the posterior edge of caudal 2-shaped, the upper part rounded, the lower pointed, the scales dark edged; a narrow, indefinite, dark color band usually present along median line of sides; the dark caudal patch

rarely absent. Fully grown males are scarce, a large catch consisting mostly of females and young.

Xiphophorus montezumae is distinguished from the other known species of the genus by having 7 anal rays, the scales with conspicuous dark edges, a large brown caudal spot, and the caudal appendage not sword-shaped, but with its end enlarged and blunt. (Jordan & Snyder.)

Known only from Rio Verde, near Rascon, San Luis Potosi, Mexico. (Type, a male, No. 6145, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Xiphophorus montezumae, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 131, Rio Verde, near Rascon, Mexico.

Page 702. The recent studies of the eyes of American blind fishes by Dr. C. H. Eigenmann have shown that the species occurring in the caves of southwestern Missouri which has usually been identified as *Typhlichthys subterraneus*, Girard, but which Dr. Eigenmann described as a new species under the name *Typhlichthys rosea* (p. 2835), has had an ancestry quite distinct from that of *Typhlichthys*. It therefore is generically distinct from *Typhlichthys*, and has been made the type of the new genus *Troglichthys* by Eigenmann.

322 (a). TROGLICHTHYS, Eigenmann.

Troglichthys, EIGENMANN, Science, N. S., Vol. IX, No. 217, p. 282, Feb. 24, 1899 (*rosea*).

Scleral cartilages present, pigment in the pigment epithelium; vitreal cavity obliterated, no hyaloid membrane; pupil closed, some of the eye muscles developed; no outer reticular layer; outer and inner nuclear layers merged into one; eye in adult not connected with the brain; pigment epithelium developed on the distal face of the eye, rarely over the sides and back; no cones; nuclear layers mere vestiges; ganglionic layer restricted to the anterior face of the eye just within the pigmented epithelium. Maximum diameter of eye about 85μ . No ventral fins. (*Τρόγλις*, cavern; *ἰχθύς*, fish.)

The genera and species of Amblyopsidae may be determined by the following key (from Eigenmann), based largely on the character of the eyes:

- a. Vitreous body and lens normal, the eye functional; no scleral cartilages; eye permanently connected with the brain by the optic nerve; eye muscles normal; no optic fiber layer. Minimum diameter of the eye 0.700μ . No ventral fins.
CHOLOGASTER, 321.
- b. Eye in adult more than 1 mm. in longitudinal diameter; lens over 0.5 mm. in diameter; retina very simple, its maximum thickness 83.5μ in the old; the outer and inner nuclear layers consisting of a single series of cells each; the ganglionic layer of isolated cells. Maximum thickness of the outer nuclear layer 5μ , of the inner nuclear layer 8μ .
CORNUTUS, 1044.
- bb. Eye in adult less than 1 mm. in longitudinal diameter; lens less than 4 mm.; outer nuclear layer composed of at least 2 layers of cells; inner nuclear layer of at least 3 layers of cells, the former at least 10μ thick, the latter at least 18μ .
c. Pigment epithelium 65μ thick in the middle-aged, 102μ in the old.
PAPILLIFERUS, 1046.
- cc. Pigment 49μ thick in the middle-aged, 74μ in the old; 24 to 30 per cent thinner than in papilliferus; eye smaller.
AGASSIZI, 1045.

aa. The eye a vestige, not functional; vitreous body and lens mere vestiges, the eye collapsed, the inner faces of the retina in contact. Maximum diameter of eye about 200μ .

d. No scleral cartilages, no pigment in the pigment epithelium; a minute vitreal cavity; hyaloid membrane with blood vessels; pupil not closed; outer nuclear, outer reticular, inner nuclear, inner reticular, ganglionic, and pigment epithelial layers differentiated; cones probably none; no eye muscles. Maximum diameter of eye 180μ . Eye probably connected with brain throughout life.

TYPHLOCHTHYS, 322.

dd. Scleral cartilages present; pigment in the pigment epithelium; vitreal cavity obliterated, no hyaloid membrane; pupil closed; some of the eye muscles developed; no outer reticular layer; outer and inner nuclear layers merged into one. Eye in adult not connected with the brain.

e. Pigment epithelium well developed; cones well developed; ganglionic cells forming a funnel-shaped mass through the center of the eye; pigmented epithelium over the front of the eye without pigment. Maximum diameter of eye about 200μ . Ventral fins present.

AMBYLOPSIS, 323.

ee. Pigment epithelium developed over the distal face of the eye, rarely over the sides and back; no cones; nuclear layers mere vestiges; the ganglionic layer restricted to the anterior face of the eye, just within the pigmented epithelium. Maximum diameter of the eye about 85μ . No ventral fins.

TROGLICHTHYS, 322 (a).

Page 744. To the synonymy of *Eucalia inconstans* (Kirtland), add the following:

Gasterosteus gymnetes, DAWSON, Canadian Naturalist, Vol. IV, No. 5, October, 1859, 321-324, figs. 1-3, Montreal, Canada. (Coll. Prof. J. W. Dawson.)

Page 789. Recent investigations made by Dr. Jordan in certain fresh-water streams and lakes of Mexico resulted in the discovery of several new species of *Atherinidae* and new facts regarding other species:

1157. ESLOPSARUM JORDANI (Woolman).

Locality, Rio Verde, Aguas Calientes, Mexico.

Two specimens of *Eslopsarum jordani* were collected, together with numerous individuals of *E. arge*. *Chirostoma breve*, Steindachner, is probably identical with *E. jordani*, as already supposed by us.

An examination of a number of species of *Eslopsarum* and of *Chirostoma* shows that the number of vertebrae, in addition to the character of the scales, furnishes a distinguishing generic feature.

Species.	Vertebrae.
<i>Eslopsarum jordani</i>	38
<i>arge</i>	37
<i>Chirostoma humboldtianum</i>	44
<i>chapale</i>	45
<i>promelas</i>	45
<i>diazi</i>	44
<i>crystallinum</i>	44
<i>lernae</i>	44
<i>ocotlane</i>	44

Chirostoma contains two very marked types of species. The one represented by the typical species, *Chirostoma humboldtianum*, has the flesh firm

and opaque in life. The other (*Lethostole*), typified by *Chirostoma estor*, has the flesh thin, translucent, and very pale. There are correlated differences in the firmness of the bones and scales, but thus far we have found no tangible character on which to separate *Lethostole* as a genus from *Chirostoma*. The known species of *Lethostole* are *estor*, *album*, *chapala*, *grandocule*, *promelas*, *diazii*, *crystallinum*, *lermae*, and *ocotlane*.

1157 (a). *ESLOPSARUM ARGE*, Jordan & Snyder.

Head $4\frac{1}{2}$; depth $4\frac{1}{2}$; depth of caudal peduncle $2\frac{3}{4}$ in head; eye $3\frac{3}{8}$; snout 3; interorbital space $3\frac{1}{4}$; height of spinous dorsal $3\frac{1}{4}$; soft dorsal 2; anal 2; length of pectoral $1\frac{1}{2}$; ventrals $2\frac{1}{2}$; caudal $1\frac{1}{4}$; D. IV-8; A. 15; P. 13; scales 40-11, 5 between the dorsals. Body rather thickset, its deepest part just anterior to base of ventrals; width of body equal to distance from posterior edge of orbit to tip of snout; eye nearer to tip of snout than to posterior edge of opercle by a distance equal to diameter of pupil; interorbital space convex; width of preorbital area equal to diameter of pupil; tip of lower jaw projecting beyond that of upper; mouth large, oblique; lips not much thickened posteriorly, the lower not distinctly folded over the upper at their angle; maxillary extending posteriorly to a perpendicular passing through anterior edge of orbit, its distal end below the level of eye; teeth large, sharp, projecting backwards, in 2 definite rows on each jaw, none on vomer or palatines; gill-rakers on first arch 14, long and slender; air-bladder extending posteriorly to a point a little past insertion of anal; peritoneum black; vertebrae 37. Lateral line represented on the fifth row of scales below the dorsal by a series of partly developed pores; scales large, entire, covering head and body except snout, lower jaw, preorbital area, and a small space around base of pectoral; small scales extending for a short distance on interradial membranes of caudal; first 3 dorsal spines of about the same height, the fourth shorter; first dorsal ray longest, the others gradually shorter; edge of fin straight; anal inserted on a perpendicular, passing halfway between dorsals, its first ray longest; edge of fin slightly concave; caudal notched, the tips and notch rounded, extending to bases of ventrals; ventrals falling short of vent a distance equal to diameter of orbit. Color in life, translucent: a silvery lateral band with its upper edge dark, extending from upper part of base of pectoral to base of caudal, the band less distinct in the region of the pectoral fin; scales of back edged with fine, dark specks; snout, lower jaw, top of head, and upper part of eye dusky; dorsal and caudal fins with a little dusky coloring.

Specimens of *E. arge* were caught in the same seine-haul with *E. jordani*. The former species differs from the latter in having a thicker body, a longer snout, a larger and less oblique mouth, a larger eye, and a wider color band.

In the drawing accompanying the original description of *Eslopsarum jordani* the mouth is wrongly represented. Of the specimens examined, including some of the types, the mouth is much like that of *Chirostoma humboldtianum*. The cleft is not straight in outline. The lower lip folds over the upper at their union. (Jordan & Snyder.) (*arge*, silvery.)

Known only from the Rio Verde, near Aguas Calientes, Mexico. (Type, No. 6154, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Esloparum arge, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 133, Rio Verde, near Aguas Calientes, Mexico.

1157 (b). *CHIROSTOMA CHAPALE*, Jordan & Snyder.

Head 4; depth $5\frac{1}{2}$; depth of caudal peduncle 3 in head; eye $3\frac{3}{8}$; snout $3\frac{1}{8}$; interorbital space 4; height of spinous dorsal 3; soft dorsal $1\frac{3}{4}$; anal $1\frac{3}{8}$; length of pectoral $1\frac{1}{4}$; ventrals $2\frac{3}{8}$; caudal $\frac{9}{16}$; D. IV-10; A. 20; pectoral 14; scales 47-13, 6 between dorsals. Body slender, compressed, its deepest part below first dorsal; eye large, nearer tip of snout than to posterior edge of opercle by a distance equal to $1\frac{1}{2}$ times the diameter of pupil; interorbital space convex, its width about equal to diameter of pupil or to preorbital area; symphysis of lower jaw projecting a little beyond tip of upper, the lips meeting; mouth oblique, lips thickened posteriorly, the lower folding over the upper at their union; angle of mouth on a level with center of pupil; maxillary nearly vertical, its distal end in advance of a vertical from anterior edge of orbit, a distance equal to $\frac{2}{3}$ the diameter of pupil. Teeth minute, in bands, not arranged in definite rows; no teeth on vomer or palatines; gill-rakers on first arch 30, very slender, the length of longest equal to diameter of orbit; peritoneum black; air-bladder very large, extending posteriorly to a point above middle of anal fin; vertebrae 45. A well-defined lateral line extending along the body on the eighth row of scales below the first dorsal. Scales large, crenate, not notably reduced in size nor closely crowded together on any part of the body; those on post-occipital region and anterior to pectorals small; scales extending on basal $\frac{2}{3}$ of inter-radial membranes of caudal; lower jaw, snout, and preorbital space naked; first 2 spines of dorsal highest, the following 2 a little shorter; first ray of second dorsal highest, others gradually shorter; anal inserted a little anterior to a perpendicular passing halfway between the origins of dorsals, first ray longest, others successively shorter; when the fin is elevated, its edge is concave; caudal deeply forked, the tips pointed; pectoral notably pointed, extending past base of ventral a distance equal to diameter of orbit; ventrals extending to vent. Color in life, translucent; a silvery lateral band 1 scale wide, bright, and distinct posteriorly, becoming indistinct anteriorly; upper edge of lateral band with dusky: scales on dorsal part of body edged with dark dots; upper and lower jaws with dark dots; upper part of eye black, the dark, pigmented arachnoid showing through the thin skull. (Jordan & Snyder.)

C. chapale is closely related to *C. grandocule*, Steindachner. It differs in having a smaller eye and larger scales. The former has 44 to 51 scales in the lateral series, and 12 to 14 in a transverse series, while *C. grandocule* has 60 to 62 scales in the lateral series and 15 or 16 in a transverse series.

Known only from Laguna de Chapala, near Ocotlan, Jalisco, Mexico. (Type, No. 6165, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Chirostoma chapale, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 135, Laguna de Chapala, Mexico.

1157 (c). *CHIROSTOMA PROMELAS*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth $4\frac{1}{2}$; depth of caudal peduncle $3\frac{1}{2}$ in head; eye $5\frac{1}{2}$; snout $2\frac{1}{2}$; interorbital space $4\frac{1}{2}$; height of spinous dorsal $3\frac{1}{2}$; soft dorsal $2\frac{1}{2}$; anal 2; length of pectoral $1\frac{1}{2}$; ventral $2\frac{1}{2}$; caudal $1\frac{1}{2}$; D. IV-11; A. 19; pectoral 15; scales 53-16, 9 between dorsals. Head slender, triangular; eye small, nearer tip of snout than to edge of opercle by a distance equal to half diameter of pupil; width of preorbital area somewhat greater than diameter of pupil; interorbital space slightly convex; snout pointed; upper jaw projecting a little beyond the lower; cleft of mouth almost horizontal; lips enlarged posteriorly, the lower lip folding over the upper at their junction; angle of mouth on a level with lower part of pupil; maxillary almost vertical in position, its distal end not extending backward as far as anterior edge of orbit; teeth large, curved inward, not arranged in definite rows; none on vomer or palatines; vertebrae 45. A tolerably well-defined lateral line extending along the body about 8 scales below the first dorsal, the pores absent on some of the scales; scales crenate, largest along lateral color band; a post-occipital patch of minute, closely-crowded scales extending backward nearly to a line connecting bases of pectorals; a narrow band of similar scales just posterior to gill-openings, and on base of caudal, the latter extending on inter-radial membranes half their length; scales between dorsals not abruptly smaller than those near by, nor crowded closely together; head with scales except on snout, preorbital region, and on lower jaw; first 3 spines of dorsal nearly equal in length, the fourth a little shorter; first dorsal ray longest, the others gradually shorter; anal inserted on a perpendicular passing midway between dorsals, first ray longest, others successively shorter; edge of fin slightly concave; pectoral pointed; extending beyond base of ventrals a distance equal to diameter of pupil; ventrals not quite reaching vent. Color in alcohol, yellowish olive; a distinct silvery lateral band, the light color of which is underlaid with dark pigment, extending from upper part of base of pectoral to caudal, wider and brighter in color between dorsal and anal, growing narrower on caudal peduncle, widening at its end; scales of upper part of body with dusky coloring on their edges; dorsals, pectoral, and caudal with dark color; eye dusky above, a dark band on interorbital space; snout and jaws black.

Chirostoma promelas is distinguishable from other known species of the genus by the projecting upper jaw and the black snout.

One specimen other than the type was obtained. In it the projection of the upper jaw is more pronounced than in the type. The gill-rakers and abdominal viscera had been removed from both. (Jordan & Snyder.)

Known only from Guadalajara, Jalisco, Mexico, where 2 specimens were obtained in the market. (Type, No. 6156, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.) ($\chi\rho\acute{o}$, before; $\mu\epsilon\lambda\acute{\alpha}\varsigma$, black.)

Chirostoma promelas, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 136, Guadalajara, Mexico.

1157 (d). *CHIROSTOMA DIAZI*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth 5; depth of caudal peduncle $3\frac{1}{2}$ in head; eye $5\frac{1}{2}$; snout $2\frac{1}{2}$; interorbital space $4\frac{1}{2}$; height of spinous dorsal $4\frac{1}{2}$; soft dorsal $2\frac{1}{2}$; anal $2\frac{1}{2}$; length of pectoral $1\frac{3}{4}$; ventral 3; caudal $1\frac{3}{4}$; D. V-11; A. 20; P. 15; scales 69-20, 22 between dorsals. Body long, deeper and more compressed than that of *C. humboldtianum*; head large, its dorsal contour straight from tip of snout to occiput; viewed from above, the head is much compressed, the upper jaw is sharply pointed and included by the lower; interorbital space slightly convex; eye nearer tip of snout than to edge of opercle by a distance equal to diameter of pupil; preorbital area a little wider than diameter of orbit; mouth oblique, its cleft extending to a horizontal from lower edge of orbit; lips thickened posteriorly, the lower forming a fold across the upper at angle of mouth; lower jaw projecting, the teeth just passing the edge of the upper; maxillary extending to a vertical from anterior edge of orbit, its distal end angular; teeth large anteriorly, growing gradually smaller posteriorly, canine-like, sharp, projecting backward, not arranged in definite rows, none on vomer or palatines; vertebrae 41. Scales crenate, larger in region of lateral color band, growing smaller dorsally and ventrally, abruptly smaller and closely crowded together in a region anterior to the pectoral fin, extending from the isthmus to the occiput, also between the dorsal fins and along bases of dorsals, anal and caudal; inter-radial membranes of the latter with scales extending $\frac{2}{3}$ its length; head with scales except on jaws, upper part of snout, and on preorbital area; two anterior spines of dorsal longest, others a little shorter; first dorsal ray longest, others gradually shorter; anal similar to soft dorsal in shape, except that its base is much longer; insertion of anal on a perpendicular passing halfway between dorsals; caudal deeply forked, the lobes pointed; pectoral sharp, extending past base of ventrals a distance equal to diameter of orbit; edge of pectoral, when extended, straight. Body, during life, translucent; in alcohol, greenish olive; a silvery lateral band, in which the silver is not underlaid with black pigment, extending from axil to base of caudal; dorsal scales narrowly edged with dusky; upper part of eye dark. Jalisco, Mexico.

Our specimens are all from the market at Guadalajara. The gill-arches and viscera had been removed. The flesh is somewhat shrunken, which probably causes the teeth to appear more prominent than in life.

Chirostoma diazi may be easily distinguished from the other known species of the genus by the small scales crowded closely together between the dorsal fins. (Jordan & Snyder.)

Known only from the market at Guadalajara, Jalisco, Mexico. (Type, No. 6157, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

(Named for Porfirio Diaz, the honored President of the Republic of Mexico, in recognition of his interest in the progress of science.)

Chirostoma diazi, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 137, Guadalajara, Mexico.

1157 (c). *CHIROSTOMA CRYSTALLINUM*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth $4\frac{1}{2}$; depth of caudal peduncle $3\frac{1}{2}$ in head; eye $5\frac{1}{2}$; snout $2\frac{1}{2}$; interorbital space $1\frac{1}{2}$; height of spinous dorsal $4\frac{1}{2}$; soft dorsal $2\frac{1}{2}$; anal $2\frac{1}{2}$; length of pectoral $1\frac{1}{2}$; ventral $2\frac{1}{2}$; caudal $1\frac{1}{2}$; D. V-13; A. 24; P. 15; scales 56-18, 10 between dorsals. Body deepest above ventrals, widest at insertion of pectorals; head long and pointed, its upper contour straight; snout, viewed from above, sharply pointed, the lower jaw projecting beyond upper a distance equal to not more than half diameter of orbit; eye nearer tip of snout than to posterior edge of opercle a distance equal to diameter of pupil; mouth oblique, the cleft extending downward to a level with lower edge of pupil; lips thickened posteriorly, the lower folding over the upper at angle of mouth; teeth minute, in wide patches, not arranged in definite rows, on upper and lower jaws; no teeth on vomer or palatines; gill-rakers on first arch 27, slender, the length of longest equal to diameter of pupil; vertebrae 44. An indefinite lateral line extending along the body about 9 scales below first dorsal, the pores absent on many of the scales; scales crenate, largest along color-band, growing smaller above and below, much smaller and closely crowded on the body anterior to the pectoral fin, from the isthmus to the occiput; a few small scales at upper end of opercle, along bases of fins, and on the inter-radial membranes of caudal for half its length; scales between dorsals large and not crowded together; lower jaw and upper part of snout naked; first 3 spines of dorsal about the same length, reaching, when depressed, to $\frac{1}{2}$ their length of insertion of soft dorsal; first dorsal ray longest, others gradually shorter; anal inserted on a perpendicular passing through a point half way between origins of dorsals, base much longer than that of dorsal; first dorsal ray longest, others gradually shorter to middle of fin, all remaining rays of about the same height; caudal deeply forked, the tips rounded; pectoral pointed, extending a little past base of ventrals; tips of ventrals extending to vent. Body, during life, translucent, with a slightly bluish tinge; in alcohol, yellowish; upper scales with dusky edges; top of head dusky; upper part of eye dark; fins, except ventrals and anal, with a little dusky color; a silvery color band extending from upper part of pectoral base to caudal, narrower on caudal, widening at base of caudal.

C. crystallinum closely resembles *C. ocotlane* in general appearance. The much shorter lower jaw and the smaller eye of *C. crystallinum* are at once distinguishing characters. (Guadalajara and Laguna de Chapala, Mexico. (Jordan & Snyder.)

Two specimens from the Guadalajara market are shrunk so that the orbit is larger, and the teeth more evident than in those taken at Ocotlan.

Known from Laguna de Chapala, near Ocotlan, Jalisco, Mexico, and the market at Guadalajara. (Type, No. 6158, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Chirostoma crystallinum, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 139, Laguna de Chapala, Mexico.

1157 (f). *CHIROSTOMA LERME*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth $5\frac{1}{2}$; depth of caudal peduncle $3\frac{3}{4}$ in head; eye $5\frac{1}{2}$; snout $2\frac{3}{4}$; interorbital space $5\frac{1}{2}$; height of spinous dorsal $4\frac{1}{2}$; soft dorsal $2\frac{1}{2}$; anal $2\frac{1}{2}$; length of pectoral $1\frac{3}{4}$; ventrals 3; caudal $1\frac{3}{4}$; D. IV-11; A. 20; scales 58-20, 11 between dorsals. Body slender, deepest part in region of ventrals; caudal peduncle narrow; snout long and pointed; lower jaw slightly projecting, but not enough to include the upper; eye large, nearer tip of snout than to posterior edge of opercle, a distance equal to diameter of orbit, or to width of preorbital space; cleft of mouth extending to a horizontal through lower edge of orbit; lower lip folded over the upper at their union; maxillary extending posteriorly almost to a perpendicular from anterior edge of orbit, its distal end angular; teeth large and strong, curved backward and inward, arranged in 2 definite rows, those of the inner row of the upper jaw and of the outer row of the lower jaw larger, none on vomer or palatines; vertebrae 44. An indefinite lateral line extending along body about 10 scales below first dorsal, the pores absent on many of the scales; scales crenate, largest along the lateral color-band, much smaller between occiput and first dorsal, those immediately posterior to occiput, minute and very closely crowded; a narrow edging of similar scales along the gill-openings, extending ventrally to the isthmus; scales between dorsals not much reduced in size or crowded together; basal half of inter-radial membranes of caudal with scales; first 2 spines of dorsal longest, third shorter, fourth about $\frac{2}{3}$ as long as the first; first dorsal ray longest, others gradually shorter, edge of fin straight; insertion of anal on a perpendicular passing through a point half way between origins of dorsals, first ray longest, others successively shorter, last ray one-third the length of first; caudal deeply forked, its tips rather pointed; pectoral pointed, extending beyond origin of ventrals a distance equal to diameter of pupil; ventrals reaching vent. Color in alcohol, light olive, a silvery lateral band equal to a scale in width extending from upper part of base of pectoral to base of caudal; edges of upper scales dusky; a little dark color on dorsals, caudal, and pectoral; upper and lower jaws and top of head with minute dark dots; upper part of eye dark.

C. lermæ closely resembles *C. crystallinum*. It differs markedly in having large teeth, which are arranged in two rows, a shorter lower jaw and a larger eye. Jalisco, Mexico. (Jordan & Snyder.)

Our specimens of *C. lermæ* are all from the market of Guadalajara. The gill-arches and viscera had been removed and the bodies were somewhat shrunken. The specimens are said to have come from Laguna de Chapala, Jalisco, Mexico. (Type, No. 6159, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Chirostoma lermæ, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 140, Guadalajara, Mexico.

1157 (g). *CHIROSTOMA OCOTLANE*, Jordan & Snyder.

Head $3\frac{1}{2}$; depth $4\frac{1}{2}$; depth of caudal peduncle $3\frac{1}{2}$ in head; eye $4\frac{1}{2}$; snout $2\frac{3}{4}$; interorbital space 5; height of spinous dorsal $3\frac{1}{2}$; soft dorsal $2\frac{1}{2}$; anal 2; length of pectoral $1\frac{3}{4}$; ventral $2\frac{1}{2}$; caudal $1\frac{1}{2}$; D. V-12; A. 20; scales 51-19, 11 between dorsals. Body long, rather slender, deepest above

Bull. No. 47, pt. 4—IX

ventrals; head long, pointed, its dorsal contour straight from tip of snout to a point a little posterior to the eye, where it curves upward; interorbital space flat; eye high up, nearer tip of snout than edge of opercle by a distance about equal to diameter of pupil; width of pre-orbital space equal to diameter of pupil; mouth oblique, the cleft extending downward to a point opposite lower edge of pupil; lips growing more fleshy posteriorly, the lower forming a fold across the upper at their junction; distal end of maxillary angular, extending almost to a vertical from anterior edge of orbit; lower jaw very long, projecting beyond upper a distance equal to diameter of pupil; viewed from above, both jaws are a little more pointed than are those of *C. estor* or of *C. humboldtianum*. Teeth on jaws in bands, minute, projecting backward; no teeth on vomer or palatines; gill-rakers slender, close together, length of longest equal to diameter of pupil; vertebrae 44. A rather indefinite lateral line extending along body, 10 scales below the first dorsal, the pores absent on many of the scales; scales crenate, growing smaller dorsally, larger ventrally, those on posterior part of occiput, on nape, on region anterior to pectorals—above and below, and on base of caudal, very small and crowded together, those in the region of dorsals not reduced in size or crowded except at insertion of fins, where there are 4 very small ones; cheek with 5 rows; lower jaw and upper part of snout naked; basal half of inter-radial membranes of caudal with minute scales; first 3 spines of dorsal highest, extending when depressed within half their length of origin of soft dorsal; first dorsal ray preceded by a shorter, simple, closely attached one; other rays successively shorter than first; edge of fin slightly concave; anal similar to soft dorsal in shape, its basis $1\frac{1}{2}$ times as long as that of soft dorsal; attachment of first ray under a point half way between insertions of dorsals; caudal deeply forked, the lobes equal; pectoral pointed when depressed, upper rays longest, extending to a vertical half way between insertions of first dorsal and ventrals. Body, during life, almost translucent, with a bluish tinge of color; in alcohol, the color is a light olive yellow; a silvery lateral band extending from axil to base of caudal, the band wider and brighter in color between dorsal and anal, growing narrow on caudal peduncle and then widening again at its posterior end. Head and body above, and the lower jaw, dusky; upper part of eye dark; edge of scales above lateral band with small black dots; caudal somewhat dusky on its basal third; other fins with little or no dark color.

Chirostoma ocotlane is easily distinguished from all other known species of the genus by its excessively long lower jaw. Except the jaw and somewhat larger eye it resembles *C. estor* in general appearance. Laguna de Chapala, Mexico. (Jordan & Snyder.)

Known only from Laguna de Chapala, near Ocotlan, Mexico. (Type, No. 6160, U. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Chirostoma ootlane, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 141, Laguna de Chapala, near Ocotlan, Mexico.

1154. *CHIROSTOMA ESTOR*, Jordan.

We have examined the type specimen of *Chirostoma estor*. The scales are small and closely crowded on the region anterior to the pectoral from the occiput to the isthmus; they are not much reduced in size nor closely crowded together between the dorsals. The teeth on the jaws are large and numerous, not arranged in definite rows; there are 3 vomerine teeth almost as large as those on the jaws.

Some exact measurements of the type, expressed in hundredths of the length of the body, are here given:

Length of body in millimeters 212; depth of caudal peduncle $7\frac{1}{2}$; length of head $31\frac{1}{2}$; distance from snout to occiput 23; tip of lower jaw to occiput 24; width of interorbital space 7; length of snout 12; diameter of orbit $5\frac{1}{2}$; distance from snout to spinous dorsal $56\frac{1}{2}$; insertion of spinous to soft dorsal $12\frac{1}{2}$; height of longest dorsal spines 7; of longest dorsal rays 11; distance from snout to anal $62\frac{1}{2}$; height of longest anal rays 12; distance from anal to caudal 22; length of caudal fin $18\frac{1}{2}$; of pectoral fin 17; distance from snout to ventral $45\frac{1}{2}$; length of ventral fin $10\frac{1}{2}$; D. V-12; A. 18; P. 14; scales 72-19, 9 between dorsals.

1154 (a). *CHIROSTOMA ALBUM* (Steindachner).

The type of *Chirostoma estor* agrees externally almost perfectly with Steindachner's account of *Chirostoma album* from Lake Pátzenaro, a species which he later places in the synonymy of *C. estor*. But the type localities are widely separated, and Steindachner found no trace of the large vomerine teeth so conspicuous in *C. estor*. We therefore regard *C. album* as probably a valid species, not identical with *C. estor*.

Page 821. After *Joturus pichardi*, Poey, add:

368 (a). *NEOMUGIL*, Vaillant.

Neomugil, VAILLANT, Bull. Soc. Philom., IV, 1893-1894 (June, 1894), 72 (*digueti*).

General aspect of *Mugil*. Mouth widely cleft, maxillary extending beyond anterior edge of orbit. Fine teeth in many series in each jaw, those of outer series on intermaxillary most developed, all conical, simple, small, but distinct; villiform teeth on vomer and palatines. Stomach siphonal, walls membranous, very thin in pyloric region, hence not gizzard-like; a large pyloric caeca and a second smaller one; pseudobranchiae distinct.

This genus resembles *Joturus*, which has the teeth flattened and serrated, with only 1 series on the intermaxillary. The maxillary in *Joturus* extends not so far back. (Vaillant.) (*νέος*, new; *Mugil*.)

1198 (a). *NEOMUGIL DIGUETI*, Vaillant.

Head 3; depth 4; eye 6; interorbital 2.75. B. 6; D. IV-I, 8; A. I, 9; V. I, 5; scales 3-13-11; caudal fin 4. Maxillary reaching pupil; mouth deeply cleft; upper jaw the longer; no adipose eyelid. Origin of first dorsal at middle of body, the first spine 2 in depth of body; origin of anal

a little in front of second dorsal. Whole head, except preocular region, scaled like the body, the scales ctenoid.

Known from 20 examples from 99 to 194 mm. long, from Lower California, south of La Paz.

(Named for the collector of the type, M. Léon Diguët.)

Neomugil digueti, VAILLANT, Bull. Soc. Philom., IV, 1886-1894 (June, 1894), 73, torrent in the Sierra de las Cacachilas de Santa Cruz, Lower California.

Page 903. In the description of *Seriola lalandi* for "A. I, 27" read "A. I, 21."

Page 962. *Centrolophidae* can not be maintained as a distinct family. It belongs with the *Stromateidae*.

Page 1038. After *Hadropterus scierus serrula*, insert:

HADROPTERUS MAXINKUCKIENSIS, Evermann

Head 3.75; depth 6; eye 4; snout 4.2; maxillary 3.25; mandible 2.75; interorbital 6; pectoral 1.25; ventral 1.3; D. XIV, 13; A. II, 8; scales 7-61-10.

Body rather long, slender, and subterete; caudal peduncle somewhat compressed, its least width one-half its least depth; head rather long, snout pointed; mouth moderately large, oblique, maxillary reaching past anterior part of eye, lower jaw included; eye rather large, slightly above axis of body; interorbital moderately wide, nearly flat; gill-membranes free from each other and from the isthmus; opercle with a rather long flap and stout spines; premaxillaries not protractile; fins rather large: distance from origin of spinous dorsal to tip of snout slightly greater than base of spinous dorsal or nearly twice base of soft dorsal; longest dorsal spine 2.25 in head; soft dorsal higher than spinous portion, 2 in head, the free edge gently curved; origin of anal under that of soft dorsal, its base 2.1 in head; caudal rounded or slightly emarginate.

Scales firm and strongly ctenoid, lateral line complete and straight, beginning over opercular spine; top of head and an oblong area on nape naked; space in front of spinous dorsal with small embedded scales; opercle with about 7 rows of scales; cheek with a few small embedded scales. breast naked, except 2 or 3 partially embedded scales on median line; one large scale between ventrals; belly naked anteriorly, but with about 10 enlarged, stellate scales posteriorly; space between ventrals broad, equal to width of base of ventral; preopercle smooth.

Color essentially the same as in *H. scierus*: mottled and vermiculated with light and dark brown or blackish, the middle line of back with about 9 large, roundish, dark, confluent areas, each surrounded by a wavy, whitish line; middle of side with about 7 large, confluent dark spots, the anterior 2 largest and longest, the third small, the fourth large, and the remaining 3 progressively smaller; under parts yellowish white; top of head dark; a narrow whitish line around upper posterior part of orbit; a broad black line downward from eye; upper part of preopercle and nearly whole opercle dark, each dusted on lower part; cheek dusted with fine, dark specks; an irregular pale area at anterior end of lateral

line; spinous dorsal ashy, the first 3 spines black on the middle portion, the other spines dark, but not so distinctly so; tips of last few spines dark; soft dorsal light brownish or grayish, crossed near the base by a series of dark spots and above by 2 series of whitish spots; caudal spotted with white and brown; anal white, dusted with brownish; ventrals whitish, with fine, dark dustings; pectoral whitish, yellowish at base, followed by alternating series of dusky and whitish spots.

This species is related to *H. scierus*, from which it differs chiefly in having the dorsal fins united, in having the maxillary reaching beyond front of orbit, in the larger scales, the free gill-membranes, and in the smooth preopercle.

Only the type known, an example, 3.5 inches long, taken in Aubeenaubee Creek, the eastern inlet of Lake Maxinkuckee, Indiana, about $\frac{1}{2}$ mile from the lake, August 4, 1899. Type No. 49378, U. S. N. M. Coll. Evermann & Scovell.

Hadropterus maxinkuckiensis, EVERMANN, Rept. U. S. Fish Com. 1899 (1900), 366, with plate, Aubeenaubee Creek, Lake Maxinkuckee, Indiana.

Page 1084. Before *Etheostoma jessiae*, insert:

ETHEOSTOMA AUBEENAUBEEI, Evermann.

Head 3.6; depth 5.5; eye 4.5; snout 4.5; maxillary 3; interorbital 5; D. X-10; A. II, 7; scales 4-55 to 58-7, 8 to 24 pores.

Body rather elongate, not much compressed except posteriorly; head rather short; snout short, somewhat decurved; mouth moderate, slightly oblique, lower jaw included, maxillary reaching front of eye; eye small, above axis of body; premaxillaries not protractile; gill-membranes free from the isthmus and each other. Fins not large, the dorsals usually distinctly, but narrowly separated, sometimes scarcely separate; origin of spinous dorsal one-third distance from tip of snout to base of caudal; outline of spinous dorsal gently rounded, the longest spine about 3 in head; longest dorsal ray about 2; first anal spine longer, and slightly stronger than second, 3 to 3.5 in head; longest anal ray about 2; pectoral short, about 1.3 in head; ventrals close together, about 2 in head; caudal rounded, 1.5 in head. Scales rather small, rough-ctenoid; lateral line incomplete, usually developed on only 8 to 24 scales at anterior end; cheek usually naked or with a few small, more or less embedded scales; opercle usually about half scaled, sometimes with but few scales; breast always naked; belly with ordinary scales; nape usually densely and regularly scaled, some scales sometimes embedded; preopercle entire; opercular flap moderate, broad; opercular spine rather small; no humeral spot or process.

Color in alcohol, greenish brown above; side with about 12 or 13 vertical, dark blotches, separated by pale orange red areas of similar size; another series of similar but smaller orange blotches along lower part of side anterior to anal fin; under parts whitish; caudal peduncle grayish; head dark above; opercle and cheek dark, with greenish shade; a dark line downward from eye; snout grayish; spinous dorsal with a narrow dark border, below which is a broad orange band, then a broad but irregu-

lar dark band along base of fin; soft dorsal and caudal barred with white and grayish, the latter in spots on the rays; anal and ventrals without markings; pectoral somewhat dusky.

This species is close to *E. iowa*, from which it seems to differ in the almost naked cheek, the less complete sealing of the opercles, the somewhat longer maxillary, more oblique mouth, closer approximation of the dorsal fins, and the coloration. Lake Maxinkuckee, Indiana.

Many examples, each about 2 inches long, taken in Aubeenaubee Creek, the east inlet of Lake Maxinkuckee, August 4, and on other days in August and September, 1899. *E. iowa* is a common species in the lake, but does not occur in the inlet, nor were we able to find any specimens of *E. aubeenaubeei* anywhere except in this small creek. Type No. 49379, U.S.N.M. Coll. Evermann & Seovell.

Etheostoma aubeenaubeei, EVERMANN, Rept. U. S. Fish Com. 1899 (1900), 367, with plate. Aubeenaubee Creek, Lake Maxinkuckee, Indiana.

Page 1212. Before *Prionodes fasciatus*, Jenyns, insert:

1597 (a). PRIONODES BALDWINI, Evermann & Marsh.

Head 2.5; depth 3.2; eye 4; snout 4.6; maxillary 2.4; mandible 2; interorbital 7; D. X, 12; A. III, 7; pectoral 1.4; ventral 1.3; caudal 1.7; scales 4-12-12.

Body elongate, moderately compressed, not elevated, covered with ctenoid scales; dorsal and ventral outlines alike; head moderate, pointed, naked above and below; eye large, greater than length of snout, high in position; mouth terminal, slightly oblique, the maxillary reaching middle of eye or somewhat beyond; gill-rakers short, 6 developed on lower limb; teeth small, conical, and sharp, on vomer and palatines and in several series in each jaw, with weak canines in front and a few canine-like teeth on middle of side of lower jaw; cheek with about 7 rows of scales; preopercle finely serrate; opercle ending in 3 sharp, flat spines, the middle one largest, a membranous pointed flap projecting beyond; fins all naked, the dorsal continuous, with a slight emargination, the spines slender and pungent, the first 4 or 5 graduated, the rest subequal, 3.2 in head, lower than the soft rays which are contained about 2.5 in head; anal fin short, the second spine longest and strongest, 3 in head, the soft part high, the fifth or sixth ray longest, reaching almost to front of anal, 2 in head; ventral with second ray produced, reaching vent; caudal truncate, or with middlerays very slightly shorter, making the margin slightly concave.

Color in life: Dorsal half of head and trunk and all of caudal peduncle scarlet, ventral portion pale blue, almost white; a yellow longitudinal band nearly as wide as pupil from preopercular margin straight across opercle and along body to lateral line under last dorsal rays; 4 quadrate or oblong black blotches just under this band, the first about under middle of spinous dorsal, second under last spines, third under first rays, fourth under last rays; from each of the first three of these blotches a square, well-defined yellow shade extends downward to belly or base of anal, a similar one from base of pectoral to ventral; 1 smaller black blotches at base of caudal, two others, somewhat larger than the last, just in front of

them on caudal peduncle; a row of 9 round black spots on each side at base of dorsal fin, the first one smallest, opposite membrane of first spine, the other 8 separated somewhat obscurely into pairs, the first pair under middle spines, second under last spines, third under first rays, fourth under last rays; 2 or 3 very small black dots on upper edge of caudal peduncle; 2 or 3 more in front of dorsal on median line, each accompanied by a similar one on either side; in some specimens a few scattering ones on top of head behind eyes, sometimes regularly arranged; a few dark-brown spots behind eye; various dark markings on side of head, without very definite pattern, but usually 2 oblique stripes on cheek, a heavy black blotch on interopercle and 2 on the ramus of the mandible, which, with their fellows of the other side, make distinct crossbars on lower side of head usually extending across maxillary; chin and lower part of opercle with dark spots; lateral line white, with a few broken spots, comparatively faint, just below it; iris red, with an inner ring of white surrounding the pupil; spinous dorsal pale, the edge of the membrane black, this color bordered below with faint yellow; soft dorsal pale, spotted throughout with light orange, with a marginal band of the same, outside of which is a very narrow pale-blue edge; ventral very pale blue, the produced ray somewhat yellow; anal pale blue with some light orange on last rays; pectoral and caudal uniform pale reddish, unmarked.

In spirits all the red and yellow markings disappear, the dark persists, and additional markings are brought out as follows: Along the anterior and upper part of trunk and crossing the lateral line are dark-brown vertical bars, diffuse and running together, or separated and broken into round or quadrate blotches; in the middle part of the course of the yellow longitudinal band appears a row of very small black points; spots on soft dorsal dusky; dark mottlings on caudal; upper and lower base of pectoral, and sometimes axil, dusky.

Puerto Rico. A beautiful and strongly marked species; 2 specimens dredged and 33 others, ranging in size from 0.55 to 2 inches, caught in the tangle, off Culebra and Vieques islands, from coral bottom, in depths of 15 and 16 fathoms; the type, 2 inches long, taken in the tangle at *Fish Hawk Station* 6093, off Culebra Island, 5.25 miles southwest of Culebritas light-house, February 8, 1899, in 15 fathoms, by the U. S. Fish Commission expedition to Puerto Rico. ("Named for Mr. Albertus H. Baldwin, the artist of the U. S. Fish Commission expedition to Puerto Rico, in recognition of his excellent drawings and paintings of American fishes.")

Prionodes baldwini, EVERMANN & MARSH, Report U. S. Fish Com. 1899 (December 19, 1899), 353, off Culebra Island, P. R. (Type, No. 49361, U.S.N.M. Coll. Evermann & Marsh.)

Page 1229. After *Gramma loreto*, Poey, insert:

518 (a). **RHEGMA**, Gilbert, new genus.

Rhegma, GILBERT, new genus of Serranidae (*thaumasius*).

Allied, but not closely, to *Rypticus*, *Grammistes* and *Gramma*, having the large, ctenoid scales and interrupted lateral line of *Gramma* and the peculiar physiognomy, attachment of gill-membranes, and fin structure of the *Rypticine*.

Scales of moderate size, thin, not embedded, minutely ciliated; lateral lines 2, the upper near base of dorsal, ceasing under origin of posterior fifth of soft dorsal, the lower line beginning slightly in front of the end of the upper line, running along middle of caudal peduncle; the tubes very short, borne on much smaller intercalated scales, and not forming a continuous line; head largely scaled, the snout and jaws naked; gill-membranes united anteriorly, forming a narrow free fold across the isthmus; branchiostegals 7; pseudobranchiae well developed; a wide slit behind last gill-arch; gill-rakers short, broadly triangular, strongly toothed. Upper margin of opercle, above its angle, wholly attached by membrane to the shoulder girdle, as in the *Rypticinae*. Mouth large, protractile, the lower jaw protruding, the maxillary broadly exposed, with a narrow supplemental bone along its upper edge. Teeth all villiform, in broad bands on jaws, vomer and palatines, the inner teeth on jaws slightly longer than the others and depressible. Tongue smooth. Large mucous pores on under side of mandible, and slit-like pores present on edge of preorbital and around front of eye. Anterior nostril near edge of preorbital, provided with a short tube; posterior nostril without tube or raised rim, immediately in front of eye; a short free triangular flap on upper edge of each orbit. Upper portion of preopercle with a single strong plectroid spine, directed backward and downward; bones of the head otherwise unarmed, the preorbital and preopercle with entire edges, the opercle without spines or ridges. Ventrals small and anterior in position, as in the *Rypticinae*, consisting each of one strong spine, and five branched rays, their base being in front of base of pectorals; no enlarged scale behind base of ventrals; vertical fins low, with rounded lobes, their basal portions well scaled; dorsal with 7 low strong spines and 22 profusely branched rays; anal with 3 spines and 18 rays. One species, apparently the type of a distinct subfamily, *Rhegmatinae*.

($\rho\eta\gamma\mu\epsilon\alpha$, fracture; referring to the interrupted lateral line.)

1615 (a.) *RHEGMA THAUMASIUM*, Gilbert, new species.

Head 2½ in length; depth 3; eye 5 in head; D. VII, 22; A. III, 18. Scales 45 in a longitudinal series along middle of side. Body elongate, moderately compressed, with very short, deep, caudal peduncle; anterior profile strongly arched, slightly depressed above orbits; interorbital space very narrow, convex, its width two-thirds diameter of orbit. Mouth large, slightly oblique; lower jaw the longer, its tip entering the profile. Dorsal spines low, strong, increasing backward, the last spine a trifle longer than diameter of orbit; anal spines short and strong, the middle spine longest. Lateral line curved strongly upward from its origin to below third dorsal spine, thence running parallel with the back to below middle of second dorsal, from which point it gradually approaches the base of the dorsal, where it terminates under the fifth ray from the last; along its anterior course it is separated from base of dorsal by from 4 to 6 scales (in oblique series); scales minutely ctenoid except on head, breast, and belly, on nape under anterior dorsal spines, and on base of pectoral; top of head scaled forward to interorbital space, the anterior scales here,

as well as those on cheek, much reduced in size, embedded, so that their outlines can not be distinguished.

The following measurements of the type specimen are given:

	m.m.	One-hundredths of length to base of caudal.
Total length.....	85	
Length to base of caudal	70	
Greatest depth.....		33
Least depth caudal peduncle.....		15
Length of caudal peduncle.....		8
Distance from tip of upper jaw to end of opercular flap		37
Length of snout.....		6
Diameter of eye.....		7
Interorbital width.....		3½
Tip of snout to end of maxillary.....		19
Length of pectoral.....		27
Tip of snout to base of upper pectoral ray		35
Tip of snout to base of ventrals		31
Length of ventrals.....		13
First anal spine.....		3½
Second anal spine.....		6
Third anal spine.....		4
First soft anal ray		8
Longest soft anal ray		15
First dorsal spine.....		1
Last dorsal spine.....		9
Longest dorsal ray		15
Caudal		23

Color, nearly uniform warm brown on head, body, and fins; a dusky opercular blotch; soft dorsal, anal and caudal only narrowly margined with white.

One specimen known, from Panama.

(*θαυμάσιος*, wonderful.)

Rhegma thaumasius, GILBERT MS., Panama (Coll. C. H. Gilbert. Type, No. 5978, L. S. Jr. Univ. Mus.)

Page 1300. After *Hamulon scudderi*, Gill, insert the following:

1667 (a). *HEMULON HELENE*, Boulenger.

Head $3\frac{1}{2}$; depth $2\frac{1}{2}$; eye $3\frac{1}{2}$ in head; interorbital width $3\frac{1}{2}$. D. XIII, 16; A. III, 12; scales 11–87–20, 67 pores.

Profile very much arched from snout to origin of dorsal; muzzle not reaching beyond lower jaw, little shorter than eye; mouth little oblique; maxillary reaching anterior $\frac{1}{4}$ of eye; teeth very small; 2 very small pores in chin; preopercle very feebly serrate; head scaled, except snout and chin; gill rakers very short, 15 on lower arm of arch; dorsal spines feeble, increasing to the fourth, which almost equals $\frac{1}{2}$ length of head, then decreasing to the last, which is contained $4\frac{1}{2}$ times in head; soft dorsal low, covered with scales; pectoral falciform, longer than head, $1\frac{1}{2}$ times ventral;

anal spines small, increasing to the third, which is 5 in head; soft anal low and scaly; caudal almost completely scaled, deeply emarginate, the median rays less than half the external ones; caudal peduncle $\frac{1}{2}$ times longer than deep; scales above lateral line in very oblique series. Grayish above, with oblique brown lines, somewhat undulating; silvery below. Length 22 cm. One specimen from Bay of Santa Elena, Ecuador. (Boulenger.) (Named for the type locality.)

Hemulon helena, BOULENGER, Bollettino dei Mus. di Zool. ed Anat. Comp. della Univ. di Torino, Vol. XIV, No. 335, 3, Feb. 15, 1899, Bay of St. Elena, Ecuador. (Coll. Dr. Enrico Festa.)

Page 1334. After *Pomadasis ramosus* (Poey), insert the following:

1706 (a). **POMADASIS LABRACIFORME** (Boulenger).

Head 3; depth $3\frac{1}{2}$; eye 4; snout slightly longer than mandible, by $\frac{1}{2}$ diameter of eye, which is little more than interorbital width; maxillary reaching anterior $\frac{1}{2}$ of eye; D. XIII, 12; A. III, 7; scales 8 or 9-68-22; teeth very small; 2 pores in chin; preopercle strongly serrate, strongest at angle; head scaled, except snout and lips; gill-rakers 13 on lower arm of first arch, the longest equaling $\frac{1}{2}$ length of gill-filaments. Dorsal spine strong, the fifth longest, 2 in head, from which they decrease to next to last, which is $4\frac{1}{2}$ in head, and a little shorter than last; soft dorsal scaled at base, its longest rays a little shorter than longest spine; pectoral $1\frac{1}{2}$ in head, scarcely shorter than ventrals; second anal spine very strong, $3\frac{1}{2}$ in head, third 2 in head; longest anal rays shorter than anal spine; caudal peduncle longer than deep; scales arranged in series scarcely oblique above the lateral line, which has 54 pores. Color uniform silvery. Length 17 cm. One specimen known, from the Bay of St. Elena, Ecuador. (Boulenger.) (*Labrus*: *forma*, form.)

Pristipoma labraciforme, BOULENGER, Bollettino dei Mus. di Zool. ed Anat. Comp. della Univ. di Torino, Vol. XIV, No. 335, 3, Feb. 15, 1899, Bay of Santa Elena, Ecuador. (Coll. Dr. Enrico Festa.)

Page 1351. After *Calamus proridens*, Jordan & Gilbert, insert:

1721 (a). **CALAMUS KENDALLI**, Evermann & Marsh.

(PLUMA.)

Head 3.1; depth 2.1; eye 3.5; snout 1.5; maxillary 2.4; interorbital 3.5; preorbital 2.1; D. XII, 12; A. III, 10; pectoral 1; ventral 1.8; caudal 1.3; scales 7-53-16.

Body deep, back strongly elevated, more so than in *C. bajonado*, but less than in *C. calamus* or *C. proridens*, the anterior profile a nearly regular curve, lacking the abrupt nuchal elevation of those species; eye large, larger than in *C. proridens*; 7 or 8 rows of scales on cheek; teeth about as in *C. proridens*; molars in 2 or more rows on sides, those of inner row much the largest, those in front becoming more numerous and merging into cardiform teeth, the most anterior of which, in each jaw, are somewhat enlarged; in front of upper jaw are 2 much enlarged antorse canines, curved slightly upward; highest dorsal spine 2.7 in head, second anal spine 4.6.

Color in spirits: Silvery, side with bluish longitudinal lines following the rows of scales, plainest above; a pale-blue line bordering the orbit below; some blue lines on preorbital, not evidently reticulated and not as numerous as in *C. providens*; iris yellow; otherwise as in *C. providens*, to which this species is very close.

Puerto Rico; known from the type, a specimen 10.5 inches long, from Mayagüez, January 20, 1899, and 2 cotypes, each 8.5 inches long, one from Mayagüez, the other from Arroyo, all collected by the U. S. Fish Commission expedition to Puerto Rico. (Named for Dr. William Converse Kendall, assistant, U. S. Fish Commission.)

Calamus kendalli, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 354, Mayagüez, Puerto Rico. (Type, No. 49362, U.S.N.M. Coll. Evermann & Marsh.)

Page 1417. For *Nebris zestus*, Jordan & Starks, substitute *Nebris occidentalis*, Vaillant.

The synonymy of this species is as follows:

Nebris occidentalis, VAILLANT, Notes from the Leyden Museum, XX, 20, October, 1897, Panama; after description by Jordan & Eigenmann.

Nebris zestus, JORDAN & STARKS, in Jordan & Evermann, Fishes North & Middle America, Part II, 1417, October 3, 1898, Panama. (Type, No. 433, L. S. Jr. Univ. Mus. Coll. Dr. C. H. Gilbert.)

Page 1439. After *Bairdiella chrysoleuca* (Günther), insert the following:

1820 (a). *BAIRDIELLA MIACANTHA* (Boulenger).

Head $3\frac{1}{2}$ to $3\frac{1}{2}$; depth $3\frac{1}{2}$ to $3\frac{1}{2}$; eye $4\frac{1}{2}$ to $4\frac{1}{2}$, 1 to $1\frac{1}{2}$ in interorbital width. D. XI, 21 or 22; A. II, 7 or 8; scales 5 or 6–45 to 49–11 or 12, 50 to 55 pores. Snout round, scarcely longer than eye; mouth inferior, compressed, scarcely oblique, with simple subequal teeth, the gape reaching anterior $\frac{1}{4}$ or $\frac{1}{2}$ of eye; 2 very strong spines at angle of preopercle, the lower directed downward; gill-rakers very short, 10 or 11 on lower arm of first arch; third dorsal spine longest, $\frac{2}{3}$ to $\frac{3}{4}$ length of head; pectoral $1\frac{1}{2}$ in head; first anal spine very small, the second small, $2\frac{1}{2}$ to 3 in head, or $1\frac{1}{2}$ in longest soft ray; caudal acuminate; caudal peduncle a little longer than deep. Grayish above, with faint brown stripes following series of scales; silvery below. Close to *B. chrysoleuca*, Günther, from which it is sufficiently distinguished by the less development of the second anal spine, the smaller mouth, and the feebler dentition. Length 21 cm. Three specimens known from the port of Guayaquil. (Boulenger.)

Corvina miacanthus, BOULENGER, Bollettino dei Mus. di Zool. ed Anat. Comp. della Univ. di Torino, Vol. XIV, No. 335, 5, Feb. 15, 1899, port of Guayaquil. (Coll. Dr. Enrico Festa.)

Page 1526. After *Cichlasoma centrarchus* (Gill & Bransford), insert:

1923 (a). *CICHLASOMA STEINDACHNERI*, Jordán & Snyder.

Head $2\frac{1}{2}$; depth 3; depth of caudal peduncle $7\frac{1}{2}$; eye $3\frac{2}{3}$ in head; snout $2\frac{1}{2}$; interorbital space 5; longest dorsal spine 4, ray 2; longest anal spine $2\frac{2}{3}$, ray 2; length of pectorals $1\frac{1}{2}$; ventrals $1\frac{1}{2}$; caudal $1\frac{1}{2}$; D. XVI, 10; A. V, 8; P. 14; scales 26–14, 7 on caudal peduncle. Length of head exceeding its depth a distance equal to diameter of orbit; body elongate, deepest above

ventrals; curve of dorsal outline interrupted by a slight elevation above eye and a rather rapid descent at base of soft dorsal; ventral outline less curved than dorsal; interorbital space convex; orbit somewhat elongate laterally, located slightly nearer tip of snout than to posterior edge of opercle, its lower edge a little above a horizontal from mouth to middle of caudal peduncle; cleft of mouth almost horizontal; maxillary, except distal end, concealed by preorbital; lips thick, the lower with a narrow frenum; jaws equal, the upper moderately protractile; teeth in 2 series, on each jaw, outer series in a single row, large, canine-like, far apart; inner series minute, in bands; tips of teeth brown-colored; no teeth on vomer or palatines. Gill-membranes forming a fold across the isthmus; gill-rakers on first arch 10, short and blunt. Body covered with large weakly-ctenoid scales; head with cycloid scales; upper part of head anterior to middle of orbit, snout, preorbital area, and ventral part of head, naked; a single row of small scales along bases of dorsal and anal fins; small scales on basal part of inter-radial membranes of caudal; lateral line interrupted at the fourteenth scale, beginning again 3 scales lower and extending to base of caudal; first dorsal spine very short, others gradually longer to the sixth or seventh, after which the spines are about the same length; fifth and sixth dorsal rays longest, about $1\frac{1}{2}$ times the length of longest spine, depressed fin extending to posterior edge of dark caudal spot; first anal spine shortest, one-fifth as long as fifth spine, third, fourth, and fifth rays longest; depressed fin extending to anterior edge of caudal spot; caudal fin evenly rounded; pectoral rounded, extending to a vertical from vent; outer rays of pectoral longest, extending to vent. Color in alcohol, light olive, darker above than below; an indistinct, dark lateral band extending from snout to caudal; 8 or 9 scarcely distinguishable dark vertical bands on side of body; irregular dark spots at intersection of lateral and vertical bands; a small, dark spot at base of caudal; small, distinct dark dots on anterior dorsal region of head.

The total length of the type is 61 mm. Younger examples measuring about 43 mm. have the body a little deeper and the head shorter. The vertical color bands on posterior half of body are more distinct on the younger individuals. Rio Verde, Mexico. (Jordan & Snyder.)

Cichlasoma trinitatis, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 143, Rio Verde near Rascon, Mexico. (Type, No. 6164, U. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Page 1540. Before *Theraps*, Günther, insert the following:

1948 (a). *HEROS ISTLANUS*, Jordan & Snyder.

Head $2\frac{1}{2}$; depth $2\frac{1}{2}$; depth of caudal peduncle 7; eye $\frac{1}{2}$ in head; snout $2\frac{1}{2}$; interorbital space $3\frac{1}{2}$; longest dorsal spine $2\frac{1}{2}$, ray (without filament) $1\frac{1}{2}$; longest anal spine $2\frac{1}{2}$, ray (without filament) $1\frac{1}{2}$; length of pectoral $1\frac{1}{2}$; ventrals 14; caudal 14; D. XVI, 10; A. V, 7; P. 14; scales 28-18. Body elongate, compressed, deepest above insertion of ventrals; dorsal outline rising rapidly to origin of dorsal, falling gradually to base of last spine, from which the descent to the caudal peduncle is more abrupt; ventral outline evenly rounded; interorbital space convex; eye large, orbit circular, equally distant from tip of snout and posterior edge of

opercle; mouth horizontal, lower jaw projecting; lips thick, the lower without frenum, folding over the upper at their union; premaxillary protractile; maxillary small, nearly vertical in position, and almost hidden by the large preorbital; teeth on both jaws, in 2 series, the outer a single row of 24 canines, largest in front, growing smaller posteriorly, the inner series villiform; all of the teeth with brown-colored tips; gill-membranes free from isthmus; branchiostegals 5; gill-rakers on first arch 9, short, blunt, far apart. Body covered with large scales; cheek, opercle, interopercle, subopercle, and occipital portion of head with small scales; ventral part of head, preorbital area, snout, and anterior part of interorbital space naked; one row of scales extending on bases of dorsal and anal fins; scales of body weakly-ctenoid; scales of head smooth; lateral line interrupted on the nineteenth transverse row of scales, beginning again 3 scales lower down and 2 scales in advance of where it left off and extending to base of caudal; first dorsal spine short and slender, others gradually longer and heavier, posterior spine longest; each spine with a rather stiff distal, ray-like attachment, the anterior edge of which projects above the membrane of fin; tips of fourth and fifth rays of dorsal uniting to form a thread-like filament about as long as the diameter of orbit; dorsal, when depressed, extending on caudal one-third its length; first anal spine shortest, others growing gradually longer and heavier, the last $2\frac{1}{2}$ times as long as the first; spines with distal attachments similar to those of dorsal, third and fourth rays longest, united at their tips, forming a slender filament; tip of anal extending a little farther posteriorly than that of dorsal; caudal rounded; tip of pectoral rounded; ventrals located slightly posterior to base of pectoral, extending to vent, outer ray longest, ending in a filament. Color dark, an oblong brownish-black spot at base of each scale on side of body, the spots growing less distinct above the pectoral; membranes of dorsal, anal, and caudal with small spots, these more distinct and regularly arranged on soft parts of dorsal and anal; pectoral and ventrals without spots.

Young individuals have a brownish-black spot at base of caudal and on side of body at tip of pectoral; a less distinct spot at upper edge of gill-opening and also below posterior end of base of dorsal. The darker of these spots are sometimes faintly indicated on the larger individuals. Morelos, Mexico. (Jordan & Snyder.)

Known only from Rio Ixtla at Puente de Ixtla, Morelos, Mexico. (Type, No. 6150, L. S. Jr. Univ. Mus. Coll. Jordan & Snyder.)

Heros istlanus, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 144, Rio Ixtla, Morelos, Mexico.

Page 1542. After *Nectroplus nicaraguensis*, Gill & Bransford, insert:

1951 (a). *NEETROPLUS CARPINTIS*, Jordan & Snyder.

Head $2\frac{3}{8}$; depth 2; depth of caudal peduncle 6; eye 5 in head; snout $2\frac{1}{2}$; interorbital space $2\frac{3}{8}$; longest dorsal spine $2\frac{1}{2}$; ray $1\frac{1}{2}$; longest anal spine 2, ray $1\frac{1}{2}$; length of pectoral $1\frac{1}{2}$; ventrals $1\frac{1}{2}$; caudal $1\frac{1}{2}$; D. XVI, 10; A. V, 8; P. 15; scales 26–17, 7 on caudal peduncle. Body compressed, deepest part above ventrals; dorsal outline straight from tip of snout to a

point above anterior edge of orbit, where it is abruptly curved upward and backward to the origin of dorsal fin; from the latter point it gradually curves downward to base of first dorsal ray, from which the descent to caudal peduncle is abrupt; ventral outline evenly curved from snout to caudal peduncle; interorbital space convex, its middle portion flattened; orbit circular, nearer to posterior edge of opercle than to tip of snout, a distance equal to diameter of pupil; mouth oblique, lower jaw slightly projecting; lips thick; lower jaw with a frenum equal in width to $\frac{1}{2}$ diameter of pupil; upper jaw protractile; maxillary covered by preorbital except at its distal end; teeth in 2 series on each jaw, the outer series in a single row, flat or incisor-like, larger in front, growing much smaller posteriorly, the inner series minute, in narrow bands, all the teeth loosely attached, their tips brown-colored; no teeth on vomer or palatines; gill-membranes forming a fold across the isthmus; gill-rakers on first arch 10, short, far apart. Body covered with large, weakly-ctenoid scales; cheek, opercle, and occipital portion of head with small, cycloid scales; lower jaw, snout, and anterior half of interorbital space naked; bases of dorsal and anal fins with a row of small scales; inter-radial membranes of caudal with very small scales on basal parts; lateral line interrupted on the nineteenth transverse row of scales, beginning again 3 scales lower down on the third row anterior to where it left off, and extending to base of caudal; 2 short rows of mucous tubes on inter-radial caudal scales, one above and the other below end of lateral line; first dorsal spine shortest, others gradually longer and heavier, each spine with a ray-like attachment projecting above and posterior to its tip; first anal spine shortest, others gradually longer and heavier, the fourth three times as long as the first; spines with distal attachments similar to those of the dorsal, third and fourth rays longest, extending posteriorly as far as those of the dorsal; posterior edge of caudal somewhat convex; pectoral rounded; ventrals pointed, the outer ray much the longest, extending a little beyond vent. Color in alcohol, light slate; scales with lighter central spots; posterior parts of dorsal, anal, and caudal lighter; in life the head was covered with round and elongate spots of greenish blue on a background of golden brown; side of body with bluish and brownish spots without regularity of arrangement; pectoral and distal part of soft dorsal with a yellowish tinge.

In the young of this species there are 5 or 6 dark vertical bands, about equal in width to diameter of orbit, on the posterior part of the body; a dark spot sometimes present just below lateral line on a vertical through base of eleventh dorsal spine.

This species differs from *N. nematopus* and *N. nicaraguensis* in having a much deeper body and fewer dorsal and anal spines. Laguna del Carpinte, Mexico. (Jordan & Snyder.)

One specimen (type, No. 6162, L. S. Jr. Univ. Mus.) from Laguna del Carpinte, near Tampico, Tamaulipas, Mexico, collected by J. O. Snyder.

Neotroglus carpintzi, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 145, Laguna del Carpinte, near Tampico, Mexico.

Page 1557. *Eupomacentrus flavilatus* (Gill), is the young of *Eupomacentrus rectifrenum* (Gill).

Page 1612. Before *Xyrula*, Jordan, insert:

2022 (a.) **DORATONOTUS DECORIS**, Evermann & Marsh.

Head 2.6; depth 3.4; eye 4; snout 3.5; maxillary 4; interorbital 4.6; D. IX, 10; A. III, 9; pectoral 1.6; ventral 2.2; caudal 1.6; scales 1-26-6. Body moderately elongate, compressed throughout; the back a little elevated, the caudal peduncle deep and rather long; dorsal and ventral outlines nearly alike, the dorsal somewhat more strongly arched; anterior profile not trenchant, almost straight from snout to front of dorsal, very slightly convex in front of dorsal and very slightly concave between eye and tip of snout; head pointed, interorbital space broad and flat; eye large, high in position, middle of pupil nearer tip of snout than end of opercle; snout long, somewhat longer than diameter of eye, moderately produced, the lips broad in front, characteristically labroid; mouth not large, the maxillary not reaching front of orbit, the jaws equal, armed with strong, sharp teeth, about 4 canines in front of upper jaw, 2 in front of lower; teeth on sides of jaws also canine-like, smaller than those in front, but not distinctly different from them; a few smaller teeth behind the main row of large ones; vomer and palatines toothless; soft dorsal and anal each with a basal sheath of about two rows of large scales, that of dorsal extending over half the fin or more, that of anal lower, the fins otherwise naked; dorsal fin continuous, with a shallow notch, the spines slender and pungent, the second longer than the first, the following ones graduated to the fifth, which is shortest, thence increasing in length to the ninth, which is longest, 2.3 in head; soft dorsal with its middle rays highest, 2.2 in head; anal with three slender, sharp, graduated spines, the third longest, 2.2 in head; the soft part similar to soft dorsal, longest rays 2.3 in head; pectoral large, symmetrical, of 11 rays, the middle ones longest, reaching past tip of ventral nearly to vent; ventral moderate, pointed, reaching half-way to vent; caudal rounded; scales large, cycloid the lateral line on second row below the dorsal interrupted near the end of dorsal and beginning again on the row below, on caudal peduncle.

Color in life: Body chiefly green, darker green on back, lighter below; lower parts of head and breast light yellow; a broad white bar from eye obliquely across cheek and opercle, bordered above by an undulating maroon line and below by a similar but fainter line; a brown bar from eye to snout; 4 dusky spots near base of dorsal extending as fainter shades downward and slightly forward to or beyond lateral line, 1 from in front of dorsal, 2 under spinous dorsal, and 1 under soft rays; short pale-blue bars or spots on breast and about pectoral; iris blue, a pinkish border surrounding pupil; dorsal greenish, the soft part with yellow shade, a pale-blue edging to the whole fin, a maroon border to the green color posteriorly just inside the pale-blue edge, a small dark spot on membrane between seventh and eighth rays and a blue spot on membrane of first spine; anal colored like soft dorsal, the maroon border extending from first spine to last ray inside the pale edging, the dark spot between sixth and seventh rays; ventral green near base, pale blue outwardly, the green color bordered by maroon spots; pectoral plain, pale green; caudal very pale transparent blue, a wedge-shaped maroon spot on the 2 upper rays

near tip and a corresponding one on the 2 lower rays, the base of the wedge on outer ray; base of caudal with a pale undulate vertical bar bordered in front by a black line. In spirits, pale green, the maroon markings faintly persistent, becoming dusky.

Puerto Rico; known only from the type, 1.45 inches long, taken in the seine at Ponce, January 30, 1899, by the United States Fish Commission expedition to Puerto Rico. (*decoris*, beautiful.)

Doratomolus decoris, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 355, Mayagüez, P. R. (Type, No. 49369, U. S. N. M. Coll. Evermann & Marsh.)

Page 1720. A specimen of *Alutera monoceros* (Osbeck) has recently been recorded by Dr. H. M. Smith from Woods Hole, in Bull. U. S. Fish Com. 1898 (1899), 273, pl. 64.

Page 1733. *Tetodon nephelus*, Goode & Bean, is a good species distinct from *T. spengleri*, Bloch, and should stand as

2147 (a). **SPHEROIDES NEPHELUS** (Goode & Bean).

Page 1968. To the synonymy of *Uranidea gracilis* (Heckel), add:

Cottus gracilis cayuga, MEEK, Ann. N. Y. Ac. Sci., iv, 1888, 315. Cayuga Lake, N. Y.

Page 2017. The recent studies of the tide-pool Cottoids of the California coast by Mr. Arthur W. Greeley have resulted in the discovery of some new species and genera and other additional information regarding this group of fishes. The following new species and genera are to be added:

2384 (a). **BLENNICOTTUS RECALVUS**, Greeley.

Head $3\frac{1}{2}$; eye $4\frac{1}{2}$ in head; snout 3; D. IX, 15 or 16; A. 11 or 12; P. 14. Body short, stout, broad anteriorly; the head very broad, short and blunt; snout obtuse; interorbital space $\frac{5}{6}$ eye, grooved, the groove leading into a depressed space behind the eyes; mouth distinctly terminal, the maxillary reaching a vertical below the anterior edge of orbit, the lower jaw included; minute conical teeth on jaws, vomer, and palatines; nasal spines very small; no preopercular spine apparent in adults; edge of preopercle rounded; opercle ending in a rounded flap; branchiostegals six, the membranes broadly united, free from the isthmus; gills $3\frac{1}{2}$, a slit behind the last gill. Dorsal fins very long, slightly joined at the base, origin of first dorsal directly over tip of opercle, that of soft dorsal in advance of origin of anal; first dorsal slightly rounded, the middle ray the longest; pectoral reaching origin of anal, membranes of first seven rays deeply emarginate; ventrals reaching vent; anal papilla of male very large; anal low, the membranes of all the rays except the last three deeply emarginate, none of the rays enlarged in the male; caudal short, slightly rounded.

Cirri few and small, those of top of head joined at base in conspicuous bunches, two irregular occipital rows, a few below these on the side of head, and on the margins of preopercle and opercle; a few above origin of pectoral, and a weak row along the anterior third of the lateral line.

Color of body, light brown, vermiculated with white, and marked dorsally with 4 or 5 wedge-shaped spots of dark brown, edged with white,

and more distinct posteriorly; 2 pinkish spots on the dorsal side of the caudal peduncle, and a faint shading of the same color on side of head and along anterior fourth of lateral line; entire under surface dull brown, tinged with olive; fins indistinctly barred with grayish white; tail faintly tinged with pink. In some specimens the color is an almost uniform dull brown while in others the light markings are prominent. Some young individuals from among the green algae are uniform light green.

The bluntness of the snout and preopercular spines, and the terminal mouth make this species easily distinguishable from all related forms, except *B. globiceps*, from which it is separated by the shape and size of its preopercular and nasal spines, the number of its cirri, 12, and the size of its mouth. The adults of these 2 species can be readily distinguished, but the young of *B. recalvus* is very similar to the young of *B. globiceps*, indicating that *B. globiceps* is probably the ancestral form. Girard's old description of *Oligocottus globiceps* has been erroneously associated with this fish, which does not extend so far north as the type locality of *B. globiceps*. *B. recalvus* is distributed from San Diego to Santa Cruz, where it is immediately succeeded by *B. globiceps* on the north. No specimens of *B. recalvus* have been taken north of the region of Santa Cruz. On the other hand, several specimens of *B. globiceps* have been collected on the coast of Monterey County south of Monterey Bay, therefore within the range of *B. recalvus*. The relations between the two species where their ranges overlap is still to be made out. *B. recalvus* is quite common throughout its range and everywhere inhabits the deep shaded tide-pools, near low water mark, where a large number will often be found in a single pool. (Greeley.) (*recalvus*, bald in front.)

Centridermichthys globiceps, GÜNTHER, Cat., II, 171, 1860; not of Girard.

Oligocottus globiceps, JORDAN & GILBERT, Synopsis, 718, 1883.

Blennicottus globiceps, JORDAN & STARKS, Proc. Cal. Ac. Sci. 1895, 808; JORDAN & EVERMANN, Fishes of North and Middle America, II, 2017, 1898; not *Oligocottus globiceps* Girard.

Blennicottus recalvus, GREELEY, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 9, fig. 1. Pacific Grove, Cal. (Type, No. 6068, L. S. Jr. Univ. Mus. Coll. Greeley & Cowles.)

746 (a). RUSCICULUS, Greeley.

Rusciculus, GREELEY, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 13 (*rimensis*)

This genus is allied to *Oxycottus*, differing in the presence of minute prickly scales, which cover dorsal half of body. Preopercular spine simple, sharp. No slit behind the last gill. (*ruscum*, the butcher's broom, a rough-skinned plant.)

2384 (a). RUSCICULUS RIMENSIS, Greeley.

Head $3\frac{1}{2}$; eye 4 in head; snout $3\frac{1}{2}$ in head; D. IX-17 or 18; A. 14; P. 14; V. 1, 3. Body compressed, very slender, the caudal peduncle especially so; head compressed, flat; snout pointed; interorbital space $\frac{5}{6}$ eye, grooved; top of head flat and slightly concave; nasal spines large, blunt, snout abruptly decurved below them. Dorsal half of body covered with minute, embedded, prickly scales partially arranged in obscure

Bull. No. 47, pt. 4—X

oblique rows, none below lateral line. Minute pointed teeth on jaws, vomer, and palatines; jaws subequal, mouth horizontal, the maxillary reaching a vertical below the anterior edge of pupil. Margin of preopercle armed with one sharp spine curved upward, below which are 1 and sometimes 2 very short blunt processes; margin of opercle ending dorsally in a pointed flap. Branchiostegals 6, the membranes broadly united, free from the isthmus; no slit behind the last gill. Dorsal fins not joined, the soft dorsal very large; first dorsal beginning slightly in advance of opercular flap, the upper edge much rounded, the fifth spine being longest; origin of soft dorsal just in front of origin of the anal in the female, directly above it in the male, the fin very long; pectoral large, reaching a vertical below ninth ray of soft dorsal; origin of ventrals posterior to a point midway between anal and base of pectoral in the male, anterior to it in the female, the difference caused by the enlargement of first 2 anal rays in the male; anal fin small, the rays slender, the membranes of all deeply emarginate; the first 2 anal rays of male greatly enlarged, joined by membrane to each other and to the rest of the fin; the posterior edge of tail nearly straight; anal papilla inconspicuous. Cirri small and scarce, always occurring singly, never in bunches or joined at the base, with the exception of a few pairs along the anterior third of the lateral line; one above each orbit, 2 rows of 3 each behind these on top of head, 1 cirrus on the inside of each nasal spine; a cirrus on the end of maxillary, 2 or 3 on the margin of the preopercle below the preopercular spine, and a row along the anterior half of the lateral line. Color, light olive or reddish brown tinged with lavender, marked dorsally with 4 or 5 wedge-shaped, indented spots of black, a broken band of same color along the lateral line, sometimes sending branches below it which show a tendency to inclose round spots; a more or less distinct spot of black on top of the head; a faint postocular line, a spot below the eye, and a preopercular line running from eye to snout, all of same color; pectoral and caudal indistinctly barred with brown, anal tinged with it, and the dorsal covered with fine brown or black spots sometimes very faint; throat and belly pale yellowish white, unspotted.

This species is most closely related to *Oryzias latipes*, with which it agrees in general coloration, but differs decidedly in the presence of scales, the slenderer body, the larger number of soft dorsal and anal rays, the serrated margin of the preopercle, and the arrangement of the cirri. Rare; only 2 other specimens from Point Lobos, California, are known to us. It inhabits the tide-pools lined with corallines, and in its coloration imitates very closely these algae. Length 40 mm. The smallest of our tide-pool fishes. (Greeley.) (*rimus*, a crevice; *rimensis*, living in crevices.)

Rusciculus rimensis, GREELEY, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 13, fig. 3. Point Lobos, Monterey County, Cal. (Type, No. 6067, U. S. Jr. Univ. Mus. Coll. A. W. Greeley.)

746 (b). *DIALARCHUS*, Greeley.

Dialarchus, GREELEY, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 14 (*myleri*).

Preopercular spine forked at tip; scales none; first anal ray of male enlarged, joined to the second, the two widely separated from the rest of

the fin. Closely allied to *Oligocottus*, differing only in the character of the anal rays of the male.

(διαλόος, divided; ἀρχός, anus.)

2384 (b). *DIALARCHUS SNYDERI*, Greeley.

Head $3\frac{1}{2}$; eye $4\frac{1}{2}$ in head; snout $3\frac{1}{2}$; D. VIII-18 or 19; A. 13 to 15; P. 13 to 15; V. 1, 3. Body elongate, slender, the snout pointed, compressed; minute conical teeth on jaws, vomer, and front of palatines; jaws equal; mouth horizontal, the maxillary 3 in head, reaching a vertical below anterior edge of pupil. Interorbital space $\frac{1}{2}$ eye, shallowly grooved, the groove leading into a depressed space between the occipital ridges; nasal spines large. Margin of preopercle armed with a strong spine, $\frac{1}{2}$ as long as eye, from the upper border of which at base extends a second spine pointing abruptly upward and inward; both spines covered with skin in life; margin of opercle ending in a pointed flap entirely unarmed. Branchiostegals 6, the membranes broadly united, free from the isthmus. Gills $3\frac{1}{2}$, a slit behind the last gill. Dorsal fins large, separated by $\frac{1}{2}$ diameter of eye, whole length equaling that from caudal to base of pectoral; first dorsal beginning slightly in advance of margin of opercle, upper edge nearly straight, curving abruptly downward from the sixth spine; origin of soft dorsal in advance of anal; pectoral large, reaching well beyond the origin of the anal; ventrals almost midway between base of pectoral and anal; anal fin small, rays all feeble in the female, in the male the first ray only greatly enlarged, joined to the second, the 2 distinctly separated from the rest of the fin, the membranes of all except the last 3 or 4 rays deeply emarginate. Anal papilla small, present in the male only. Cirri very numerous, usually occurring in bunches of 3 or 4, those of head joined at the base, forming a comb; 2 pairs of bunches above orbits, with the rudiments of a third bunch in front of these, 3 on top of head, behind orbits, 2 or 3 bunches just below these on side of head, 2 or 3 single cirri on margin of preopercle, a thick bunch above the preopercular spines, 4 or 5 on lower margin of opercle, with a thick bunch on its upper margin; a short row above the base of the pectoral; a row of bunched cirri along anterior two-thirds of lateral line, another well-defined row along the dorsal fin from the third spine to the sixteenth or seventeenth ray of soft dorsal, this row containing a bunch at the base of each spine and ray, with the occasional exception of the first ray; 5 or 6 scattered bunches between the dorsal and lateral rows on each side of body; a cirrus at the tip of each dorsal spine.

Color, light reddish brown, sometimes almost pink, thickly spotted with fine indistinct white spots; 4 or 5 irregular dark brown spots along the base of dorsal, a band of same color along lateral line, sometimes very much broken and extending ventrally, shading into the uniform reddish brown below, and including 3 or 4 round pinkish spots; a dark brown post-ocular line, another running forward from the eye, a patch of same color on top of head, another on side of head, and 2 or 3 on edge of opercle; throat reddish brown with several distinct white spots; belly bluish green; a silvery white patch between the bases of the pectorals; dorsal fins pale reddish brown with black and clear spots; pectoral

crossed irregularly with white; anal fin pale pink, crossed with dark brown. There are 2 or 3 perfectly distinct types of coloration, as follows: Some specimens from pools containing green algae are pure light green, others from coralline pools are tinged with lavender, as *B. embryum*. This species resembles most closely *O. maculosus*, which name has been erroneously applied to it, but it differs markedly in its slenderer body, more pointed snout, the arrangement of the cirri, and the perfectly distinct coloration, also in the greater length of the dorsal fins, the enlargement of only one anal ray in the male, and the shortness of the maxillary. Coast of California.

Specimens are at hand from Crescent City, Cal., Bolinas Bay, Half Moon Bay, Monterey Bay, and San Luis Obispo, Cal. Found in all kinds of pools, from San Francisco to Monterey Bay, but nowhere common. Length 60 mm. The most beautiful and active of the tide-pool fishes, extremely variable in color. (Greeley.)

Centridermichthys maculosus, GÜNTHER, Cat., II, 171, 1860; not *Oligocottus maculosus*, Girard.

Oligocottus maculosus, JORDAN & GILBERT, Synopsis, 718, 1882; JORDAN & EVERMANN, Fishes of North and Middle America, II, 2013, 1898.

Oligocottus snyderi, GREELEY, in Jordan & Evermann, Fishes of North and Middle America, III, 2871, 1898. Pacific Grove, Cal. (Type, No. 5846, L. S. J. Univ. Mus. Coll. Greeley & Maddren.)

Dialarchus snyderi, GREELEY, Bull. U. S. Fish Com. 1899, 15, fig. 4.

946 (c) EXIMIA, Greeley.

Eximia, Greeley, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 18 (*rubellio*).

Allied to *Oligocottus*, but differing in the presence of a large three-pointed preopercular spine instead of the simple forked spine of *Oligocottus*. Skin smooth. A slit behind the last gill.

2384 (c). EXIMIA RUBELLIO, Greeley.

Head $2\frac{3}{4}$; eye $3\frac{1}{4}$ in head; snout $3\frac{1}{4}$; D. VII or VIII-15 or 16; A. 12 or 13; P. 13 or 14; V. 1, 3. Body compressed, snout pointed and compressed, head deep, occiput narrow, slightly concave; interorbital space narrow, $\frac{1}{2}$ the large eye, shallowly grooved. Nasal spines prominent, very large and pointed. Teeth small, pointed on jaws, vomer and palatines; jaws equal, mouth horizontal, maxillary 3 in head, reaching a vertical below anterior edge of pupil. Margin of preopercle armed with a very strong spine as long as eye, extending backward and downward, bearing on its upper surface a second and third spine, both pointing back and up; all the spines covered with skin in life; opercle ending in a rounded flap. Branchiostegals 6, not united to the isthmus; gills $3\frac{1}{2}$, a slit behind the last gill. Anal papilla inconspicuous. Dorsal fins not joined; first dorsal beginning in advance of margin of opercle, first 2 spines short, the upper margin slightly rounded; soft dorsal beginning in advance of origin of anal, all the rays and spines very slender, pectoral reaching well beyond the origin of the anal; anal fin small, the rays slender, the membranes emarginate between each 2 rays: in the males the first ray enlarged, the second slightly elongated, the 2 united and not separated from the rest.

of the fin, as in *Dialarchus snyderi*; ventrals situated below the upper edge of the base of the pectoral, just reaching the anus. Cirri all distinct, never joined at the base in a comb as in *Dialarchus snyderi*; 3 pairs of 2 or 3 cirri each above the orbits, the first directly above the nasal spines, 3 pairs on top of head behind orbits, a few scattered cirri below these on side of head, a bunch of 2 or 3 on end of maxillary, a row on lower margin of preopercle, a large bunch above the preopercular spines, and several scattered cirri on margin of opercle; a row of bunched cirri along the anterior half of lateral line, a row along the base of the dorsal, including a bunch of 3 or 4 for each spine and ray, the row bending downward at the last spine of the first dorsal, leaving a space between the cirri and the base of the dorsal spines; a few scattered cirri between the dorsal and lateral rows, and below the lateral line behind the pectoral fin. Color light brown to all shades of light red, pink, or lavender, spotted everywhere with white, the spots extremely minute on dorsal half of body, but more conspicuous ventrally; 5 wedge-shaped spots of dark brown along dorsal side of body; head dark brown, sometimes blotched with red or green, becoming lighter on side, leaving a dark postocular line extending from eye to the preopercular spine, and a dark spot on lower margin of preopercle, everywhere very finely marked with white and blue; a white spot with a brown center just in front of first dorsal; throat and belly a very light, bluish green, shading into a faint yellow behind pectoral, and a brownish green on each side of anal; all the fins, excepting the ventrals, light brownish green barred with dark brown; caudal light reddish brown, anal and tip of pectoral tinged with pinkish. A young individual is lighter and more brilliantly colored. This species is most closely allied to *Dialarchus snyderi*, from which it differs in the presence of a third preopercular spine, the greater depth and comparative length of the head, the larger eye and nasal spines, and the arrangement of the cirri. Many other specimens taken at Monterey Bay, but it is not recorded from any other locality. The most brilliantly colored of the tide-pool fishes, inhabiting only the deep pools rich in plant life. (*rubellio*, a rosy one.)

Eximia rubellio, GREELEY, Bull. U. S. Fish Com. 1899 (Dec. 13, 1899), 18, fig. 5, Pacific Grove, Cal. (Type, No. 6066, L. S. Jr. Univ. Mus. Coll. Greeley & Maddren.)

Page 2027. *Gilbertina*, Jordan & Starks, is preoccupied in Lepidoptera. For its use in ichthyology Dr. Berg has substituted *Gilbertidia*.

Gilbertidia BERG, Com. del Museo Nac. de Buenos Aires, 1898 (Dec. 17, 1898), 43 (*sigolutes*).

Page 2207. After *Sicydium vincente*, Jordan & Evermann, insert:

2531 (b). *SICYDIUM CAGUIE*, Evermann & Marsh.

Head 4.4; depth 4.8; eye 5.75; snout 2.5; maxillary 2; mandible 2.75; interorbital width 3; preorbital 3.5; D. VI-I, 10; A. I, 9; scales 83-25; longest dorsal spine 1.5 in head, longest ray 2; longest anal spine 2 in head, longest ray 2; pectoral 1.1; ventral disk 1.75; caudal 1.

Body rather stout, heavy forward; head large, broad; mouth large, its width 1.5 in head; lips very thick; maxillary not greatly produced; teeth simple, flexible; a median cleft in upper lip; pectoral somewhat shorter

than head; dorsal spines without filaments, the longest about 1.5 in depth of body; space between dorsals about equal to orbit; soft rays of dorsal and anal scarcely reaching base of caudal; ventrals united, forming a cup-shaped disk, only about two-fifths posterior edge free from belly; caudal rounded. Scales very small, ctenoid, densely covering entire body except a broad strip on belly; posterior portion of nape with very fine scales; entire head naked.

Color: Dark brown or olivaceous on head, side, and back; under parts pale; fins all pale, the anal with a narrow darkish margin; caudal somewhat dark; no dark vertical bars on body and none at base of pectoral; no H-shaped figure at base of caudal.

This species is close to *S. plumieri*, from which it differs chiefly in the color, the more complete squamation, the shorter pectoral, and the non-filamentous character of the dorsal spines.

Puerto Rico. A single specimen, 3.63 inches long, obtained in the Rio de Caguitas at Caguas, January 9, 1899, by the U. S. Fish Commission expedition to Puerto Rico. (Named for the Rio de Caguitas, from which the type was obtained.)

Siepiidium caguita, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 355, Rio de Caguitas, Caguas, P. R. (Type, No. 49364, U.S.N.M. Coll. Evermann & Marsh.)

Page 2230. After *Gobius oceanicus*, Pallas, insert:

2558 (a). *GobiUS BAYAMONENSIS*. Evermann & Marsh.

Head 4.8; depth 6.4; eye 5; snout 3.2; maxillary 1.8; mandible 1.9; inter-orbital 7.6; preorbital 4.6; scales 71-19, about 29 before dorsal; D. IV-14, the longest spine about 0.7 in head, the longest ray 1.5; A. 15, the longest ray 1.5; pectoral 1.1; ventrals 1.1; caudal very long and pointed. Body very long and slender; head long; caudal peduncle long; mouth very large, oblique; maxillary long, reaching past posterior border of orbit.

Color as in *G. oceanicus*, which this species closely resembles. The smaller (71 instead of 63 to 65), almost cycloid scales, the longer head, larger mouth, longer maxillary, and the longer and more slender body are differences which we can not reconcile with the descriptions of that species or with the numerous specimens of it which we have from Puerto Rico.

Puerto Rico. Known only from the type, a specimen 9 inches long, obtained in the San Juan market January 14, 1899, by the U. S. Fish Commission expedition to Puerto Rico. It probably came from near the mouth of the Bayamon River at Palo Seco, for which stream the species was named.

Gobius bayamonensis, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 355, Mouth of Bayamon River, Palo Seco, P. R. (Type, No. 49365, U.S.N.M.; coll. Evermann & Marsh.)

Page 2218. To the synonymy of *Gobius saporator* add the following:

Gobius arundellii, GARMAN, Proc. N. E. Zool. Club, 1, 63, June 9, 1890, Clipperton Island. (Type in M. C. Z.)

Page 2240. Before, *Aboma*, Jordan & Starks, insert:

2570 (a). **BOLLMANNIA BOQUERONENSIS**, Evermann & Marsh.

Head 4; depth 5.5; eye 3.5; snout 4.4; maxillary 2.2; mandible 2.5; interorbital width 3 in eye; preorbital 6; scales 27-8; D. VII-13, the longest spine 1.5 in head, the longest ray 1.2; A. 12, the longest ray 1.25 in head; pectoral 1; ventrals 1.1; caudal 0.4.

Body long, slender, tapering; head short; snout blunt; mouth large, oblique; jaws subequal, maxillary reaching posterior border of pupil; isthmus narrow, the gill-openings reaching forward to below preopercle; eyes large, high, close together, the interorbital very narrow and without median keel; no fleshy process on inner edge of shoulder girdle; teeth on jaws in narrow bands, those of outer series somewhat enlarged; opercle short, about 3 in head. Fins moderate; origin of spinous dorsal slightly behind base of pectoral, its spines 7 in number, not filamentous; interspace between dorsals less than diameter of eye; soft rays of dorsal and anal reaching, when depressed, beyond base of caudal; caudal long and pointed, as in *Gobius oceanicus*; pectoral pointed, reaching beyond origin of anal; ventral disk moderate, free from belly, the longest rays barely reaching origin of anal. Scales very large, weakly ctenoid; nape, cheek, and breast scaled, the scales somewhat smaller than on body, about 9 scales before the dorsal.

Color: Pale olivaceous or straw-color, back and upper part of head with profuse fine dark punctulations; under parts pale, breast somewhat dusky; dorsal fins barred with white and dark, a large jet-black ocellus on posterior part of spinous dorsal; other fins pale, the ventral disk somewhat dusky in front. The only known Atlantic member of the genus.

Length 2 to 3 inches. Puerto Rico. Known only from 5 specimens dredged by the U. S. Fish Commission expedition to Puerto Rico, off Puerto Real, in Ensenada del Boqueron, January 25, 1899. (Named for the type locality.)

Bollmannia boqueronensis, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19. 1899), 356, Ensenada del Boqueron, off Puerto Real, in 8.5 fathoms, at Fish Hawk station 6074. (Type, No. 49366, U.S.N.M. Coll. Evermann & Marsh.)

Page 2245. Before *Microgobius thalassinus*, Jordan & Gilbert, insert:

2575 (a). **MICROGOBIUS MEEKI**, Evermann & Marsh.

Head 3.75; depth 6; eye 3.5; snout 5.5; interorbital 7; preorbital 7; maxillary 2; mandible 1.5; scales 55-12; D. VII-17; A. 16.

Body slender, greatly compressed, tapering regularly from pectorals to caudal; head moderately heavy, interorbital space very narrow; eye large, high; mouth large, oblique; maxillary reaching posterior border of orbit; lower jaw projecting; teeth in bands in each jaw, the outer series greatly enlarged and strongly recurved, those of lower jaw largest; isthmus rather narrow, the gill-openings continue forward.

Body densely scaled, the scales strongly ctenoid, those anteriorly somewhat reduced; nape, breast, and entire head naked. Origin of spinous

dorsal from snout 3.5 in length; dorsals very close together; spines of first dorsal filamentous, exceeding head in length; soft dorsal and anal long, their bases about equal, about 2.5 in body, their last rays reaching past base of caudal when depressed; caudal pointed, its longest rays about equal to head; pectoral about equal to head, reaching origin of anal; ventrals united, almost reaching origin of anal.

Color: Light olivaceous, dusted over uniformly with fine dark punctulations; a large dark shoulder spot between the base of pectoral and origin of spinous dorsal; a few indistinct dark areas on side or head; lower jaw dark at tip; an obscure dark blotch at base of caudal; fins all rather pale except ventrals, which are dark, perhaps bluish in life; caudal somewhat dusky; anal dark-edged. Length 1.5 inches.

This species seems related to *M. culepis*, Eigenmann & Eigenmann, described from Fortress Monroe, Va., but differs in the smaller and strongly etenoid scales, greatly compressed body, and in the coloration.

Puerto Rico; known only from the type, 1.5 inches long, dredged by the U. S. Fish Commission expedition to Puerto Rico, February 8, 1899. (Named for Dr. Seth Eugene Meek, assistant curator of zoology, Field Columbian Museum.)

Microgobius meeki, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 356, between Vieques and Culebra islands at Fish Hawk station 6087, in 15.25 fathoms. (Type, No. 49367, U.S.N.M. Coll. Evermann & Marsh.)

Page 2350. After *Eunecanectes carminalis* (Jordan & Gilbert), insert:

868 (b). GILLIAS, Evermann & Marsh.

Gillias, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 357 (*jordani*).

Body short and stout, tapering rapidly from the short, broad head to the short, compressed caudal peduncle; scales large, rough-etenoid; lateral line complete, or nearly so, broken under last spines of middle dorsal; a broad, double-pointed tentacle above eye; dorsal fin divided into 3 parts, the first of 3 short spines, the second of 11 longer spines, and the third of 7 rays.

This genus is closely related to *Eunecanectes*, Jordan & Evermann, from which it differs in the presence of the orbital tentacle, the more complete development of the lateral line, and the larger scales.

(Named for Dr. Theodore Gill.)

2687 (b). GILLIAS JORDANI, Evermann & Marsh.

Head 3.5; depth 4.3; eye 2.5; snout 3.5; maxillary 2.4; mandible 1.9; scales 2-30-7; D. II-XII-7; A. II, 15; longest dorsal spine 1.8 in head, longest ray 1.6; longest anal ray 2.3; pectoral 0.8; ventral 1.3; caudal 1.3.

Body short and stout, tapering rapidly to the short, compressed caudal peduncle; head short; snout short; blunt, concave in front of eyes; mouth small, slightly oblique, jaws equal; eye large, high up, interorbital width very narrow; a broad bifid orbital tentacle, none on nape. Scales very large and rough-etenoid; opercles and entire head rough; lateral line nearly complete, beginning immediately above base of pectoral at upper end of gill-opening and extending parallel with back to posterior

part of middle dorsal fin (or for 12 scales) where there is a break, the line dropping down 3 scales, then continuing with one or two interruptions to base of caudal; belly and breast scaled; dorsals 3, the first of 3 short, flexible spines, close to the second, which has 12 longer, rather stiffer, spines, separated from the third by a space one-third diameter of eye; anal long and low, the membranes deeply notched between the rays; pectoral of 15 rays, broad and short, reaching posterior end of second dorsal; ventral 2, slender.

Color in alcohol: Brown, body crossed by 4 broad blackish bars, one at the origin of second dorsal, one under last spines of same fin, the third between second and third dorsals, and the fourth under third dorsal; an inky-black bar across caudal peduncle at base of caudal fin; head and under parts rusty; fins all barred with light and dark; caudal with a narrow light bar at base, then a black one, then a broader white one, followed by a much broader dark bar containing some white areas, the fin finally tipped with white. Puerto Rico. Two specimens of this well-marked and interesting species were obtained by the U. S. Fish Commission expedition to Puerto Rico, the type 1.5 inches long (No. 49368, U.S.N.M.), taken on the Cardona Light-House Reef, at Ponce, February 1, 1899, and another specimen of about the same size taken at the same place the preceding day.

(Named for Dr. David Starr Jordan.)

Gillias jordani, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 357, Cardona Light-House Reef, Ponce, P. R. (coll. Evermann & Marsh.)

Page 2357. After *Malacotenus lugubris* (Poey), insert:

2696 (a). **MALACOTENUS CULEBRE**, Evermann & Marsh.

Head 3.35; depth 5; eye 4.2; snout 4.5; maxillary 2.2; mandible 1.8; interorbital 6.5; scales 2-35-11; D. XXI, 8; A. II, 18; pectoral 1.3; ventral 1.3; caudal 1.4.

Body slender, compressed; head rather long, pointed, upper profile convex; mouth large, the maxillary nearly reaching posterior border of orbit; lips thick, jaws equal; teeth very small, conical, a single row in each jaw; a single nasal, ocular, and nuchal filament; dorsal fin moderately high, originating above the origin of lateral line, a shallow notch in front of last two dorsal spines, the membrane free from caudal; anal origin under about tenth dorsal spine; caudal somewhat pointed; pectoral large, reaching anal; ventrals moderate, not reaching anus, of two rays, no spine evident; lateral line distinct throughout, running high anteriorly, where it is slightly curved, turning abruptly downward over the origin of anal, thence median to base of caudal.

Color in spirits: Body everywhere mottled with dark brown, in somewhat regularly arranged blotches, a series of about nine of these at the base of dorsal, barely extending upon the fin; a similar series of much smaller ones at base of anal, not evident on all specimens; below the series at base of dorsal are two other series of the same blotches less deep in color and not so well defined, extending the length of body and sometimes forming, with the upper series, more or less broken vertical bars;

between the blotches a lighter shade of brown is interwoven with pale streaks of ground color; head nearly pale below, save some dark on chin and isthmus; two wide streaks from eye across cheek; opercle dark brown; top of head with the color of body; lips with brown and pale stripes; posterior half of maxillary pale; dorsal rather dark; caudal uniform gray or faintly barred; anal similar to dorsal in color; the rays with pale tips forming a white edge; pectoral like caudal; ventrals pale. Length about 1.5 inches.

A plainly marked species most closely related to *M. lugubris* (Poey). Puerto Rico; only 3 specimens known, all from the coral reefs about Culebra Island, February 9, 1899.

(Named for the type locality.)

Malacoctenus cul brei, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 357, Culebra Island. (Type, No. 49369, U.S.N.M. Coll. Evermann & Marsh.)

Page 2358. After *Malacoctenus gillii* (Steindachner), insert:

2697 (a). *MALACOTENTUS MOOREI*, Evermann & Marsh.

Head 3.6; depth 3.7; eye 3.5; snout 3.4; maxillary 4.5; mandible 4.5; interorbital 4; scales 3-45-5. D. XXII, 11; A. II, 20; pectoral 1 in head; ventral 1.2; caudal 1.2; longest dorsal spine 1.5, ray 1.2; longest anal ray 1.5.

Body short, rather stout, compressed; head short, snout short, but pointed; mouth rather small, little oblique, the gape scarcely reaching orbit; teeth in each jaw in a single series; gill membranes broadly united across the isthmus; eye small, interorbital space wide; dorsal outline rising abruptly to above eye, thence gently curved to origin of dorsal fin, and from there nearly straight to base of caudal fin; ventral outline regularly convex.

Color in alcohol: Light olivaceous, the body crossed by about 9 or 10 broad dark vertical bars, which extend upon dorsal fin, these usually broadest above, the pale interspaces therefore broadest on lower half of body; the fourth from last is a narrow dark line, the one following it is a double spot, the next narrow and indistinct, the last, at base of caudal, more distinct, followed by 3 small irregular white spots; top of head brown; side of head with fine punctulations; a dark line running forward from eye, a dark spot below eye, 2 or 3 dark blotches on anterior edge of opercle; under surface of head crossed by 3 or 4 irregular, indistinct dark lines; caudal and anal with fine dusky punctulations; pectoral and ventrals pale.

This species is close to *M. gillii*, from which it may be distinguished by the larger dorsal and anal fins, the greater depth, wider interorbital, and the coloration.

Puerto Rico; known only from the type, 1.4 inches long, obtained by the U. S. Fish Commission expedition to Puerto Rico, February 11, 1899.

(Named for Dr. H. F. Moore, naturalist on the U. S. Fish Commission steamer *Albatross*.)

Malacoctenus moorei, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 358, Culebra Island. (Type, No. 49370, U.S.N.M. Coll. Evermann & Marsh.)

Page 2358. After *Malacoctenus bimaculatus* (Steindachner), insert:

2697 (b). *MALACOTENUS PUERTORICENSIS*, Evermann & Marsh.

Head 3.4; depth 3.4; eye 4; snout 3.5; maxillary 3.4; mandible 2.6; interorbital 7; preorbital 8; scales 4-14-8. D. xx, 10; A. ii, 19; P. 14; V. 2; C. 13.

Body short, stout, compressed; head rather long, snout long and pointed; mouth small, little oblique, the maxillary scarcely reaching front of orbit; teeth in a single row in each jaw; gill-membranes broadly united, free from the isthmus; eyes high up, interorbital narrow; caudal peduncle short, compressed, its least depth about 3 in head. Fins rather large; origin of dorsal over upper end of gill-opening, first spine slightly shorter than second, which is somewhat longer than the third, whose length is about 2.2 in head; no notch behind third and fourth spines, all the spines from third to fifteenth being about equal in length, the sixteenth and seventeenth being somewhat shorter, the remaining three progressively longer; soft dorsal higher, its longest ray about 1.7 in head; longest anal ray 1.7; pectoral broad, 1.25 in head, reaching anal; ventral barely reaching origin of anal; a pair of slender ocular cirri, a small supraocular one, a short, slender, nasal cirrus and a few very slender ones at the nape; scales large, not crowded anteriorly; lateral line well arched above the pectoral.

Color in alcohol: Brown, much spotted and vermiculated with darker; top of head brown, sides and under parts pale, crossed by about 5 broad, irregular brown bars; side of body with about 5 or 6 broad, dark cross-bars, broader than the paler interspaces, broadest and darkest above and extending upon dorsal fin; under parts of body paler, more speckled; spinous dorsal with numerous small brown specks, a large, black ocellus on base of 3 anterior spines, and a larger one on base of last 4 dorsal spines, being chiefly on body; soft dorsal, caudal, and anal each crossed by several series of small brown spots; pectoral and ventrals pale, the pectoral with a few brown spots at base.

The above description from the type, a female, 2.5 inches long, obtained at Ilucres, February 14. Three female cotypes gotten at Fajardo, February 17, and one at Culebra, February 9, agree closely with the type; 2 of these, however, show faint traces of narrow horizontal lines along lower part of side.

A male, 2.5 inches long, from Culebra, February 11, taken as one of the cotypes, may be described as follows: Head 3.5; depth 3.7; eye 3.8; snout 3.2; maxillary 3.1; mandible 2.4; interorbital 7; preorbital 6.2; scales 3-15-9; D. xx, 10; A. ii, 19; P. 14; V. 2; C. 13; longest dorsal spine 2 in head, longest ray 1.4; longest anal ray 1.5; pectoral 1; ventral 1.1; caudal 1.1. Color in alcohol, tolerably uniform brown; crossbars on side very faint; longitudinal lines more evident than in the female; throat and under parts of head mottled with white and light brown; fins less speckled than in female, the soft dorsal and anal pale, almost without spots.

Another male, 2.25 inches long, from Culebra, February 11, agrees with

the large specimen just described, except that the crossbars on body are more distinct.

This species most closely resembles *M. bimaculatus* Steindachner, from which it differs in the larger head, greater depth, smaller mouth, narrower interorbital, and in the color. The tips of the anal rays are not white, the soft dorsal is spotted like the caudal and anal, and there are no white spots on base of pectoral, as is said to be the case in *M. bimaculatus*.

Puerto Rico; known from the 7 specimens mentioned above, all obtained by the U. S. Fish Commission expedition to Puerto Rico.

Malacoctenus puertoricensis, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19 1899), 358, Hucares, P. R. (Type, No. 49371, U.S.N.M. Coll. Evermann & Marsh.)

Page 2369. Before *Auchenopterus*, Günther, insert:

878 (a). **AUCHENISTIUS**, Evermann & Marsh.

Auchenistius, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 359 (*stahli*).

This genus has the form of *Auchenopterus* and suggests that genus strongly. It differs in the absence of a lateral line, in the much smaller scales, in the absence of a notch at the front of the dorsal fin, and in the union of the membrane of the anal fin with that of the caudal.

(*αὐχίστιν*, nape; *ἰστρίον*, sail or fin.)

2711 (a). **AUCHENISTIUS STAHLI**, Evermann & Marsh.

Head 5; depth 6.5; eye 4.8; snout 6; maxillary 2.8; scales about 58, about 12 in transverse series; D. XLI or XLII; A. II, 23 or 24; pectoral 2.5; ventral 2.2; caudal 1.3.

Body elongate, somewhat compressed, especially posteriorly, the dorsal and ventral outlines alike; head small, upper profile straight and descending; snout moderate, pointed; mouth large, the maxillary reaching to or beyond middle of eye; the jaws equal, heavy and projecting; teeth in lower jaw conical, short and strong, slightly recurved, in one row; teeth in upper jaw similar to those in lower, but a small patch of smaller teeth in front of jaw behind the main row; teeth on vomer; gill-membranes joined to the isthmus; nostrils with short tubes, a single flap above each eye and one on each side of nape; dorsal fin long, of spines only; last four spines somewhat longer than the preceding, forming a shallow notch, a feature lacking in the other examples; anal origin about midway between tip of snout and tip of caudal, the fin similar to dorsal in shape, but somewhat lower; membrane of dorsal and anal joined to caudal; caudal small, pointed; pectoral small, of 8 rays; ventral small, of 2 rays.

Color in spirits; Body everywhere with a very slight yellowish tinge, in some specimens a faded gray; one specimen has traces of 10 or 12 dark crossbars; fins all pale, in one case with the dorsal and anal dark-edged.

Puerto Rico; known from the type, a specimen 1.2 inches long, obtained by the U. S. Fish Commission expedition to Puerto Rico, February 1, 1899, at Ponce, and 13 cotypes, 8 from the coral and algae on the reefs at the mouth of Culebra harbor, and 5 from Puerto Real.

("Named for Dr. A. Stahl, of Bayamon, Puerto Rico, who, under many difficulties put in his way by Spanish authorities, made important collections of natural history objects of that island.")

Auchenistius stahli, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 359, Ponce, P. R. (Type, No. 49372, U.S.N.M. Coll. Evermann & Marsh.)

Page 2373. Before *Auchenopterus fasciatus* (Steindacher), insert:

2717 (a). AUCHENOPTERUS ALBICAUDUS, Evermann & Marsh.

Head 3.2; depth 4; eye 4; snout 4.1; maxillary 2.2; mandible 1.6; interorbital 5.3; D. XXX, 1; A. II, 17; pectoral 1.4; ventral 1.5; caudal 1.6; branchiostegals 6; scales 1-34-6.

Body rather short, compressed; dorsal outline not elevated; head moderate, not broad; snout short, pointed; mouth large, oblique, maxillary extending to below middle of eye; lips broad, prominent; a band of conical teeth on each jaw, those on side somewhat enlarged and recurved; a patch of teeth on vomer, none on palatines; gill-membranes broadly united, free from isthmus; eye large, high up; nasal, supraocular, and nuchal regions with fringed tuft-like cirri; a considerable notch between fourth and fifth dorsal spines, but not reaching base of membrane; longest anterior spine scarcely as long as those of the posterior portion; scales large, reduced anteriorly; lateral line anteriorly separated from the dorsal fin by only one scale; head naked.

Color: Uniform dark brown on head and body, no dark crossbars; dorsal brown, mottled with lighter, narrowly edged with white; a black spot upon anterior 3 or 4 spines and a large black ocellus upon posterior portion of fin between twenty-second and twenty-fourth spines; anal rather darker, with narrow white edge; caudal peduncle black, the fin abruptly white at base, the entire fin being clear white, entirely without specks; pectoral black at base, then barred with white and dark; ventral black at base, the outer two-thirds barred with black and white.

This species seems to be related to the Pacific-coast species, *Auchenopterus integripinnis*, which it closely resembles, but differs from that species in the larger scales, the deeper body, and the coloration.

Puerto Rico; known only from the type, a specimen 1.5 inches long, obtained by the U. S. Fish Commission expedition to Puerto Rico, February 4, 1899.

(*albus*, white; *cauda*, tail.)

Auchenopterus albicaudus, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 360, Arroyo, P. R. (Type, No. 49373, U.S.N.M. Coll. Evermann & Marsh.)

2717 (b). AUCHENOPTERUS RUBESCENS, Evermann & Marsh.

Head 3.4; depth 5; eye 5; snout 3.8; maxillary 2.6; interorbital 5.8; scales 2-32-8; D. XXX, 1; A. II, 18; pectoral 1.5; ventral 2; caudal 1.4.

Body slender and compressed; head moderate, somewhat compressed above; snout pointed; mouth moderate, the jaws equal, the maxillary about reaching front of pupil; lips, especially the upper, prominent; teeth small, conical and sharp, in both jaws, in a numerous patch on front of

upper jaw, fewer on sides; in lower jaw less numerous in front, a long single row of somewhat stronger teeth on sides; eye not large; a small nasal flap, and a 3- or 4-branched tentacle over eye and one at nape; scales rather large and regularly arranged; dorsal fin with a notch behind third spine, and with one unbranched soft ray at its end, the membrane joined to caudal; origin of anal under eleventh dorsal spine; lateral line as usual in *Auchenopterus*.

Color in spirits: Everywhere a nearly uniform faded pink, save breast and lower side of head, which are paler; a small, inconspicuous dark round spot on dorsal fin, at twenty-third and twenty-fourth spines, a little nearer base than margin, and made up of very small black punctulations; indications of a yellow tinge on front of dorsal and base of anal in life; fins otherwise all pale.

Puerto Rico; known only from the type, a specimen 1.3 inches long, obtained by the United States Fish Commission expedition to Puerto Rico January 27, 1899. (*rubescens*, reddening.)

Auchenopterus rubescens, EVERMANN & MARSH, Rept. U.S. Fish Com. 1899 (Dec. 19, 1899), 360, Puerto Real, P. R. (Type, No. 49374, U.S.N.M. Coll. Evermann & Marsh.)

2717 (c). *AUCHENOPTERUS CINGULATUS*, Evermann & Marsh.

Head 3; depth 4.4; eye 5; snout 4.2; maxillary 2.2; interorbital 6; scales 2-29-7; D. IV-XXIV, the longest spines 3 in head; A. II, 16, the longest ray 2.25 in head; pectoral 1.3; ventral 1.8; caudal 1.6. Body rather long and slender, strongly compressed; head large, little compressed; snout moderately sharp; mouth large, maxillary reaching posterior border of eye, the lips heavy, the jaws subequal or the lower very slightly projecting; teeth conical and sharp, in more than one row in each jaw, most numerous in front; a patch on vomer; a nasal filament, a 3- or 4-branched supraocular tentacle, and a 4-branched nuchal tentacle, the branches of the latter each with a dark dot on their anterior surface. Dorsal originating over edge of preopercle, of spines only, the second slightly longer than first; second, third, and fourth graduated, the fourth comparatively short, thus forming a notch partly separating the first 4 spines from rest of fin; dorsal membrane joined low with caudal; anal free from caudal, about as high as dorsal, its thirteenth and fourteenth rays longest; first anal spine under tenth or eleventh dorsal spine; caudal rounded, shorter than head, of about 13 rays; pectoral large, reaching anal, of 12 rays; ventrals moderate, of 2 rays, the spine not evident. Lateral line running high to eleventh dorsal spine, here abruptly decurved two rows of scales, thence median to base of caudal.

Color in spirits: Body and head pale yellow; body with 4 heavy dark-brown vertical bars, each about 4 rows of scales wide, extending on the vertical fins; membrane of anterior dorsal spines, opercle, occipital, and scapular region blotched with the same color; a dark bar backward and downward from eye across cheek, rather more than one-half width of eye; top of head between and behind eyes darkened; preorbital, maxillary, lips, and under part of head thickly punctulate with dark; dorsal and anal barred with the extensions of the wide dark body bars, and with the

alternating narrower pale interspaces; caudal mottled or irregularly barred with grayish, its base with the plain pale-yellow ground color, which is sharply separated from the rest of the fin by a curved dark line; posterior half of pectoral barred with dark formed of dots on the rays, the first bar plainest; basal half of pectoral pale; ventral with basal portion dark, the rest barred like pectoral.

A pretty and strongly marked blenny, known only from Puerto Rico, where 4 specimens were obtained on the coral reefs at Ponce and 1 at Puerto Real by the U. S. Fish Commission expedition to Puerto Rico.

(*cingulatus*, banded, from the conspicuous vertical bars.)

Auchenopterus cingulatus, EVERMANN & MARSH, Rept. U. S. Fish. Com. 1899 (Dec. 19, 1899), 361, Ponce, P. R. (Type, No. 49375, U.S.N.M. Coll. Evermann & Marsh.)

2717 (d). *AUCHENOPTERUS FAJARDO*, Evermann & Marsh.

Head 3.25; depth 4.8; eye 4.2; snout 4.8; maxillary 1.7; mandible 1.5; interorbital 5.5; scales 2-37-8; B. XXIX, 1, the longest spine 2.3 in head; A. II, 17; pectoral 1.4; ventral 1.7; caudal 1.4. Body elongate, strongly compressed posteriorly; head moderate, little compressed; mouth large, the long and slender maxillary reaching beyond the posterior border of orbit; jaws subequal; teeth of upper jaw conical and sharp, in a patch in front, becoming one row posteriorly; teeth in lower jaw similar, but fewer and weaker; vomerine teeth in two series. Nasal, ocular, and nuchal tentacles present, all but the nasal about 5-branched. Dorsal origin over edge of preopercle, the first 4 spines graduated, the fourth shortest, thus forming a notch; dorsal ending with an unbranched soft ray, the joints visible under a strong lens; membrane of dorsal joined low to caudal; anal origin under eleventh dorsal spine and the decurved portion of lateral line; pectoral reaching past front of anal; ventral moderate, of 3 rays, the innermost shorter and slenderer.

Color in spirits: Body and head light reddish, becoming a little paler posteriorly; body with traces of 6 or 8 dark vertical bars extending on the fins, their margins ill defined; breast pale, 2 dark reddish bars downward and backward from eye across upper and lower edge of cheek to opercle; maxillary blotched with dark; upper lip and tips of both jaws dark; lower part of head spotted with dark; a row of about 5 small dark spots on edge of preopercle; iris pink; dorsal and anal fins gray, except for the extensions of the dark bars of the body and a few white spots on the dorsal; a distinct ocellus on the twenty-second, twenty-third, and twenty-fourth dorsal spines and their membranes; base of caudal gray, like the ground color of dorsal and anal; posterior part of caudal with gray mottlings on the rays only, this portion separated from the basal part by a space without pigment on rays or membrane, making a distinct vertical bar; pectoral and ventrals mottled. Puerto Rico.

A handsomely colored blenny, known only from the type, 1.63 inches long, collected February 17, 1899, by the the U. S. Fish Commission expedition to Puerto Rico. (Named for the type locality.)

Auchenopterus fajardo, EVERMANN & MARSH, Rept. U. S. Fish. Com. 1899 (Dec. 19, 1899), 361, Fajardo, P. R. (Type, No. 49376, U.S.N.M. Coll. Evermann & Marsh.)

Page 2400. Before *Ophioblennius*, Gill, insert:

893 (a). *CORALLIOZETUS*, EVERMANN & Marsh.

Coralliozetus, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 362 (cardonae).

Body slender and strongly compressed, without scales; head large, sub-cylindrical, bluntly pointed; mouth large; teeth not hooked, about 8 enlarged conical ones in front of each jaw, smaller ones behind; vomer with teeth; dorsal fin with a notch between the rays and spines, the membrane connected with caudal; caudal fin rounded; pectoral large, ventrals small and inserted slightly in advance of pectorals. A strongly marked genus, conspicuous in appearance by its heavy head and thin body, probably related to *Ophioblennius*, from which it is technically separated by the absence of hooked canine teeth, the convex caudal, and the entire absence of a lateral line.

(κοράλλιον, coral; ζητέω, I seek.)

2753 (a). *CORALLIOZETUS CARDONE*, Evermann & Marsh.

Head 4; depth 5.6; eye 5; snout 4; maxillary 2; D. XVII, 11; A. 21; pectoral 1.3; ventral 1.8; caudal 1.4.

Body scaleless, slender, much compressed; head large and heavy, not compressed nor depressed; snout very short and blunt; mouth large, horizontal, low in position, the maxillary reaching far beyond the eye; eyes small, close together, placed high and well forward; teeth conical, in a patch on the front of each jaw, an outer row of about 8 teeth (4 on a side) in each jaw, much enlarged; a single row of smaller teeth on sides of each jaw; teeth on vomer; a small flap at the nostril and two short filaments above eye, one much the smaller; no appendages at the nape. Dorsal fin long and high, of slender, flexible spines, and longer soft rays, a notch between the soft and spinous portions; anal longer and lower than soft dorsal; anal and dorsal free from caudal; caudal rounded; pectoral large, wide as body, reaching anal or beyond; ventral small, inserted before pectoral, of 3 rays, the innermost very slender.

Color in spirits: Body dark red, much paler in one specimen; head everywhere inky, this color dusted upon the body, particularly on the anterior portion; a pale gray bar downward and backward across cheek; fins pale, except ventrals and front of dorsal, which have color of head; a row of small rosy spots along bases of anal rays, seemingly in the flesh; sometimes a similar fainter row along base of dorsal. Known only from Puerto Rico, where 3 specimens, each about 1 inch long, were obtained in February, 1899, by the U. S. Fish Commission expedition to that island.

(Named for Cardona, a little islet off Playa de Ponce, on the reef of which the type was collected.)

Coralliozetus cardonae, EVERMANN & MARSH, Rept. U. S. Fish Com. 1899 (Dec. 19, 1899), 362, Cardona Islet, P. R. (Type, No. 49377, U.S.N.M. Coll. Evermann & Marsh.)

Page 2471. After *Lycenchelys pacillus* (Goode & Bean), insert the following:

2833 (a). *LYCENCHELYS MURENA* (Collett).

Head nearly 8; depth about 20; eye 4.5; D. 112 (including one-half of caudal, 118); A. 95 (101); P. 13. Body everywhere scaled, head and fins naked; ventrals comparatively close together, 6 times length of pectoral; jaws with teeth in a single series. Lateral line present, but difficult to trace in its entirety; from upper angle of gill-opening a series of rather closely placed, very small pores (connected by a narrow line) descends in a curve to a short distance behind vent; after having reached nearly to base of anal, it runs for a short distance nearly horizontally, whereupon it ceases, or can not be followed in the same direction with certainty; another lateral line, however, begins about over the vent, and runs horizontally along median line, becoming obsolete toward end of tail; the pores herein are very small and more widely separated, and can be seen only by close observation; the short whitish line which runs through each pore forms here no accompanying line. Length 7 to 11 inches. North Atlantic. Recently taken by the *Ingolf* expedition in Denmark Strait.

Lycodes murena, COLLETT, Loh. Selsk. Christ., No. 14, 15, 1878, off Traenen, in Helge-land, Norway; Lütken, *Ingolf* Expedition, 20, 1898.

Lycenchelys murena, GOODE & BEAN, Oceanic Ichth., 309, 1896.

Page 2578. *Chalinura simula*, Goode & Bean, was taken by the *Ingolf* in Denmark Strait in 912 to 1,236 fathoms.

Page 2587. Before *Calorhynchus*, Giorna, insert the following:

2963 (a). *MACROURUS INGOLFI*, Lütken.

The head is contained about 5 times in the total length. The superior or frontal surface of the snout is separated from the inferior or more forwardly directed part by a well-developed crest or edge, terminating in 3 spinose osseous tubercles, 1 directly in the middle and 1 on each side, close before the naked spot, where the nostrils have their place, and continued both above and below the orbits. The broadly triangular snout is prolonged fairly over and before the mouth, which is relatively little, the corners of the mouth falling in a line with the anterior margin of the middle of the orbits. The eyes are large, their diameter surpassing the breadth of the front between the eyes. The teeth form a fine card in both jaws. The head is scaled with the exception of the gill-membrane, the isthmus, and its foremost superior margin, and almost the whole lower surface. The naked part of the snout is handsomely embroidered with rows of slime glands. The first dorsal, counting 11+9 rays, is singularly high and its longest (second) ray is serrate and as long as the head. The second dorsal begins much forward, its foremost rudimentary rays may be followed until not far from the posterior margin of the first dorsal fin. The pectoral contains 20 rays, and the ventrals, whose external ray tapers to a fine thread and reaches a long stretch beyond the anus, have 8 rays. It may also be remarked that the tail, as in other Macrurians, is really

pointed behind, but in several specimens has lost a shorter or longer part; but the wound has healed, and on the thus truncated point of the tail is developed a distinct caudal fin, a phenomenon which is also observed in some specimens of the preceding species. The scales show distinct rows of thorns, not however so much projecting as in *M. goodei*. (Lütken.)

Several specimens taken by the *Ingolf* about Iceland and in Denmark Strait.

Macrurus ingolji, LÜTKEN, Ichth. Results Danish *Ingolf* Exped., 27, 1898, south of Iceland.

Page 2622. After *Hippoglossina bollmani*, Gilbert, insert the following:

2988 (a). HIPPOGLOSSINA SABANENSIS, Boulenger.

Head 4; depth 1½; eye 5; width of mouth 2¼ in head; maxillary reaching posterior third of eye; teeth small, more strongly developed on right side; eyes moderately large, the lower a little in advance of the upper; interorbital space tectiform, scarcely half the width of eye. D. 76; A. 63. Gill-rakers very short, tuberculous, 6 on lower arm of first gill-arch; dorsal commencing above anterior third of upper eye, its longest ray 2 in head; left pectoral a little longer than right, 1½ in head; left ventral twice as long as right, equaling the head; caudal a little shorter than head, its free edge forming a wide angle, the middle rays more than half longer than the outer; depth of caudal peduncle twice its length; scales 33-110-40, strongly ciliate on both sides; lateral line strongly arched above the pectoral. Deep gray brown; 3 large black ocelli bordered with bluish, 2 superposed on middle of body, equally distant, between lateral line and vertical fin, the third on lateral line a little in front of caudal peduncle; pectoral yellowish, ventrals blackish. Length 230 mm. One specimen from Rio Sabana, Darien. (Boulenger.) (*sabanensis*, from the Rio Sabana.)

Hippoglossina sabanensis, BOULENGER, Bollettino dei Mus. di Zool. ed. Anat. Comp. della Univ. di Torino, Vol. XIV, No. 346, 4, April 29, 1899, Rio Sabana, Darien. (Coll. Dr. Enrico Festa.)

Page 2789. *Villarius*, Rutter=*Haustor*, Jordan & Evermann. All species of *Ameiurus* have villi.

Page 118. Dr. Albert Günther has recently critically studied the Linnean type specimens of American fishes in the possession of the Linnean Society of London, and the results are published in the proceedings of that society for May 24, 1899.

These studies of Dr. Günther necessitate the following changes from the names adopted by us in the earlier parts of this work: The Gaff-Top-sail Catfish becomes

161. FELICHTHYS FELIS (Linnaeus).

The species called by us *Hexanematichthys felis* (Linnaeus) (p. 128) becomes

186. GALEICHTHYS MILBERTI (Cuvier & Valenciennes).

The Red Hind, given by us as *Epinephelus maculosus* (p. 1158), becomes

1553. *EPINEPHELUS GUTTATUS* (Linnaeus).

The Spotted Jewfish, given as *Promicrops guttatus* (p. 1162), becomes

1557. *PROMICROPS ITAIARA* (Lichtenstein).

Page 261. After *Notropis heterodon* (Cope), insert:

406 (a). *NOTROPIS CALIENTIS* Jordan & Snyder.

Head 3.66 in length; depth 3.33; eye 4 in head; snout 4; interorbital space 2.66; depth of caudal peduncle 2.40; height of dorsal 4.66 in length; anal 5.75; length of pectoral 5.66; ventral 6; caudal 3.83; scales in lateral line 33; between dorsal and occiput 15; between dorsal and ventral fins 10; D. 8; A. 7. Body deep and wide, deepest part anterior to insertion of dorsal; caudal peduncle long and slender; snout blunt, rounded; mouth oblique; jaws equal; maxillary reaching to a vertical from posterior nostril. Teeth 4-4, slender, hooked, grinding surface narrow, absent on smallest tooth. Gill-rakers short, blunt; 9 on first arch. Intestinal canal short, with but 1 convolution; peritoneum white, scales large, not notably deeper than long; lateral line incomplete, extending only as far as posterior edge of pectoral. Dorsal fin rounded, the second, third, and fourth rays longest; anal fin similar in shape; ventral rounded, extending to vent, inserted directly under dorsal; pectoral rounded; caudal forked, the lobes directed.

Color silvery, an indefinite dark band extending from tip of snout to end of caudal peduncle; the band distinct on snout and caudal peduncle, broader and almost obsolete on middle of body; top of head and a narrow band on median dorsal part of body dark; ventral parts of body immaculate, except a narrow, dark band extending along base of anal and ventral part of caudal peduncle; chin white; scales on upper parts with dark edges; dorsal and caudal fins slightly dusky; other fins lighter.

This species is of small size, the mature males measuring about 34 mm. in length of body; the females 43. The males are more slender and have a little less dark color on the body. The affinities of *Notropis calientis* are with *Notropis cayuga*, *jordani*, and others of the subgenus *Chriope*. The species may be distinguished by its small eye, short, rounded snout, deep body, short lateral line, and rounded fins. (Jordan & Snyder.)

Lake Chapala basin, Mexico.

Notropis calientis, JORDAN & SNYDER, Bull. U. S. Fish Com. 1899 (1900), 122, Rio Verde, at Aguas Calientes, Mexico. (Type, No. —, L. S. Jr. Univ. Mus. Coll. J. O. Snyder.)

Page 965. The generic name *Rhombus* was first used by Humphreys in 1797 for a genus of mollusks, and can not therefore be used in fishes. Its place in fishes will be taken by *Peprilus* Cuvier (1817).

INDEX TO NAMES OF FISHES MENTIONED IN THE "ADDITIONAL ADDENDA" IN PART IV.

The following index includes only those names which occur in the "Additional Addenda" found in the present volume. An index complete for the three other parts is given in Part III.

	Page.		Page.
agassizii, Chologaster	3156	Chirostoma album	3165
Agosia klamathensis	3144	breve	3157
albicaudus, Auchenopterus	3191	chapale	3159
album, Chirostoma	3165	crystallinum	3162
Algansea lacustris	3140	diazii	3161
Alutera monoceros	3178	ester	3165
Amblyopsis	3157	humboldtianum	3157
arge, Eslopsarum	3158	lerna	3163
arundellii, Gobius	3184	ocotlane	3163
aubeenaubei, Etheostoma	3167	promelas	3160
Auchenistius	3190	Chologaster	3156
stahli	3190	agassizii	3156
Auchenopterus albicaudus	3191	cornutus	3156
cingulatus	3192	papilliferus	3156
fajardo	3193	Cichlasomasteindachneri	3173
rubescens	3191	cingulatus, Auchenopterus	3192
Bairdiella miacantha	3173	clarkii declivifrons, Salmo	3147
baldwini, Prionodes	3168	jordani, Salmo	3148
balsanus, Istiarius	3139	Coralliozetus	3194
bathæceter, Salmo	3149	cardonæ	3194
bayamonensis, Gobius	3184	cornutus, Chologaster	3156
Blennicottus globiceps	3179	Cottus gracilis cayuga	3178
recalvus	3178	crystallinum, Chirostoma	3162
Bollmannia boqueronensis	3185	culebræ, Malacotenus	3187
boqueronensis, Bollmannia	3185	Cyclothone megalops	3150
breve, Chirostoma	3157	declivifrons, Salmo clarkii	3147
cagnitæ, Sicydium	3183	decoris, Doratonotus	3177
Calamus kendalli	3172	Dialarchus	3180
caliente, Xenendum	3152	snyderi	3181
calientis, Notropis	3197	diazii, Chirostoma	3161
cardonæ, Coralliozetus	3194	digueti, Neomugil	3165
carpintis, Neetroplus	3175	Doratonotus decoris	3177
cayuga, Cottus gracilis	3178	encaustus, Characodon	3150
Centridermichthys globiceps	3179	Epinephelus guttatus	3197
maculosus	3182	maculosus	3197
Centrolophidæ	3166	Eslopsarum arge	3158
chapalæ, Chirostoma	3159	jordani	3157
falcula	3143	ester, Chirostoma	3165
Characodon encaustus	3150	Etheostoma aubeenaubei	3167

	Page.		Page.
<i>Eucalia inconstans</i>	3157	<i>lalandi</i> , Seriola.....	3166
<i>Eupomacentrus flavilatus</i>	3170	<i>lerma</i> , <i>Chirostoma</i>	3163
<i>rectifrenum</i>	3176	<i>limantouri</i> , <i>Poecilia</i>	3153
<i>Eximia</i>	3182	<i>luitpoldii</i> , <i>Xenodermus</i>	3152
<i>rubellio</i>	3182	<i>Lycenchelys murana</i>	3195
<i>Falcula</i>	3143	<i>Lycodontis jordanii</i>	3145
<i>chapala</i>	3143	<i>Macdonaldia rostrata</i>	3150
<i>fajardo</i> , <i>Auchenopterus</i>	3193	<i>Macrourus ingolfi</i>	3195
<i>Felichthys felis</i>	3197	<i>maculosus</i> , <i>Centridermichthys</i>	3182
<i>felis</i> , <i>Felichthys</i>	3197	<i>Epinephelus</i>	3196
<i>festae</i> , <i>Plabucina</i>	3145	<i>Oligocottus</i>	3182
<i>Tachysaurus</i>	3138	<i>Malacoctenus culebrae</i>	3187
<i>flavilatus</i> , <i>Eupomacentrus</i>	3176	<i>moorei</i>	3188
<i>Galeichthys labiatus</i>	3137	<i>puertoricensis</i>	3189
<i>milberti</i>	3197	<i>maxinkuckiensis</i> , <i>Hadropterus</i>	3166
<i>garmani</i> , <i>Stolephorus</i>	3146	<i>meeki</i> , <i>Microgobius</i>	3185
<i>Gasterosteus gymnetes</i>	3157	<i>megalops</i> , <i>Cyclothone</i>	3150
<i>gilberti</i> , <i>Stolephorus</i>	3146	<i>micrantha</i> , <i>Bairdiella</i>	3173
<i>Gilbertidia</i>	3183	<i>Microgobius meeki</i>	3185
<i>Gilbertina</i>	3183	<i>milberti</i> , <i>Galeichthys</i>	3196
<i>Gillias</i>	3186	<i>monoceros</i> , <i>Alutera</i>	3178
<i>jordanii</i>	3186	<i>montezuma</i> , <i>Xiphophorus</i>	3154
<i>globiceps</i> , <i>Blennicottus</i>	3179	<i>moorei</i> , <i>Malacoctenus</i>	3188
<i>Centridermichthys</i>	3179	<i>murana</i> , <i>Lycenchelys</i>	3195
<i>Oligocottus</i>	3179	<i>muskoka</i> , <i>Notropis</i>	3141
<i>Gobius arundellii</i>	3184	<i>Myctophum gracile</i>	3150
<i>bayamonensis</i>	3184	<i>Nebria occidentalis</i>	3173
<i>soporator</i>	3184	<i>zestus</i>	3173
<i>gracile</i> , <i>Myctophum</i>	3150	<i>Neetroplus carpintis</i>	3175
<i>gracilis cayuga</i> , <i>Cottus</i>	3178	<i>Neomugil</i>	3165
<i>Uranidea</i>	3178	<i>digneti</i>	3165
<i>guttatus</i> , <i>Epinephelus</i>	3197	<i>nepheus</i> , <i>Spheroides</i>	3178
<i>Promierops</i>	3197	<i>Tetradon</i>	3178
<i>gymnetes</i> , <i>Gasterosteus</i>	3157	<i>Notropis calientis</i>	3147
<i>Hadropterus maxinkuckiensis</i>	3166	<i>muskoka</i>	3141
<i>Hamulon helena</i>	3171	<i>rasconis</i>	3141
<i>Hauator</i>	3196	<i>occidentalis</i> , <i>Nebria</i>	3173
<i>helena</i> , <i>Hamulon</i>	3171	<i>oetolane</i> , <i>Chirostoma</i>	3163
<i>Heros istlari</i>	3174	<i>Oligocottus globiceps</i>	3179
<i>Hippoglossina sabanensis</i>	3196	<i>maculosus</i>	3182
<i>humboldtianum</i> , <i>Chirostoma</i>	3157	<i>snyderi</i>	3182
<i>inconstans</i> , <i>Eucalia</i>	3157	<i>Orcella</i>	3140
<i>ingolfi</i> , <i>Macrourus</i>	3195	<i>Orcula</i>	3140
<i>istlari</i> , <i>Heros</i>	3174	<i>papilliferus</i> , <i>Chologaster</i>	3156
<i>Istlari</i>	3138	<i>Peprilus</i>	3197
<i>balsanus</i>	3139	<i>Plabucina festae</i>	3145
<i>italara</i> , <i>Promierops</i>	3197	<i>Poecilia limantouri</i>	3153
<i>jordanii</i> , <i>Esloparium</i>	3157	<i>Pomadasis labraciforme</i>	3172
<i>Gillias</i>	3186	<i>popoche</i> , <i>Xystosus</i>	3142
<i>Lycodontis</i>	3145	<i>Prionodes baldwini</i>	3168
<i>Salmo clarkii</i>	3148	<i>promelas</i> , <i>Chirostoma</i>	3160
<i>kendalli</i> , <i>Calamus</i>	3172	<i>Promierops guttatus</i>	3197
<i>klamathensis</i> , <i>Agosia</i>	3144	<i>italara</i>	3197
<i>labiatus</i> , <i>Galeichthys</i>	3137	<i>puertoricensis</i> , <i>Malacoctenus</i>	3189
<i>labraciforme</i> , <i>Pomadasis</i>	3172	<i>rasconis</i> , <i>Notropis</i>	3141
<i>lacustris</i> , <i>Algausca</i>	3140	<i>recalvus</i> , <i>Blennicottus</i>	3178

	Page.		Page.
rectifrenum, <i>Eupomacentrus</i>	3176	<i>Stolephorus garmani</i>	3146
<i>Rhegma</i> *	3169	<i>gilberti</i>	3146
<i>thaumasium</i> *	3170	<i>Stromateidæ</i>	3166
<i>Rhombus</i>	3197	<i>subterraneus</i> , <i>Typhlichthys</i>	3156
<i>rimensis</i> , <i>Rusciculus</i>	3179	<i>Tachysurus festæ</i>	3138
<i>rosæ</i> , <i>Troglichthys</i>	3156	<i>Tetrodon nephelus</i>	3178
<i>Typhlichthys</i>	3156	<i>spengleri</i>	3178
<i>rostrata</i> , <i>Macdonaldia</i>	3150	<i>thaumasium</i> , <i>Rhegma</i>	3170
<i>rubellio</i> , <i>Eximia</i>	3182	<i>Troglichthys</i>	3156
<i>rubescens</i> , <i>Auchenopterus</i>	3191	<i>rosæ</i>	3156
<i>Rusciculus</i>	3179	<i>Typhlichthys</i>	3157
<i>rimensis</i>	3179	<i>rosæ</i>	3156
<i>sabanensis</i> , <i>Hippoglossina</i>	3196	<i>subterraneus</i>	3156
<i>Sulmo bathocetor</i>	3149	<i>Uranidea gracilis</i>	3178
<i>clarkii declivifrons</i>	3147	<i>Villarius</i>	3196
<i>jordani</i>	3148	<i>xaliscone</i> , <i>Xenendum</i>	3153
<i>Seriola lalandi</i>	3166	<i>Xenendum</i>	3151
<i>Sicydium caguitæ</i>	3183	<i>caliente</i>	3152
<i>snyderi</i> , <i>Dialarchus</i>	3181	<i>luitpoldii</i>	3152
<i>Oligocottus</i>	3182	<i>xaliscone</i>	3153
<i>spoporator</i> , <i>Gobius</i>	3184	<i>Xiphophorus montezumæ</i>	3154
<i>spengleri</i> , <i>Tetrodon</i>	3178	<i>Xystrosus</i>	3142
<i>Spheroides nephelus</i>	3178	<i>popoche</i>	3142
<i>stahli</i> , <i>Auchenistius</i>	3190	<i>zestus</i> , <i>Nebris</i>	3173
<i>steindachneri</i> , <i>Cichlasoma</i>	3173		

* These names occur as new in this volume.

INDEX TO GENERA AND SPECIES ILLUSTRATED.

Genera and species.	Plate and figure.	Text page.
<i>Abeona minima</i>	CCXXXVIII, 578	1497
<i>Aboma etheostoma</i>	CCXXXVIII, 792	2240
<i>Abramis crysoleucas</i>	XLV, 111	250
<i>Abudefduf saxatilis</i>	CCXXXIV, 590	1561
<i>acanthias</i> , <i>Squalus</i>	VII, 24, 24a	54
<i>Acantharchus pomotis</i>	CLV, 418	989
<i>accipiter</i> , <i>Podothecus</i>	CCCVIII, 745, 745a	2055
<i>Achirus fasciatus</i>	CCCLXXXVII, 948	2700
<i>lineatus</i>	CCCLXXXVI, 947	2697
<i>Acipenser brevirostrum</i>	XXI, 47	106
<i>rubicundus</i>	XXI, 46	106
<i>sturio oxyrhynchus</i>	XX, 45	105
<i>transmontanus</i>	XX, 44	104
<i>acipenserinus</i> , <i>Podothecus</i>	CCCIX, 746	2061
<i>ackleyi</i> , <i>Raja</i>	X, 31	70
<i>Aerocheilus alutaceus</i>	XXXIX, 97	208
<i>Aerotus willoughbyi</i>	CLII, 408	973
<i>aculeatus</i> , <i>Gasterosteus</i>	CXIX, 320	747
<i>Stenotomus</i>	CCXII, 545	1346
<i>acus</i> , <i>Tylosurus</i>	CXVI, 309	716
<i>acutus</i> , <i>Fodiator</i>	CXVII, 315	728
<i>Adinia dugesii</i>	CVIII, 290	661
<i>adscensionis</i> , <i>Epinephelus</i>	CLXXXII, 482	1152
<i>adspersus</i> , <i>Tautoglabrus</i>	CCXXXVI, 595	1577
<i>aglefinus</i> , <i>Melanogrammus</i>	CCCLXI, 892, 892a	2542
<i>agnus</i> , <i>Myoxocephalus</i>	CCXCV, 715, 715a	1972
<i>æsculapius</i> , <i>Alepisaurus</i>	XCVI, 258	595
<i>æstivalis marconis</i> , <i>Hybopsis</i>	LIII, 136	316
<i>Pomolobus</i>	LXXI, 190	426
<i>Æthoprora lucida</i>	XCI, 24	365
<i>Ætobatus narinari</i>	XV, XVI, 37, 37a	88
<i>affinis</i> , <i>Atherinops</i>	CCXXVI, 342	807
<i>Cheilodipterus</i>	CLXXIX, 474	1113
<i>Chimera</i>	XIX, 40	95
<i>Gambusia</i>	CXIII, 299, 299a	680
<i>agassizii</i> , <i>Alepocephalus</i>	LXXIV, 197	453
<i>Callionymus</i>	CCXXIII, 779	2186
<i>Dicromita</i>	CCCLV, 874	2506
<i>Liparis</i>	CCXXVII, 765	2121
<i>Xenichthys</i>	CCIII, 527	1287
<i>aggregatus</i> , <i>Cymatogaster</i>	CCXXVIII, 579, 579a	1498
<i>Agonostomus monticola</i>	CXXVII, 347	819
<i>Agosia falcata</i>	LIII, 135	313
<i>klamathensis</i>	LII, 133	311
<i>umatilla</i>	LII, 134	313
<i>Ahlia egmontis</i>	LX, 158	370
<i>alabama</i> , <i>Alosa</i>	LXXII, 192, 192a	2810
<i>alalunga</i> , <i>Germa</i>	CXXXIV, 367	871
<i>alatus</i> , <i>Prionotus</i>	CCXXIX, 770	2159
<i>albigutta</i> , <i>Kathetostoma</i>	CCXXXIV, 809, 809a	2412
<i>albolineatus</i> , <i>Fundulus</i>	CV, 281	649
<i>Albula vulpes</i>	LXVIII, 179	411
<i>album</i> , <i>Hæmulon</i>	CCIII, 528	1295
<i>Alcidea thoburni</i>	CCLXXXIII, 684	1887
<i>Aldrovandia gracilis</i>	XCVIII, 263	610
<i>macrochir</i>	XVIII, 262	609
<i>Alepisaurus æsculapius</i>	XCVI, 258	595
<i>ferox</i>	XCIV, 257	595
<i>Alepocephalus agassizii</i>	LXXIV, 197	453
<i>Aleposomus copei</i>	LXXV, 199	459

Genera and species.	Plate and figure.	Text page.
aleutica, <i>Lyconectes</i>	CCCXLVI, 844	2444
aluticus, <i>Callias</i>	CCCXLVI, 844	2444
Alexurus armiger	CCCXXV, 784	2293
Algansea dugesi	XL, 98	211
allecterata, <i>Gymnosarda</i>	CXXXIV, 366	839
Alopius vulpes	VI, 20	45
Alosa alabamica	LXXII, 192, 192a	2810
<i>supracaudalis</i>	LXXII, 192	427
Alphistes chloropterus	CLXXXVI, 488, 488a	1104
alpinus aureolus, <i>Salvelinus</i>	LXXXVII, 220	511
altivelis, <i>Sebastolobus</i>	CCLXIX, 659	1763
altus, <i>Hybopsis</i>	LIV, 138	321
<i>Pseudopriacanthus</i>	CXCV, 512	1239
alutacus, <i>Aerocheilus</i>	XXXIX, 97	208
Alutera schottii	CCLX, 635	1718
<i>scripta</i>	CCLX, 636	1719
alutus, <i>Apogonichthys</i>	CLXXXVII, 473	1110
<i>Sebastodes</i>	CCLXXII, 660	1799
Ambloplites rupestris	CXVI, 419, 419 a, b, c	990
Amblyopsis speleus	CXV, 307	706
amblyrhynchus, <i>Hemicarax</i>	CXII, 386	912
Ammotus dugesi	CXVI, 419, 419 a, b, c	990
<i>melas</i>	XXVI, 60	141
<i>platycephalus</i>	XXVII, 61	142
americana, <i>Morone</i>	CLXXXI, 479	1134
americanus, <i>Ammodytes</i>	CXXXIX, 351	833
<i>Hemitripterus</i>	CCCV, 718	2023
<i>Menticirrhus</i>	CXXXV, 572	1474
<i>Polyprion</i>	CLXXXI, 480, 480a	1139
<i>Pseudopleuronectes</i>	CCLXXIX, 933	2647
Amia calva	XXII, 51, 51a	113
Ammocrypta beanii	CLXXII, 455	1064
<i>pellucida clara</i>	CLXXII, 454	1063
Ammodytes americanus	CXXXIX, 351	833
anapulaceus, <i>Saccopharynx</i>	LXVI, 175	406
Anableps dowii	CXIII, 300	685
analis, <i>Hypoerichthys</i>	CXXXIX, 582	1500
<i>Neomenis</i>	CXCVIII, 517	1205
<i>Notacanthus</i>	XCVIII, 264	615
Anarchichas latifrons	CCXLVI, 845	2446
<i>lepturus</i>	CCXLVII, 847	2447
<i>lupus</i>	CCXLVII, 846	2446
ancylodon, <i>Sagenichthys</i>	CXXXI, 564	1416
Ancylopsetta quadricellata	CCCLXXV, 925	2634
Angelichthys ciliaris	CCCLIV, 626, 626a	1684
Anguilla chrysopa	LV, 143	348
anguilla, <i>Ictalurus</i>	XXV, 57	2788
<i>anguillaris</i> <i>Zoarces</i>	CCLVIII, 859	2491
Anisotremus bilineatus	CCVIII, 538	1319
<i>virginianus</i>	CCVIII, 537	1318
<i>virginicus</i>	CCIX, 539	1322
annularis, <i>Pomoxis</i>	CLIV, 415	987
anomatum, <i>Camptostoma</i>	XXXIX, 95	205
Anoplocheilichthys atropurpureus	CCCLIII, 835	2422
Anoplopoma flubria	CCCLXIX, 674	1862
Anthias asperlinguis	CXCH, 507	1227
antillarum, <i>Talismania</i>	LXXIV, 198	455
Antimora viola	CCCLXII, 893, 893a	2544
Apeltes quadratus	CXX, 322	752
Aphrododerus sayanus	CXII, 331	786
Aphronotus grummiens	CXXVII, 574	1484
Apodichthys flavidus	CCCLL, 850	2411
apodus, <i>Neomenis</i>	CXCVII, 515	1238
Apogon pigmentatus	CLXXVI, 471	1109
<i>reticulatus</i>	CLXXVI, 471	1108
Apogonichthys alutus	CLXXXVIII, 473	1110
Apometis asymmetricus	CLIX, 434	998
Apion macrophthalmus	CC, 523	1280
Apionichthys	CLIX, 434	998
Apsilus dentatus	CC, 522	1278
arata, <i>Atherina</i>	CXXIII, 343	790
Archoplites interruptus	CLVII, 420	991
Archosargus probatocephalus	CXXVI, 554	1361

Genera and species.	Plate and figure.	Text page.
<i>Archosargus unimaculatus</i>	CXXVI, 553	1359
<i>aretifrons</i> , Calamus	CXXIV, 550	1355
<i>Arctoscopus japonicus</i>	CCXXXIII, 807	2297
<i>Arctozenus cornuicans</i>	XCVI, 259	601
<i>arcuatus</i> , Pomacanthus	CCLI, 623	1679
<i>ardens</i> , Catostomus	XXXIV, 84	179
<i>arenatus</i> , Priacanthus	CXCV, 511	1297
<i>argentatus</i> , Gaidropsarus	CCCLXVII, 906	2559
<i>argentea</i> , Bathylupea	CXXIX, 352	835
<i>Steindachneria</i>	CCCLXVIII, 909	2568
<i>argenteus</i> , Larinus	CXXXI, 565	1421
<i>Argentina silus</i>	LXXXVII, 232	526
<i>Argyropelecus olfersi</i>	XC VII, 261, 261a	604
<i>argyrosomus</i> , <i>Damalichthys</i>	CXXXII, 586	1509
<i>nigripinnis</i>	LXXVI, 203	472
<i>armatus</i> , <i>Leptocottus</i>	CCCI, 732	2012
<i>armiger</i> , <i>Alexurus</i>	CCCXXV, 784	2203
<i>Artediellus atlanticus</i>	CCLXXXV, 689	1906
<i>Ascelichthys rhodorus</i>	CCCV, 739	2025
<i>ascensionis</i> , <i>Holocentrus</i>	CXXI, 358	848
<i>asper</i> , <i>Exerpes</i>	CCXXXVII, 818	2367
<i>aspera</i> , <i>Limanda</i>	CCCLXXVII, 930	2645
<i>asperlinguis</i> , <i>Anthias</i>	CXCVII, 507	1227
<i>Aspidophoroides guntheri</i>	CCCXII, 755, 755a, 755b	2090
<i>monopterygius</i>	CCCXII, 756, 756a	2091
<i>asprella</i> , <i>Crystallaria</i>	CLXXI, 453	1061
<i>asprellus</i> , <i>Radulinus</i>	CCLXXXVII, 695	1920
<i>aspro</i> , <i>Hadropterus</i>	CLXVI, 438	1032
<i>Asternopteryx gunnelliformis</i>	CCCLIII, 834	2420
<i>Astrolites notospilotus</i>	CCLXXXIV, 688, 688a	1899
<i>Astronesthes gemmifer</i>	XCVI, 251	586
<i>richardsoni</i>	XCIV, 252	587
<i>Astroscopus y griecum</i>	CCXXXIV, 808	2307
<i>atchafalaya</i> , <i>Signalosa</i>	LXIX, 184	2809
<i>Atheresthes stomias</i>	CCCLXXI, 917	2609
<i>Atherina areca</i>	CXXIII, 333	790
<i>stipes</i>	CXXII, 332	790
<i>atherinoides</i> , <i>Chirodorus</i>	CXVI, 310	719
<i>Atherinops affinis</i>	CXXVI, 342	807
<i>Atherinopsis californiensis</i>	CXXV, 341	806
<i>atlantica</i> , <i>Eblemmaria</i>	CCCLX, 826	2402
<i>atlanticus</i> , <i>Artediellus</i>	CCLXXXV, 689	1906
<i>Benthodesmus</i>	CXXXVI, 374	887
<i>Rupiscartes</i>	CCXXXIX, 825	2397
<i>Tarpon</i>	LXVII, 177	409
<i>atripinnis</i> , <i>Goodea</i>	CXIV, 301	685
<i>atrocaudalis</i> , <i>Notropis cayuga</i>	XLVI, 114	260
<i>atromaculatus</i> , <i>Semotilus</i>	XL, 100	222
<i>atropurpureus</i> , <i>Anoplarchus</i>	CCCLIII, 835	2422
<i>Auchenopterus nox</i>	CCXXXVII, 819	2373
<i>Aulorhynchus flavidus</i>	CXX, 323	754
<i>Aulostomus macula us</i>	CXX, 324	754
<i>aurantiacus</i> , <i>Hypobomus</i>	CLXVIII, 442	1040
<i>auratus</i> , <i>Mullus</i>	CXXXII, 360	856
<i>aurea</i> , <i>Lampetra</i>	II, 5	13
<i>aureolus</i> , <i>Salvelinus alpinus</i>	LXXXIII, 220	511
<i>auritus</i> , <i>Lepomis</i>	CLIX, 425, 425a	1001
<i>aurofrenatum</i> , <i>Sparisoma</i>	CCXIII, 610	1634
<i>aurolineatum</i> , <i>Bathystoma</i>	CCVII, 535	1310
<i>aurorubens</i> , <i>Rhomboplites</i>	CC, 521	1277
<i>austrinum</i> , <i>Moxostoma</i>	XXXVII, 92	192
<i>Auxis thazard</i>	CXXXIII, 365	867
<i>Averruncus emmelane</i>	CCCIX, 749, 749a	2069
<i>sterletus</i>	CCCX, 750, 750a	2071
<i>avocetta</i> , <i>Nemichthys</i>	LX, 157	369
<i>Avocettina gillii</i>	LIX, 154, 154a, 154b	367
<i>axillaris</i> , <i>Myoxocephalus</i>	CXXCVII, 721	1980
<i>axinophrys</i> , <i>Nystes</i>	CCCX, 752, 752a	2076
<i>aya</i> , <i>Neomantis</i>	CXCVII, 516	1264
<i>Azevia panamensis</i>	CCCLXXXIV, 942	2677
<i>aztecus</i> , <i>Notropis</i>	XLV, 112	258
<i>azurea</i> , <i>Hermosilla</i>	CXXIX, 558	1383

Genera and species.	Plate and figure.	Test page.
azurea, Galeichthys	XXIV, 55	2773
Azurina hirundo	CCXXXIII, 588	1544
baccharis, Teutelia	CCLVI, CCLVII, 629a	1900
Barbellula chrysura	CCXXII, 566	1423
Barbati, Gastrosteus	LXVII, 170	400
Barbati, M. r. p. thalassio	CCXXXV, 592	1500
Barbato, Calamagrostis	CCXIII, 544	1402
Barbatus, Calamagrostis	CCLVIII, 631	1700
Barbatus, Leuciscus	XLII, 105, 105a	140
Barbathromus manatus	CCLVII, 880	2047
Barbathromus bicolor	CCLVIII, 883	2044
Barbata, Protula	CCLIV, 871	2000
Pallasina	CCVIII, 744	2040
Barbatulum Lichenoma	CCLXVI, 994	2040
Barbatum Lichenoma	CCLII, 863	2474
Barbata, Sphyrna	CXXVIII, 349	1401
Barbati, Cichlasoma	CCXXVII, 587	1515
Bassanichthys pennsylvanica	LXIII, 166, 166a	370
centricaris	LXIII, 165	370
Bassogigas gillii	CCLVII, 879	2045
Bassozelus cubana	CCLVI, 876, 876a	2000
normalis	CCLVI, 875	2000
Bathylupus argenteus	CXXIX, 352	900
Bathylagus flavosus	CCLXVII, 908	2000
Bathylagus nigripinnis	CCXI, 753	2078
Bathylagus benedicti	LXXXVIII, 234	200
Bathymaster signatus	CCXXXII, 802	2000
Bathypasma oxigerum	CCLXVII, 707	2128
Bathypteris quadrifilis	LXXXIX, 238	244
Bathystoma aureolineatum	CXVII, 505	1130
rimator	CXVI, 544	1000
beani, Ammocyprina	CLXXII, 455	1044
Linanda	CCLXXXVIII, 932	2040
Serrivomer	LVIII, 153	907
Triglops	CCLXXXVIII, 697	1024
bella, Hypoclydonia	CLXXIX, 475	1115
Bellator egretta	CCXXI, 773	2174
benedicti, Bathylagus	LXXXVIII, 234	200
Benthodesmus atlanticus	CXX XVI, 374	807
Benthosaurus grallator	LXXXIX, 237	344
beryllina, Monilia gracilis	CXXIV, 338	707
beryllinus, Cryptotomus	CCLII, 608	1025
Beryx splendens	CXXII, 357	844
bicandata, Lactophrys	CCLXII, 639, 639a, 639b	1725
bicolor, Polypterus	102	
bicolor, Barathromus	CCLVIII, 886	2044
Leuciscus	XLI, 102	200
Rondeletia	Nº, 240	548
Rutilus	XLIII, 107	244
olimeata, Lepidosteus	CCLXXVI, 928	2040
ulimeata, Anisotremus	CXVIII, 508	1310
Characodon	CIX, 293	600
olobus, Histriocottus	CCLII, 705	2018
olobus, Manta	XVIII, 99	92
laron, Euphyrs	CXCI, 705	1000
laron, Euphyrs	CXCIV, 509	1273
laron, Euphyrs	CCXXXII, 801	1900
laron, Euphyrs	XCI, 249	584
blackfordi, Yacolla	CCLII, 734	2040
Blennioctes embryum	CLXX, 449	1000
blennioides, Diplesion	CCXXXVIII, 821	2000
Blennius cristatus	CCXXXVIII, 820	2000
Blennius	CCXIV, 736, 736a, 736b	2040
Blennius	CLXXXII, 481	1149
Blennius	CLXXXVII, 409	1191
Blennius	CLXXXVIII, 604	1949
Blennius	CLXXI, 402	1000
Blennius	CLXX, 400	1000
blennioides, Diplesion	CLXXI, 401	1007
blennioides, Diplesion	Nº, 110	240
blennioides, Diplesion	CCXXXVIII, 791	2000

Genera and species.	Plate and figure.	Text page.
bonaci, Mycteroperca	CLXXXVII, 492	1174
borealis, Icelinus	CCLXXXIV, 687	1896
Borogadus saida	CCLIX, 885	2533
boulengeri, Mycteroperca	CLXXXVII, 490	1171
bouvieri, Salmo clarkii	LXXX, 212	496 2849
brachiusculus, Grammicolepis	CLII, 410	974
Brachygenys chrysargyreus	CCVI, 533	1307
Brachyistius frenatus	CCXXIX, 580	1499
brachyptera, Remora	CCXXX, 797; 797a	2272
Branchiostoma caribæum	i, 1	3
brasiliensis, Hemirhamphus	CXVII, 313	722
Narcine	XIII, 35, 35a	78
Scorpena	CCLXXVII, 669	1842
brevirostris, Hypoprius	v, 18	41
brevirostrum, Acipenser	XXI, 47	106
brevispinis, Sebastodes	CCLXXI, 657	1787
Brevoortia tyrannus	LXXIII, 195	434
Brotula barbata	CCCLIV, 871	2500
brunneus, Hypophis	LVI, 145	350
Brycon dentex	LV, 141	337
Bryostoma nugar	CCXXI, 829	2410
polyacanthocephalum	CCXXI, 828	2408
buccata, Eriocymba	LI, 129	302
bulleri, Prionodes	CXCI, 503	1213
ceruleus, Scarus	CCXLIV, 613	1652
Calamus arcifrons	CCXIV, 559	1355
bajonado	CCXIII, 548	1352
calamus	CCXII, 546	1349
penna	CCXIV, 549	1354
providens	CCXIII, 547	1350
calamus, Calamus	CCXII, 546	1349
Calechelys muræna	LXIII, 164	378
californica, Tetraodon	XII, 34, 34a	77
californiensis, Atherinopsis	CXNV, 341	806
Medialuna	CCXX, 560	1391
Typhlogobius	CCXXXIX, 795	2262
callarias, Gadus	CCCLXI, 891	2541
Callionymus agassizii	CCXXXIII, 779	2186
callurus, Logosus	CCXXXIII, 780	2193
callyodon, Neoliparis	CCXXIV, 760, 760a	2110
Calotomus xenodon	CCXLIII, 609, 609a	1626
calva, Amia	XXII, 51, 51a	113
Campostoma anomalum	XXXIX, 95	205
canurum, Boleosoma	CLXXI, 452	1060
Etheostoma	CLXXII, 456	1076
canadense, Stizostedion	CLXIV, 434	1022
canadus, Rachycentron	CLXVIII, 401	948
canaliculatus, Icelus	CCLXXXVI, 693	1917
Cantherines carole	CCLVIII, 632	1713
capistratus, Chaetodon	CCL, 622	1677
caprinus, Otrynter	CCXI, 543	1345
caprodes, Percina	CLXV, 436, 436a	1026
Caranx crysos	CXLI, 388	923
hippos	CXLI, 387	920
latus	CXLI, 389	921
medusicola	CXLI, 390	924
carapinus, Coryphenoides	CCCLXVIII, 911	2579
Carcharias lamia	v, 17	38
caribæum, Branchiostoma	i, 1	3
caribæus, Cælorhynchus	CCCLXX, 915	2589
carinatus, Labrychthys	LIX, 155	368
carinatus, Enneanectes	CCXXXVI, 814	2350
carminatus, Cælorhynchus	CCCLIX, 914	2588
carole, Cantherines	CCLVIII, 632	1713
carolinensis, Balistes	CCLVIII, 631	1701
carolinus, Prionotus	CCXXVIII, 768	2156
Trachinotus	CXLVII, 598	944
carpio, Cyprinodon	CXII, 297	675
Carpoides cyprinus	XIX, 71	167
caryi, Hypsiurus	CCXXXI, 585	1508
cataphractus, Gasterosteus	CXIX, 321	749
catenatus, Fundulus	CIV, 278, 278a	648

Genera and species.	Plate and figure.	Text page.
<i>Catania thassosensis</i>	CCCLVI, 876, 876a	2509
<i>Catantopus apollonius</i>	XXXIV, 84	179
<i>catantopus</i>	XXXII, 77	176
<i>comptosidii</i>	XXXIV, 83	178
<i>griechensis</i>	XXXI, 75	175
<i>latipennis</i>	XXXI, 74	174
<i>macrorhynchus</i>	XXXIII, 81	178
<i>occidentalis</i>	XXXIII, 79	178
<i>pocantello</i>	XXXII, 76	175
<i>talienensis</i>	XXXII, 78	177
<i>talienensis</i>	XXXIII, 80	176
<i>catostomus</i> , <i>Catostomus</i>	XXXII, 77	176
<i>Catulus uter</i>	III, 12	25
<i>caudatus</i> , <i>Leptodopus</i>	CXXXVI, 373	886
<i>caudimbatus</i> , <i>Leptoccephalus</i>	LVI, 149	355
<i>Caulacrus macandrus</i>	CCXXXV, 812	2328
<i>Caulolatus microps</i>	CCXXX, 799	2277
<i>Caulophryne jordani</i>	CCXCI, 957	2735
<i>caurinus</i> , <i>Mylocheilus</i>	XL, 99	219
<i>Schastodes</i>	CCLXXIV, 661	1820
<i>cavatus</i> , <i>Hymenoccephalus</i>	CCLXXIX, 912	2580
<i>cayorum</i> , <i>Corythoichthys</i>	CXX, 329	2838
<i>Ogilbia</i>	CCLV, 873	2503
<i>cayuga atrocaudalis</i> , <i>Notropis</i>	XLVI, 114	260
<i>Centracrus macropterus</i>	CLV, 417	988
<i>Centrocymus cololepis</i>	VIII, 25	55
<i>Centrolophus niger</i>	CXLIX, 403	963
<i>Centropomus undecimalis</i>	CLXXX, 476	1118
<i>Centropomus philadelphicus</i>	CXCI, 501	1201
<i>striatus</i>	CXC, 500	1199
<i>Centrosyllium fabricii</i>	VIII, 26	56
<i>cephalanium</i> , <i>Dorosoma</i>	LXIX, 183	416
<i>Cephalaanthus volitans</i>	CCXXXIII, 778	2183
<i>cephalus</i> , <i>Mugil</i>	CXXXVI, 343	811
<i>Ceratis holbrooki</i>	CCXXXIX, 954	2729
<i>Ceratostomus diabolus</i>	CXCI, 706	1949
<i>Ceratostomus maderiensis</i>	XC, 242	557
<i>centale</i> , <i>Scytalina</i>	CCCLXVIII, 849, 849a, 849c	2454
<i>Cetorhinus gilli</i>	XC, 241	549
<i>Cetorhinus maximus</i>	VII, 33	51
<i>Chacabryttus galusius</i>	CLVII, 421	992
<i>Channomugil proboscideus</i>	CXXVII, 346	816
<i>Chantodipterus faber</i>	CCXLVII, 619	1668
<i>Chaetodon capistratus</i>	CCL, 622	1677
<i>nigricostatus</i>	CCXLVIII, 620	1673
<i>ocellatus</i>	CCXLIX, 621	1674
<i>chaetodon</i> , <i>Mesogonistius</i>	CLVIII, 423	995
<i>chaleogramma</i> , <i>Theragra</i>	CCCLX, 887	2535
<i>Chalinura simula</i>	CCCLXXIII, 910	2578
<i>Channomurena vittata</i>	LXVI, 174	464
<i>Chanes chanes</i>	LXXX, 182	414
<i>Chanes Chanes</i>	LXXX, 182	414
<i>Channosodon bimaculatus</i>	CIX, 293	698
<i>variatus</i>	CXI, 295, 295a	699
<i>Channikibia copiei</i>	XXXV, 87	2795
<i>liniens</i>	XXXIV, 85	183
<i>atomatus</i>	XXXV, 86	2794
<i>Chasmodes saburra</i>	CCCLXXXIX, 824	2392
<i>Chauliodus sloanei</i>	NCHI, 250	585
<i>Chaulius pictus</i>	CCCLXXXIX, 953	2726
<i>Chaulioperus affinis</i>	CLXXXIX, 474	1113
<i>cheneyi</i> , <i>Cottogaster</i>	CLXIX, 445	2851
<i>chesteri</i> , <i>Urophycis</i>	CCCLXVI, 903	2556
<i>Chiasmodon niger</i>	CCCLXXXII, 804	2291
<i>chilmantha</i> , <i>Notropis</i>	XLVI, 116	265
<i>Chilomycterus schrophi</i>	CLXVI, 648	1748
<i>Chimarra affinis</i>	XIX, 40	95
<i>Chirostoma fimbriatulum</i>	CXXIII, 334	791
<i>Chirostoma niphodon</i>	CCCLXIV, 837	2124
<i>Chironomus punctatig</i>	CCCLXXXIII, 686	1890
<i>Chlamydes Bo. linnaei</i>	CCCLXXXVII, 791	2238
<i>Chlorichthys gnomasticus</i>	CXLI, 604	1610
<i>Chloropterna Alpheos</i>	CLXXXVI, 488, 488a	1164

Genera and species.	Plate and figure.	Text page.
<i>Chloroscombrus chrysurus</i>	CXLV, 394	938
<i>Chologaster cornutus</i>	CCV, 305	703
<i>Chriodorus atherinoides</i>	CXVI, 310	719
<i>chromis</i> , <i>Pogonias</i>	CCXXV, 573	1482
<i>chrysargyreus</i> , <i>Brachygenys</i>	CCVI, 533	1307
<i>chrysochloris</i> , <i>Pomolobus</i>	LXX, 187	425
<i>chrysops</i> , <i>Roccus</i>	CLXXX, 477	1132
<i>Stenotomus</i>	CCXI, 544	1346
<i>chrysopterus</i> , <i>Orthopristis</i>	CCX, 541	1338
<i>chrysotus</i> , <i>Fundulus</i>	CVII, 287	655
<i>chrysura</i> , <i>Bairdiella</i>	CCXXII, 566	1433
<i>chrysurus</i> , <i>Chloroscombrus</i>	CXLV, 394	938
<i>Microspathodon</i>	CCXXXV, 593	1567
<i>Ocyurus</i>	CXCIX, 520	1275
<i>chrysypa</i> , <i>Anguilla</i>	LV, 143	348
<i>chuss</i> , <i>Urophycis</i>	CCCLXX, 902	2555
<i>Cichlasoma bartoni</i>	CCXXXII, 587	1515
<i>ciliaris</i> , <i>Angelichthys</i>	CCLIV, 626, 626a	1684
<i>ciliatus</i> , <i>Monacanthus</i>	CCLIX, 633	1714
<i>Sebastodes</i>	CCLXX, 655	1783
<i>cimbrinus</i> , <i>Enchelyopus</i>	CCCLXVII, 907	2560
<i>cinereum</i> , <i>Etheostoma</i>	CLXXXIII, 457	1078
<i>Xystema</i>	CCXVIII, 556	1372
<i>cirratum</i> , <i>Ginglymostoma</i>	IV, 13	26
<i>cirratus</i> , <i>Urophycis</i>	CCCLXIV, 899	2553
<i>Cirrhitus rivulatus</i>	CCXXVII, 576	1491
<i>cirrhosus</i> , <i>Blepsias</i>	CCCLV, 736, 736a, 736b	2018
<i>Citharichthys macrops</i>	CCCLXXXV, 944	2684
<i>sordidus</i>	CCCLXXXIV, 943	2679
<i>clara</i> , <i>Ammocrypta pellucida</i>	CLXXII, 454	1063
<i>clarkii bouvieri</i> , <i>Salmo</i>	LXXX, 212	496 2819
<i>henshawi</i> , <i>Salmo</i>	LXXIX, 208	493 2819
<i>macdonaldi</i> , <i>Salmo</i>	LXXXI, 214	497 2819
<i>pleuriticus</i> , <i>Salmo</i>	LXXX, 211	496 2819
<i>spilurus</i> , <i>Salmo</i>	LXXIX, 210	495 2819
<i>stomias</i> , <i>Salmo</i>	LXXX, 213	497 2819
<i>virginalis</i> , <i>Salmo</i>	LXXIX, 209	495 2819
<i>Clepticus parrae</i>	CCXXXVIII, 599	1586
<i>Clevelandia ios</i>	CCXXXVIII, 793	2254
<i>Clupea harengus</i>	LXX, 185	421
<i>pallasii</i>	LXX, 186	422
<i>clupeiformis</i> , <i>Coregonus</i>	LXXVI, 202	465
<i>coccogenis</i> , <i>Notropis</i>	XLIX, 124	284
<i>cælolepis</i> , <i>Centrocygnus</i>	VIII, 25	55
<i>Cælorhynchus caribbaeus</i>	CCCLXX, 915	2589
<i>carminatus</i>	CCCLXIX, 914	2588
<i>occa</i>	CCCLXIX, 913	2588
<i>colias</i> , <i>Scomber</i>	CXXXIII, 364	866
<i>collei</i> , <i>Hydrolagus</i>	XIX, 41	95
<i>Columbia transmontanus</i>	CXXII, 330	784
<i>commersonii</i> , <i>Catostomus</i>	XXXIV, 83	178
<i>conger</i> , <i>Leptocephalus</i>	LVII, 148	354
<i>congestum</i> , <i>Moxostoma</i>	XXXVI, 91	192
<i>Congrellus havidus</i>	LVIII, 150	357
<i>copei</i> , <i>Aleposomus</i>	LXXV, 199	459
<i>Chasmistes</i>	XXXV, 87	2795
<i>Copelandellus quiescens</i>	CLXXVI, 468	1100
<i>corallinum</i> , <i>Cryptotrema</i>	CCCLXXXVII, 817	2366
<i>coregonoides</i> , <i>Paralepis</i>	XCVI, 260	602
<i>Coregonus clupeiformis</i>	LXXVI, 202	465
<i>conleri</i>	LXXXV, 201	462
<i>williamsoni</i>	LXXV, 200, 200a	463
<i>cornubica</i> , <i>Lamna</i>	VI, 22	49
<i>cornutus</i> , <i>Chologaster</i>	CXV, 305	703
<i>Zanclus</i>	CCLV, 627	1687
<i>cortezianus</i> , <i>Aprodon</i>	CCCLIX, 852	2461

Genera and species.	Plate and figure.	Text page.
<i>cornucans</i> , <i>Arctozenus</i>	XCVI, 259	661
<i>Coryphæna hippurus</i>	CXLIX, 462	952
<i>Coryphanoides carapinus</i>	CCLXXIII, 911	2579
<i>Corythoichthys cayorum</i>	CXX, 326	2898
<i>Cottogaster cheneyi</i>	CLXIX, 445	2861
<i>smarandi</i>	CLXXVIII, 444	1016
<i>Cottus aleuticus</i>	CXXIII, 711	1967
<i>albus</i>	CXXIII, 707	1965
<i>bleekeri</i>	CXXIII, 713	1965
<i>hippurus</i>	CXXIII, 712	1965
<i>perplexus</i>	CXXIII, 709	1965
<i>pellucens</i>	CXXIII, 713	1965
<i>punctulatus</i>	CXXIII, 708	1948
<i>cumesii</i> , <i>Cryptoparus</i>	CXXC, 956	2731
<i>coulteri</i> , <i>Coregonus</i>	LXXVI, 201	462
<i>crassiceps</i> , <i>Plectromus</i>	CXXX, 356	843
<i>crassiusculus</i> , <i>Tritulus</i>	CXXXI, 428	1693
<i>cretense</i> , <i>Sparisoma</i>	CXXIV, 616a	
<i>cristatus</i> , <i>Blennius</i>	CXXXXVIII, 821	2382
<i>Cristivomer nanayensis</i>	LXXVII, 217	504
<i>cristulata</i> , <i>Scorpena</i>	CCLXXVI, 668	1841
<i>crocodilus</i> , <i>Lamparyctes</i>	XCI, 243	558
<i>crossotus</i> , <i>Etropus</i>	CCLXXXVI, 946	2689
<i>crotilinus</i> , <i>Embryx</i>	CXXLVIII, 851	2458
<i>cruentifer</i> , <i>Pisodonophis</i>	LXII, 163	377
<i>crumenophthalmus</i> , <i>Trachurops</i>	CXLI, 385	911
<i>Cryptacanthodes maculatus</i>	CXXIV, 843	2443
<i>Cryptoparus cumesii</i>	CXXC, 956	2731
<i>Cryptotomus beryllinus</i>	CXXII, 608	1625
<i>Cryptotrema corallinum</i>	CXXXXVII, 817	2366
<i>crystoleucus</i> , <i>Abramis</i>	XLV, 111	250
<i>crystos</i> , <i>Caranx</i>	CXLII, 388	923
<i>Crystallaria asprella</i>	CLXXI, 453	1061
<i>culveri</i> , <i>Trachinotus</i>	CXLVII, 397	942
<i>eurema</i> , <i>Mugil</i>	CXXVI, 344	813
<i>euvieri</i> , <i>Tetragonurus</i>	CLII, 411	976
<i>euzanilla</i> , <i>Searus</i>	CXXIV, 612	1648
<i>Cycleptus elongatus</i>	XXX, 72	168
<i>Cyclopterus lumpus</i>	CXXIII, 757	2096
<i>cyclopus</i> , <i>Liparis</i>	CXXVI, 764, 764a	2118
<i>Cymatogaster aggregatus</i>	CXXVIII, 579, 579a	1498
<i>Cynoscion nebulosus</i>	CXXI, 563	1409
<i>nothus</i>	CXX, 561	1406
<i>regalis</i>	CXX, 562	1407
<i>cypho</i> , <i>Xyrauchen</i>	XXXV, 88	184
<i>cyprinella</i> , <i>Ictiobus</i>	XXX, 70	163
<i>Cyprinodon carpio</i>	CXII, 297	675
<i>variegatus</i>	CXI, CXII, 296, 296a	671
<i>cyprinoides</i> , <i>Lophogobius</i>	CXXVI, 786	2269
<i>cyprinus</i> , <i>Carpiodes</i>	XXX, 71	168
<i>Cypsilurus californicus</i>	CXIX, 310	740 2830
<i>Dallia pectoralis</i>	XCIX, 267	621
<i>Damalichthys argyrosomus</i>	CXXVII, 586	1509
<i>Dasyatis sabina</i>	XIV, 36, 36a	84
<i>Dasycottus setiger</i>	CCC, 727	1991
<i>decegrammus</i> , <i>Hexagrammos</i>	CCLXXX, 676, 676a	1867
<i>Decepterus macarellus</i>	CXL, 383	909
<i>decurrens</i> , <i>Pleuronichthys</i>	CCLXXV, 926	2637
<i>dekayi</i> , <i>Isurus</i>	VI, 21	48
<i>dennyi</i> , <i>Liparis</i>	CXXVII, 766, 766a	2124
<i>dentatus</i> , <i>Apollus</i>	CC, 522	1278
<i>Grammatostomus</i>	XCIV, 254	590
<i>Paralichthys</i>	CCLXXIII, 922	2629
<i>dentex</i> , <i>Brycon</i>	LV, 141	337
<i>Osmerus</i>	LXXXVI, 229	524
<i>Dericthys serpentinus</i>	LV, 142	343
<i>dermatinus</i> , <i>Lycodapus</i>	CCLIV, 870	2492
<i>Dermatolepis zanchus</i>	CLXXXVI, 489	2854
<i>diaphanus</i> , <i>Fundulus</i>	CII, 275, 275a	645
<i>diapterus</i> , <i>Furchmann</i>	CCCL, 861	2472
<i>dicerans</i> , <i>Ceratocottus</i>	CXXCI, 706	1940
<i>Dierolepis intronigra</i>	CCLVIII, 882	2522

Genera and species.	Plate and figure.	Text page.
<i>Dicromita agassizii</i>	CCCLV, 874	2506
<i>Diodon hystrix</i>	CCCLXVI, 647	1745
<i>Diplectrum formosum</i>	CCL, 502	1207
<i>Diplesion bleinnioides</i>	CLXX, 449	1053
<i>Diplodus holbrookii</i>	CCLXVII, 555, 555a	1362
<i>dispilus</i> , Iridio	CCXL, 602	1597
<i>dodecaedron</i> , Occa	CCCVIII, 743	2044
<i>dolichogaster</i> , Pholis	CCCLXII, 831	2416
<i>dolomieu</i> , Micropterus	CLXII, 430, 430a	1011
<i>Dormitor maculatus</i>	CCCLXXIV, 782	2196
<i>dormitor</i> , Philypnus	CCCLXXIV, 781	2194
<i>Dorosoma cepedianum</i>	LXIX, 183	416
<i>dorsalis</i> , Microspathodon	CCCLXXVI, 594	1568
<i>Seriola</i>	CXXXIX, 380	902
<i>dovii</i> , Anableps	CXIII, 309	685
<i>drummond-hayi</i> , <i>Epinephelus</i>	CLXXXIII, 484	1159
<i>ductor</i> , <i>Nauclerates</i>	CXXXIX, 379	900
<i>dugesii</i> , <i>Adinia</i>	CVIII, 290	661
<i>Algansea</i>	XL, 98	211
<i>Ameiurus</i>	XXVI, 59, 59a, 59b	138
<i>dulcis</i> , <i>Rhinichthys</i>	LII, 132	306
<i>duquesnii</i> , <i>Placopharynx</i>	XXXIII, 82	198
<i>earlli</i> , <i>Urophycis</i>	CCCLXV, 900	2554
<i>Echeneis naucrates</i>	CCCLXXIX, 796	2269
<i>egmontis</i> , <i>Ahlia</i>	LX, 158	370
<i>egretta</i> , <i>Bellator</i>	CCCLXXI, 773	2174
<i>eigenmanni</i> , <i>Evarra</i>	LI, 131	304
<i>Sebastes</i>	CCLXXI, 658	1789
<i>Elanura forficata</i>	CCCLXXXIX, 701	1930
<i>elassodon</i> , <i>Hippoglossoides</i>	CCCLXXII, 920	2615
<i>Elassoma evergladei</i>	CLIII, 414	982
<i>elegans</i> , <i>evides</i> , <i>Gibbonsia</i>	CCCLXXXVI, 815	2352
<i>Eleginus navaga</i>	CCCLX, 888	2537
<i>Electris pisonis</i>	CCCLXXV, 783	2200
<i>elongatus</i> , <i>Cycleptus</i>	XXX, 72	168
<i>Labichthys</i>	LIX, 156	369
<i>Ophidion</i>	CCCLXXXII, 681	1875
<i>Elops saurus</i>	LXVII, 178	410
<i>Emblemaria atlantica</i>	CCCLX, 826	2402
<i>emblematicus</i> , <i>Scarus</i>	CCXLV, 614	1654
<i>embryum</i> , <i>Blennicottus</i>	CCCH, 734	2016 2864
<i>Embryx crotalinus</i>	CCCLXVIII, 851	2458
<i>emilia</i> , <i>Opsopæodus</i>	XLIV, 169	248
<i>Emmeekia venusta</i>	CCL, 603	1602
<i>emmelane</i> , <i>Averruncus</i>	CCCIX, 749, 749a	2069
<i>Empetrichthys merriami</i>	CX, 294-294d	667
<i>Enchelyopus eimbrius</i>	CCCLXVII, 907	2560
<i>Enneacanthus gloriosus</i>	CLVIII, 422	993
<i>Enneanectes carminalis</i>	CCCLXXXVI, 814	2350
<i>Enophrus bison</i>	CCCL, 705	1938
<i>Entosphenus tridentatus</i>	I, 4	12
<i>Epinephelus adscensionis</i>	CLXXXII, 482	1152
<i>drummond-hayi</i>	CLXXXII, 484	1159
<i>morio</i>	CLXXXIV, 485	1160
<i>striatus</i>	CLXXXIII, 483	1157
<i>Epinnula magistralis</i>	CXXXV, 371	880
<i>Eques lanceolatus</i>	CCCLXXI, 575	1489
<i>eriarcha</i> , <i>Eurystole</i>	CXXXV, 339	803
<i>Ericymba buccata</i>	LI, 129	302
<i>Erimyzon sucetta</i>	XXXVI, 89	185
<i>erinacea</i> , <i>Raja</i>	IX, 29	68
<i>Erotelis smaragdus</i>	CCCLXXV, 785	2204
<i>Escolar violaceus</i>	CXXXV, 370	878 2843
<i>Eslopsarum jordani</i>	CXXIII, 335	793 2840
<i>Etelis oculatus</i>	CCL, 324	1282
<i>etheostoma</i> , <i>Aboma</i>	CCCLXXXVIII, 792	2240
<i>Etheostoma caninum</i>	CLXXII, 456	1076
<i>cinereum</i>	CLXXXIII, 457	1078
<i>lowie</i>	CLXXIV, 460	1083
<i>jessie</i>	CLXXIV, 461	1084

Genera and species.	Plate and figure.	Text page
<i>Etheostoma opferi</i>	CLXXXII, 425	1070
<i>opferi</i>	CLXXXII, 406	1068
<i>leptogaster</i>	CLXXXIV, 402	1067
<i>occidentale</i>	CLXXXV, 405	1062
<i>pogon</i>	CLXXXV, 404	1062
<i>postum</i>	CLXXXVIII, 409	1062
<i>virgatum</i>	CLXXXV, 405	1060
<i>Etheostoma cyathigerum</i>	CLXXXVIII, 409	1060
<i>cyathigerum</i>	CLXXXVIII, 405	1060
<i>Eupomacentrus rectifrenum</i>	CXXXVIII, 380	1057
<i>Eupomotis euryotus</i>	CLXI, 425	1048
<i>gibbosus</i>	CLXI, 425	1048
<i>euryotus</i> , <i>Eupomotis</i>	CLXI, 425	1048
<i>Eurystole eriarcha</i>	CXXXV, 399	1047
<i>Evarra eigenmanni</i>	LI, 181	1044
<i>evergladii</i> , <i>Elassoma</i>	CLII, 414	1042
<i>evermanni</i> , <i>Cottus</i>	CXXIX, 707	1041
<i>thyrina</i>	CXXV, 340	1040
<i>Evermannia zosterura</i>	CXXXIX, 704	1039
<i>evides</i> , <i>Gibbonsia elegans</i>	CXXXVIII, 814	1037
<i>Hadropterus</i>	CLXVII, 440	1036
<i>evionthas</i> , <i>Quassiremus</i>	LXIV, 167	1035
<i>evolans</i> , <i>Prionotus</i>	CXXX, 772	1034
<i>Evoplites viridis</i>	CXCVI, 514	1249
<i>Evoxymetopon taniatus</i>	CXXXVI, 372	1030
<i>Exocoetis asper</i>	CXXXVIII, 815	1027
<i>exilis</i> , <i>Schilbeodes</i>	XXVIII, 65	147
<i>Exocoetis volitans</i>	CXVIII, 308	734
<i>Exoglossum maxillingua</i>	LIV, 140	327
<i>Exonastes exsilien</i>	CXVIII, 316	732
<i>rondeletii</i>	CXVIII, 317	732
<i>exsilien</i> , <i>Exonastes</i>	CXVIII, 316	732
<i>faber</i> , <i>Chaetodipterus</i>	CXXLVII, 619	1025
<i>fabricii</i> , <i>Centroscyllium</i>	VIII, 26	50
<i>falcata</i> , <i>Agosia</i>	LII, 135	101
<i>phenax</i> , <i>Mycteroperca</i>	CLXXXVIII, 495	1185
<i>falcatus</i> , <i>Trachinotus</i>	CLXVI, 396	941
<i>fasciatus</i> , <i>Achirus</i>	CCLXXXVII, 948	2700
<i>fasciatus</i> , <i>Bathylagus</i>	CCLXXV, 908	2597
<i>Blennius</i>	CXXXVIII, 820	2598
<i>Felichthys felis</i>	XXIII, 52	148
<i>felis</i> , <i>Felichthys</i>	XXIII, 52	148
<i>ferox</i> , <i>Allopieternus</i>	XCV, 257	585
<i>Stomias</i>	XCIV, 253	585
<i>ferruginea</i> , <i>Limanda</i>	CCLXXVII, 920	2644
<i>fimbria</i> , <i>Anoplopoma</i>	CCLXXIX, 674	1802
<i>Flammaria maritima</i>	CXXXI, 350	802
<i>flavescens</i> , <i>Perca</i>	CLXV, 435	1023
<i>flavidus</i> , <i>Apodichthys</i>	CXXII, 830	2411
<i>Antichthys</i>	CXX, 323	741
<i>Congrellus</i>	LVIII, 150	367
<i>flavus</i> , <i>Noturus</i>	XXVII, 63	144
<i>flora</i> , <i>Nothobranchius</i>	CXXV, 762	2111
<i>florida</i> , <i>Jordanella</i>	CXII, 298	677
<i>flottator</i> , <i>Acutus</i>	CXVII, 315	708
<i>furtens</i> , <i>Synodus</i>	LXXXVIII, 236	1040
<i>funticola</i> , <i>Microperca</i>	CLXXXVII, 470	1040
<i>funtinalis</i> , <i>Salvelinus</i>	LXXXII, 218	546
<i>forficata</i> , <i>Eleuthera</i>	CCLXXXIX, 701	1030
<i>formosa</i> , <i>Heterandria</i>	CXIV, 302	687
<i>formosus</i> , <i>Diplazium</i>	CXCI, 502	1207
<i>francisci</i> , <i>Gynoplectrodon</i>	III, 9	20
<i>fronatus</i> , <i>Braconylus</i>	CXXXIX, 580	1440
<i>Saribar</i>	CXX, 751	207
<i>frigidus</i> , <i>Lycodes</i>	CXXI, 856	1440
<i>fultus</i> , <i>Physiculus</i>	CCLXXII, 896	2647
<i>punctatus</i> , <i>Rodionus</i>	CLXXXII, 481	1448
<i>funduloides</i> , <i>Fundulus</i>	CVI, 282	680
<i>Fundulus albolineatus</i>	CV, 281	680

Genera and species.	Plate and figure.	Text page.
<i>Fundulus catenatus</i>	CIV, 278, 278a	648
<i>chrysotus</i>	CVII, 287	655
<i>diaphanus</i>	CIH, 275, 275a	645
<i>funduloides</i>	CVI, 282	650
<i>goodei</i>	CIX, 291	664
<i>heteroclitus</i>	CIH, 273	2831
<i>jenkinsi</i>	CVI, 284	640
<i>luciae</i>	CVII, 286	651
<i>macdonaldi</i>	CVI, 283	654
<i>majalis</i>	CI, 271, 271a, 271b	651
<i>notatus</i>	CVIII, 289	639
<i>nottii</i>	CVIII, 288	650
<i>ocellaris</i>	CIH, 274	656
<i>pallidus</i>	CIH, 272	642
<i>pulvereus</i>	CVII, 285	638
<i>rathbuni</i>	CV, 280	652
<i>seminolis</i>	CIV, 277	649
<i>stellifer</i>	CV, 279	647
<i>zebrinus</i>	CIH, 276	646
<i>Furcatus</i> , <i>Ictalurus</i>	XXV, 56	134
<i>Phanerodon</i>	CCXXX, 583	1506
<i>Furcifer</i> , <i>Paranthias</i>	CXCII, 504	1221
<i>Furcimanus</i> , <i>diapterus</i>	CCCL, 861	2472
<i>Furiosus</i> , <i>Schilbeodes</i>	XXIX, 69, 69a, 69b	149
<i>Fusiformis</i> , <i>Boleichthys</i>	CLXXVII, 469	1101
<i>Gadus callarias</i>	CCCLXI, 891	2541
<i>Gairdneri</i> , <i>Salmo</i>	LXXXI, 215	497
<i>Gairdropsarus argentatus</i>	CCCLXVII, 906	2559
<i>galacturus</i> , <i>Notropis</i>	XLVIII, 122	279
<i>galeatus</i> , <i>Gymnocanthus</i>	CCCL, 730	2010
<i>Galeichthys azureus</i>	XXIV, 55	2775
<i>gilberti</i>	XXIV, 54	2773
<i>milberti</i>	XXIII, 53	128
<i>Galeorhinus zyopterus</i>	IV, 15	32
<i>Gambusia affinis</i>	CXIII, 299, 299a	680
<i>Garmannia paradoxa</i>	CCCXXVII, 790	2232
<i>Garrupa nigrita</i>	CLXXXIV, 486	1161
<i>Gasterosteus aculeatus</i>	CXIX, 320	747
<i>cataphractus</i>	CXIX, 321	749
<i>Gastrostomus bairdii</i>	LXVII, 176	406
<i>gemma</i> , <i>Hypoplectrus</i>	CLXXXIX, 497	1193
<i>gemmifer</i> , <i>Astronesthes</i>	XCIII, 251	586
<i>Germa alalunga</i>	CXXXIV, 367	871
<i>Gerres olisthostomus</i>	CCXVII, 557	1376
<i>Gibbonsia elegans evides</i>	CCCXXXVI, 815	2352
<i>gibbosus</i> , <i>Eupomotis</i>	CLXI, 429	1069
<i>gilberti</i> , <i>Galeichthys</i>	XXIV, 54	2773
<i>Schilbeodes</i>	XXVIII, 67, 67a, 67b	148
<i>Sebastodes</i>	CCLXXV, 665	1823
<i>Ulocentra</i>	CLXIX, 446	1049
<i>Gilbertidia sigolutes</i>	CCCVI, 741	2028
<i>gilli</i> , <i>Avocettina</i>	LIX, 154, 154a, 154b	367
<i>Bassogigas</i>	CCCLVII, 879	2515
<i>Cetomimus</i>	XC, 241	549
<i>Lipogenys</i>	XCIX, 266	619
<i>Neobythites</i>	CCCLVII, 877	2512
<i>Ginglymostoma cirratum</i>	IV, 13	26
<i>glacialis</i> , <i>Liopsetta</i>	CCCLXXX, 985	2649
<i>glauca</i> , <i>Prionace</i>	IV, V, 16, 16a	33
<i>glauca</i> , <i>Trachinotus</i>	CXLI, 395	940
<i>glesne</i> , <i>Regalecus</i>	CCCLXX, 916	2596
<i>globosa</i> , <i>Lyosphaera</i>	CCLXVII, 649, 649a	1751
<i>gloriosus</i> , <i>Enneacanthus</i>	CLVII, 422	993
<i>Gnathypops maxillosa</i>	CCCXXI, 801	2284
<i>gobioides</i> , <i>Hypsicometes</i>	CCCXXXIII, 805	2294
<i>Gobius hastatus</i>	CCCXXVI, 788	2229
<i>oceanicus</i>	CCCXXVII, 789, 789a	2230
<i>stigmaticus</i>	CCCXXVI, 787	2224
<i>Goodea atripinnis</i>	CXIV, 301	685
<i>goodei</i> , <i>Fundulus</i>	CIX, 291, 664	2891

Genera and species.	Plate and figure.	Text page.
goodii, Ptilichthys.....	CCCLXVII, 848	2457
gorbuscha, Oncorhynchus.....	LXXVII, 205	478
gracile, Peristedion.....	CCCLXXII, 776	2179
gracilis, Atherinella.....	CCCLXXII, 776	2179
beryllina, Menidia.....	CXXIV, 398	707
Photonetes.....	CCV, 255	591
Platypholis.....	LIV, 139	544
grallator, Benthosaurus.....	LXXXIX, 237	544
Graugeni, Gobiidae.....	CCCLXIII, 808	2120
grammaticus, Chlorichthys.....	CCXII, 604	1610
Grammatostomias dentatus.....	XCIV, 254	588
Grammicolepis brachiusculus.....	CLII, 410	974
grandicornis, Scorpaena.....	CCCLXXVIII, 671	1859
greeni, Neoliparis.....	CCCLXVI, 763, 763a	2132
Griphopterus, Gobiidae.....	CCCLXII, 75	175
Hexanchus.....	II, 8	18
grunniens, Apidonotus.....	CCXXVI, 574	1484
guacamaia, Pseudoscirus.....	CCXLVI, 617	1657
guttosus, Chirocentrus.....	CLVII, 421	992
gunnelliformis, Asternopteryx.....	CCCLXIII, 804	2129
gunnellus, Ploche.....	CCCLXIII, 802	2119
guntheri, Aspidophoroides.....	CCCLXII, 755, 755a, 755b	1899
Hadropterus.....	CLXVII, 439	1003
Hoplodactylus.....	CCCLXIII, 818	2144
guttatus, Percopsis.....	CXXI, 329	794
guttifer, Ophichthus.....	LXIV, 168	388
Gymnelis viridis.....	CCCLII, 864-864c	2479
Gymnocanthus galentus.....	CCCI, 730	2016
pistilliger.....	CCCI, 729, 729a, 729b	2006
Gymnosarda alleterata.....	CXXXIV, 366	899
Gyrolepiscus francisci.....	III, 9	29
Hadropterus aspro.....	CLXVI, 438	1002
exilis.....	CLXVI, 440	1006
guntheri.....	CLXVII, 439	1003
macrocephalus.....	CLXVI, 437	1001
scierus.....	CLXVII, 441	1007
Hamulon album.....	CCII, 528	1265
macrostomum.....	CCIV, 529	1269
parra.....	CCIV, 530	1270
plumieri.....	CCV, 532	1304
scierus.....	CCV, 531	1303
harengus, Clupea.....	LXX, 185	421
Harriota raleighana.....	XIX, 42	96
hastatus, Gobius.....	CCCLXVI, 788	2120
helleri, Xiphiophorus.....	CCV, 564	701
Hemianthias vivanus.....	CXIII, 505	1223
Hemicarax amblyrhynchus.....	CXLI, 386	912
hemilepidotus, Hemilepidotus.....	CCXC, 704, 704a, 704b	1805
Hemilepidotus hemilepidotus.....	CCXC, 704, 704a, 704b	1805
jordani.....	CXC, 703	1804
Hemirhamphus brasiliensis.....	CXVII, 313	772
Hemitripterus americanus.....	CCCV, 738	2023
hemphilli, Stathmonotus.....	CCCL, 827	2007
henshawi, Salmo clarkii.....	LXXIX, 208	499
hertz, Hypsoblennius.....	CCCLXXXIX, 823	2360
Hermosilla azurea.....	CXXIX, 558	1488
Heterandria formosa.....	CXIV, 302	687
heterocollis, Fundulus.....	XXI, 278	610
Heterodontus philippii.....	III, 10	29
Hexagrammos decagrammus.....	CCCLXXX, 676, 676a	1867
octagrammus.....	CCCLXXX, 677	1869
octagrammus.....	CCCLXXX, 678	1871
superciliosus.....	CCCLXXXI, 679	1873
Hieracanthus.....	II, 8	18
Hiodon alosoides.....	XXVII, 181	414
snyderi.....	XXVII, 180	413
Hippocampus hudsonius.....	CXXI, 327	777
zosteræ.....	CXXI, 328	778
Hippoglossoides classodon.....	CCCLXXII, 920	2615
platessoides.....	CCCLXXII, 919	2614
Hippoglossus hippoglossus.....	CCCLXXI, 918	2611

Genera and species.	Plate and figure.	Text page.
<i>hippoglossus</i> , <i>Hippoglossus</i>	CCCLXXI, 918	2611
<i>hippos</i> , <i>Caranx</i>	CXLI, 387	920
<i>hippurus</i> , <i>Coryphaena</i>	CXLIX, 402	952
<i>hirundo</i> , <i>Azurina</i>	CCXXXIII, 588	1544
<i>Leiocottus</i>	CCCLII, 731	2011
<i>hispidus</i> , <i>Monacanthus</i>	CCLIX, 634	1715
<i>Histiobranchus infernalis</i>	LVII, 147	352
<i>Histiocottus bilobus</i>	CCCLII, 735	2018
<i>Holacanthus tricolor</i>	CCLII, 625	1684
<i>holbolli</i> , <i>Ceratias</i>	CCCLXXXIX, 954	2729
<i>holbrookii</i> , <i>Diplodus</i>	CCXVII, 555, 555a	1362
<i>Holocentrus ascensionis</i>	CXXXI, 358	848
<i>hopkinsi</i> , <i>Hynnys</i>	CXLII, 391	933
<i>Sebastodes</i>	CCLXXII, 659	1789
<i>hoplomystax</i> , <i>Sparisoma</i>	CCXLIV, 611	1632
<i>Hoplopagrus guntheri</i>	CXCVI, 513	1244
<i>Hoplostethus mediterraneus</i>	CXXX, 354	837
<i>Hoplunnis schmidtii</i>	LVIII, 151	361
<i>hospes</i> , <i>Mugil</i>	CCXXVII, 345	814
<i>hudsonius</i> , <i>Hippocampus</i>	CXXI, 327	777
<i>Notropis</i>	XLVII, 119	269
<i>saludanus</i> , <i>Notropis</i>	XLVIII, 120	270
<i>humboldtianum</i> , <i>Chirostoma</i>	CXXIII, 334	793
<i>humeralis</i> , <i>Paralabrax</i>	CXC, 499	1196
<i>Sardinella</i> *.....	LXXIII, 193	431
<i>Hybopsis aestivalis marconis</i>	LII, 136	316
<i>altus</i>	LIV, 138	321
<i>watauga</i>	LII, 137	319
<i>Hydrolagus collicij</i>	XIX, 41	95
<i>hydrophlox</i> , <i>Leuciscus</i>	XLII, 104	238
<i>Hymenocephalus cavernosus</i>	CCCLXIX, 912	2580
<i>Hynnys hopkinsi</i>	CXLII, 391	933
<i>Hypoclydonia bella</i>	CLXXIX, 475	1115
<i>Hypoeritichthys analis</i>	CXXX, 582	1500
<i>Hypohomus aurantiacus</i>	CLXVIII, 443	1043
<i>spilotus</i>	CLXVIII, 442	1040
<i>Hypomesus oclidus</i>	LXXXVII, 231	525
<i>pretiosus</i>	LXXXVI, 230	525
<i>Hypoplectrus genama</i>	CLXXXIX, 497	1193
<i>unicolor nigricans</i>	CLXXXIX, 496	1193
<i>Hypoprion brevirostris</i>	V, 18	41
<i>Hyporhamphus roberti</i>	CXVII, 312	721
<i>unifasciatus</i>	CXVI, 311	720
<i>Hypsometes gobioides</i>	CCXXXIII, 805	2294
<i>Hypsoblennius hentz</i>	CCXXXIX, 823	2390
<i>ionthas</i>	CCXXXVIII, 822	2388
<i>Hypsurus caryi</i>	CXXXI, 585	1508
<i>Hypsypops rubicundus</i>	CCXXXIV, 591	1564
<i>Hysterocephalus traski</i>	CCXXVII, 577	1496
<i>hystrix</i> , <i>Diodon</i>	CCLXVI, 647	1745
<i>Icelinus borealis</i>	CCLXXXIV, 687	1896
<i>Icelus canaliculatus</i>	CCLXXXVI, 693	1917
<i>spiniger</i>	CCLXXXVI, 692	1914
<i>Icichthys lockingtoni</i>	CLI, 406	969
<i>Ictalurus anguilla</i>	XXV, 57	2788
<i>furcatus</i>	XXV, 56	134
<i>punctatus</i>	XXV, 58	134
<i>Ictiobus cyprinella</i>	XXX, 70	169
<i>Ilyophis brunneus</i>	LVI, 145	350
<i>inermis</i> , <i>Rabirubia</i>	CXCIX, 519	1274
<i>infernalis</i> , <i>Histiobranchus</i>	LVII, 147	352
<i>infirmus</i> , <i>Novaculichthys</i>	CXXLI, 606	1616
<i>Inopsetta ischyra</i>	CCCLXXVI, 927	2641
<i>inornatus</i> , <i>Microlepidotus</i>	CXC, 542	1341
<i>insignis</i> , <i>Schilbeodes</i>	XXVIII, 66	147
<i>interruptus</i> , <i>Archoplites</i>	CLVII, 420	991
<i>intertinctus</i> , <i>Mystriophis</i>	LXV, 170	386
<i>introrigra</i> , <i>Dicrolene</i>	CCCLVII, 882	2522
<i>loglossus calliurus</i>	CCXXIII, 780	2193
<i>ionthas</i> , <i>Hypsoblennius</i>	CCXXXVIII, 822	2388
<i>ios</i> , <i>Clevelandia</i>	CCXXXVIII, 793	2254

* Plate by error labeled *Sardinella sardina*.

Genera and species.	Plate and figure.	Text page.
<i>Awa, Etheostoma</i>	CLXXIV, 460	1083
<i>Ipnotus murrai</i>	LXXXIX, 239	546
<i>Irides, Salmo</i>	LXXXI, 216	500
<i>Irado biattatus</i>	CCXXXIX, 601	1595
<i>aspius</i>	CCXL, 602	1597
<i>radiatus</i>	CCXXXIX, 600	1590
<i>Ischyra, Inopactia</i>	CCCLXXVI, 927	2641
<i>Istiophorus nigricans</i>	CXXXVII, 376	891
<i>Isurus deKayi</i>	VI, 21	48
<i>Itajara, Pseudorops</i>	CLXXXV, 467, 467a, 467b	1162
<i>Jaok, Myoxocephalus</i>	CCXIV, 719	1077
<i>japonicus, Aretoscopus</i>	CCXXXIII, 807	2297
<i>jenkinsi, Fundulus</i>	CVI, 284	661
<i>Jessie, Etheostoma</i>	CLXXIV, 461	1084
<i>Xenocys</i>	CCII, 526	1285
<i>Jordanella florida</i>	CXII, 298	677
<i>Jordani, Caulophryne</i>	CCXCII, 957	2735
<i>Esiopstrum</i>	CXXXIII, 335	793
<i>Etheostoma</i>	CLXXIII, 458	1079
<i>Hemilepidotus</i>	CCXC, 703	1934
<i>Myeteroperca</i>	CLXXXVIII, 493	1176
<i>Pantostomus</i>	XXXI, 73	171
<i>Romquillus</i>	CCXXXII, 803	2289
<i>Jordania zonope</i>	CCCLXXXII, 684	1884
<i>Joturus pichardi</i>	CXXXVIII, 348	821
<i>Julia, Etheostoma</i>	CLXXVI, 466	1093
<i>Kanawha, Notropis</i>	XLVI, 115	264
<i>Kathetostoma albigntta</i>	CCXXXIV, 809, 809a	2312
<i>Kendall, Verma</i>	LX, 159, 159a	375
<i>Kirlandia vagrans</i>	CXXIV, 336	794
<i>klamathensis, Agosia</i>	LII, 133	3144
<i>Cottus</i>	CCXCII, 710	1955
<i>Koidia rhyostriis</i>	CLXIII, 432	432
<i>Kyphosus sectatrix</i>	CXXIX, 559	1367
<i>Labichthys carinatus</i>	LIX, 155	368
<i>elongatus</i>	LIX, 156	369
<i>Lacera, Lagocheila</i>	XXXVIII, 94, 94a	199
<i>Lachnolaimus maximus</i>	CCXXXVII, 597	1579
<i>Lactophrys bicaudalis</i>	CCXII, 639, 639a, 639b	1723
<i>trigonus</i>	CCLXI, 638	1724
<i>trigonus</i>	CCLXIII, 640, 640a	1723
<i>triqueter</i>	CCLXI, 637	1722
<i>Levigatus, Lactophrys</i>	CCLXIII, 641	1728
<i>Lagocephalus virgatus</i>	CCLXIII, 641	1728
<i>Lagocheila lacera</i>	XXXVIII, 94, 94a	199
<i>Lagodon rhomboides</i>	CCXV, 552	1358
<i>lalini, Seriola</i>	CXL, 382	901
<i>Lamna, Carcharhinus</i>	V, 17	38
<i>Lamprocentrus</i>	VI, 22	40
<i>Lampadena speculigera</i>	XCI, 244	561
<i>Lampanyctus crocodilus</i>	XCI, 243	558
<i>Lampetia adrya</i>	II, 5	13
<i>spadiera</i>	II, 6	13
<i>Lampetraformis, Lumpenus</i>	CCCLIV, 840	2438
<i>Lanceolatus, Epiplatys</i>	CXXXVI, 575	1489
<i>Lanceolatus argenteus</i>	CCXXI, 565	1421
<i>Lateso, Megalocottus</i>	CCXCIX, 725, 725a	1988
<i>latifrons, Anarhichas</i>	CCCLXVI, 845	2446
<i>latipinnis, Catostomus</i>	XXXI, 74	174
<i>latius, Citharus</i>	CXLI, 389	921
<i>Lepocottus bifurcatus</i>	CCCH, 731	2011
<i>Lepomus, Cottus</i>	CCXCIV, 712	1962
<i>Lepomus chalcidus</i>	CCXXIII, 569	1458
<i>Lemonema bathybatum</i>	CCCLXVI, 904	2556
<i>melanurum</i>	CCCLXVI, 905	2557
<i>lentiginosus, Rhinobatus</i>	VII, 28; IX, 28a, 28b	62
<i>lepidogenys, Etheostoma</i>	CLXXIV, 462	1087
<i>Lepidopsetta bilineata</i>	CCCLXXVI, 928	2643
<i>Lepidopus caudatus</i>	CXXXVI, 373	886
<i>Lepisosteus platostomus</i>	XXII, 49	110
<i>tristychus</i>	XXII, 50	111
<i>Lepomis auritus</i>	CLIX, 425, 425a	1001

Genera and species.	Plate and figure.	Text page.
<i>Lepomis megalotis</i>	CLX, 426	1002
<i>pallidus</i>	CLX, 427	1005
<i>Lepophidium marmoratum</i>	CCCLIII, 866	2482
<i>profundorum</i>	CCCLIII, 867	2484
<i>Leptocephalus caudilimbatus</i>	LVII, 149	355
<i>conger</i>	LVII, 148	354
<i>Leptocottus armatus</i>	CCCH, 732	2012
<i>Leptops olivaris</i>	XXVII, 62	143
<i>lepturus</i> , <i>Anarhichas</i>	CCCXLVII, 847	2447
<i>Trichiurus</i>	CXXXVII, 375	889
<i>Letharchus velifer</i>	LXI, 160	375
<i>Lethotremus muticus</i>	CCCXIII, 758	2101
<i>vinolentus</i>	CCCXIV, 759	2101
<i>Leuciscus balteatus</i>	XLII, 105, 105a	238
<i>bicolor</i>	XLI, 102	232
<i>hydrophlox</i>	XLII, 104	238
<i>lineatus</i>	XLI, 103	232
<i>sinslawi</i>	XLIII, 106	2797
<i>Leuroglossus stilbins</i>	LXXXVII, 233	527
<i>Limanda aspera</i>	CCCLXXVII, 930	2645
<i>beanii</i>	CCCLXXVIII, 932	2646
<i>ferruginea</i>	CCCLXXVII, 929	2644
<i>proboscidea</i>	CCCLXXVIII, 931	2645
<i>lineatus</i> , <i>Achirus</i>	CCCLXXVI, 947	2697
<i>Leuciscus</i>	XLI, 103	232
<i>Roccus</i>	CLXXX, 478	1132
<i>Liopsetta glacialis</i>	CCCLXXX, 935	2649
<i>putnami</i>	CCCLXXX, 936	2650
<i>liorus</i> , <i>Chasmistes</i>	XXXIV, 85	183
<i>Liparis agassizii</i>	CCCXVII, 765	2121
<i>cyclopus</i>	CCCXVI, 764, 764a	2118
<i>dennyi</i>	CCCXVII, 766, 766a	2124
<i>Lipogenys gillii</i>	XCIX, 266	619
<i>Lobotes surinamensis</i>	CXCIV, 510	1235
<i>lockingtoni</i> , <i>leichthys</i>	CLI, 406	969
<i>longispathum</i> , <i>Peristedion</i>	CCXXI, 775	2178
<i>Lophius piscatorius</i>	CCCLXXXVIII, 952	2713
<i>Lophogobius cyprinoides</i>	CCXXVI, 786	2219
<i>Lophopsetta maculata</i>	CCCLXXXII, 938	2660
<i>loreto</i> , <i>Granma</i>	CXCIII, 508	1229
<i>Lota maculosa</i>	CCCLXIV, 897	2550
<i>Lotella maxillaris</i>	CCCLXIII, 895	2546
<i>Lucania parva</i>	CIX, 292	665
<i>luciae</i> , <i>Fundulus</i>	CVII, 286	654
<i>lucida</i> , <i>Ethoprora</i>	XCII, 246	565
<i>lucius</i> , <i>Lucius</i>	C, 269, 269a	628
<i>Lucius lucius</i>	C, 269, 269a	628
<i>masquinongy</i>	C, 270	629
<i>Lumpenus lampetraeformis</i>	CCCLIV, 840	2478
<i>mackayi</i>	CCCLIV, 839	2436
<i>lumpus</i> , <i>Cyclopterus</i>	CCXIII, 757	2096
<i>lupus</i> , <i>Anarhichas</i>	CCCLVII, 846	2446
<i>Lycenchelys paxillus</i>	CCCLI, 860-860d	2471
<i>verrillii</i>	CCCLI, 859	2470
<i>Lycodalepis polaris</i>	CCCL, 857	2468
<i>turneri</i>	CCCL, 858	2469
<i>Lycodapus dermatinus</i>	CCCLIV, 870	2492
<i>Lycodes frigidus</i>	CCCL, 856	2465
<i>perspicillum</i>	CCCL, 855	2465
<i>reticulatus</i>	CCCLIX, 854	2465
<i>zoarchus</i>	CCCLIX, 853	2464
<i>Lycodontis moringa</i>	LXV, 171	395
<i>Lycodonus mirabilis</i>	CCCLII, 862	2474
<i>Lyonectes aleutensis</i>	CCCLVI, 844	2444
<i>Lyonema barbatum</i>	CCCLII, 863	2474
<i>Lyosphaera globosa</i>	CCCLXVII, 649, 649a	1751
<i>Lythrulon opalescens</i>	CCVII, 536	1312
<i>macarellus</i> , <i>Decapterus</i>	CXL, 383	909
<i>macdonaldi</i> , <i>Fundulus</i>	CVI, 283	651
<i>Nannobranchium</i>	XCI, 245	563
<i>Notropis</i>	XLIX, 123	284
<i>Salmo clarkii</i>	LXXXI, 214	497
<i>macellus</i> , <i>Prionistius</i>	CCCLXXXIX, 700	1928

Genera and species.	Plate and figure.	Text page.
mackayi, Lumpenus.....	CXXIV, 839	2436
mackenzii, Stenodus.....	LXXXVII, 204	474
macrocephalus, Hadropterus.....	CLXVI, 437	1031
macrocheilus, Catostomus.....	XXXIII, 81	178
macrochir, Aldrovandia.....	XCVIII, 202	609
macrognathum, Opisthognathus.....	CCXXXI, 800, 800a	2281
macrolepis, Pontinus.....	CLXXVIII, 672	1855
macrophthalmus, Aprion.....	CCT, 523	1280
macrops, Citharichthys.....	CCCLXXXV, 944	2684
macropterus, Centrarchus.....	CLV, 417	988
macrostomum, Hamulon.....	CCIV, 529	1296
maculata, Lophopsetta.....	LXXXIII, 808	468
maculatofasciatus, Paralabrax.....	CXC, 498	1196
maculatus, Aulostomus.....	CXX, 324	754
Cryptacanthodes.....	CCXXIV, 843	2443
Dormitator.....	CCXXIV, 782	2196
Notorhynchus.....	II, 7	17
Scomberomorus.....	CXXXIV, 368	874
Spheroides.....	CCLXIV, 644	1733
Upeneus.....	CXXXII, 362	858
maculosa, Lota.....	CCCLXIV, 897	2550
maculosus, Oligocottus.....	CCCL, 733	2013
madeirensis, Ceratoscopelus.....	XC, 242	557
maeandricus, Caularchus.....	CCXXXV, 812	2328
magistralis, Epinula.....	CXXXV, 371	880
majalis, Fundulus.....	CL, 271, 271a, 271b	639
Malacoosteus niger.....	XCV, 256	703
maldardi, Uraleptus.....	CCCLXII, 894	2545
malliger, Sebastodes.....	COLXXIV, 664	1822
Mallotus villosus.....	LXXXV, 225	520
malma, Salvelinus.....	LXXXII, 219	507
manatinus, Barathrodemus.....	CCCLVII, 880	2517
Mancalis shufeldti.....	CCXC, 955	2730
Manta birostris.....	XVIII, 39	92
marconis, Hybopsis festivals.....	LIII, 136	316
marginata, Rissola.....	CCCLIII, 868	2489
marginatus, Neobythites.....	CCCLVII, 878	2515
Symphurus.....	CCCLXXXVII, 949	2706
marianus, Flammeo.....	CXXXI, 350	852
marinus, Petromyzon.....	I, 3	10
Sebastes.....	CCCLXVIII, 652	1760
marmoratum, Lepophidium.....	CCCLIII, 866	2482
marmoratus, Scorpaenichthys.....	CCCLXXXII, 685	1889
masquinongy, Lucius.....	C, 270	629
maxillaris, Lotella.....	CCCLXIII, 895	2546
maxilligua, Exoglossum.....	LIV, 140	327
maxillosa, Gnathypops.....	CCXXXI, 861	2284
maximus, Ceterhinus.....	VII, 23	51
Lachnolaimus.....	CCXXXVII, 597	1579
meadiei, Ulocentra.....	CLXIX, 447	2852
meanyi, Ruscarius.....	CCCLXXXV, 690	1908
Medialuna californiensis.....	CXXX, 360	1391
mediocris, Pomolobus.....	LXXI, 188	425
mediterraneus, Hoplostethus.....	CXXX, 354	897
medusicola, Caranx.....	CXLIH, 390	924
medusophagus, Schedophilus.....	CLL, 407	970
Megalocottus laticeps.....	CXCIX, 725, 725a	1988
platycephalus.....	CXCIX, 724, 724a	1987
megadolis, Lepomis.....	CLX, 426	1002
Melanogrammus aeglefinus.....	CCCLXI, 892, 892a	2542
melanops, Minytrema.....	XXXVI, 90	187
Sebastodes.....	CCCLXIX, 654	1782
melanostictus, Psettichthys.....	CCCLXIII, 921	2618
Melanostigma pammelas.....	CCCLII, 865	2479
melanurus, Lemonema.....	CCCLXVI, 905	2557
melas, Ameiurus.....	XXVI, 60	141
Melletes papilio.....	CCCLXXXIX, 702	1932
Menidia gracilis beryllina.....	CXXXIV, 338	797
peninsula.....	CXXXIV, 337	797
Menticirrhus americanus.....	CXXXV, 572	1474
Merluccius productus.....	CCCLIX, 884	2541
merrhami, Empetrichthys.....	CX, 294-294d	667

Genera and species.	Plate and figure.	Text page.
Mesogonistius chætodon	CLVIII, 423	905
metallicus, Notropis	L, 128	297
microdon, Pseudotriakis	IV, 14	27
Microgadus proximus	CCCLX, 889	2539
tomcoi	CCCLX, 890	2540
Microlepidotus inornatus	CCX, 542	1341
microlepidotus, Orthodon	XXXIX, 96	207
microlepis, Mycteroperca	CLXXXVIII, 494	1177
Microperca fonticola	CLXXVII, 470	1104
Micropogon undulatus	CLXXXV, 570	1461
microps, Caulolatilus	CCXXX, 799	2277
Micropterus dolomieu	CLXII, 430, 430a	1011
salmoides	CLXIII, 431	1012
Microspathodon bairdii	CCXXXV, 592	1566
chrysurus	CCXXXVI, 593	1567
dorsalis	CCXXXVI, 594	1568
millerti, Galeichthys	XXIII, 53	128
miles, Porogadus	CCCLVIII, 881	2520
miniatus, Peristedion	CCXXI, 774	2178
miniatus, Sebastodes	CCLXXIII, 662	1794
minima, Abeona	CCXXVIII, 578	1497
Minytrema melanops	XXXVI, 90	187
mirabilis, Lycodon	CCCLII, 862	2474
miurus, Schilbeodes	XXIX, 68	148
Mola mola	CCLVII, 650	1753
mola, Mola	CCLVII, 650	1753
Monacanthus ciliatus	CLIX, 633	1714
hispidus	CLIX, 634	1715
mona, Stephanoberyx	CXXIX, 353	836
monopterygius, Aspidophoroides	CCXII, 756, 756a	2091
Pleurogrammus	CCLXXIX, 675	1864
montanus, Thymallus tricolor	LXXXIV, 224, 224a	519 2871
monticola, Agonostomus	CXXVII, 347	819
mordax, Osmerus	LXXXVI, 228	523
moringa, Lycodontis	LXV, 171	395
morio, Epinephelus	CLXXXIV, 485	1160
Morone americana	CLXXXI, 479	1134
Moxostoma austrinum	XXXVII, 92	192
congestum	XXXVI, 91	192
rupiscartes	XXXVII, 93	196
mucosus, Neoliparis	CCXV, 761, 761a	2111
Mugil cephalus	CXXVI, 343	811
curema	CXXVI, 344	813
hospes	CXXVII, 345	814
mulleri, Pempheris	CLII, 412	978
Mulloides rathbuni	CXXXII, 361	857
Mullus auratus	CXXXII, 360	856
multifasciatus, Pronotogrammus	CXCII, 506	1226
muræna, Calcechelys	LXIII, 164	378
Muræna insularum	LXV, 172	400
retifera	LXVI, 173	401
murrayi, Ipnops	LXXXIX, 239	547
muscarum, Rimicola	CCXXXV, 813	2338
muticus, Lethotremus	CCXXIII, 758	2101
Mycteroperca bonaci	CLXXXVII, 492	1174
boulengeri	CLXXXVII, 490	1171
falcata phenax	CLXXXVIII, 495	1185
jordani	CLXXXVIII, 493	1176
microlepis	CLXXXVIII, 494	1177
venenosa	CLXXXVII, 491	1172
Myctophum opalinum	XCI, 247	571
Mylocheilus caurinus	XL, 99	219
myops, Trachinocephalus	LXXXVIII, 235	533
Myoxocephalus æneus	CCXCV, 715, 715a	1972
axillaris	CCXCVII, 721	1980
jaok	CCXCVI, 719	1977
niger	CCXCVIII, 723	1985
octodecimspinosus	CCXCVI, 717	1976
polyacanthocephalus	CCXCVI, 718	1976
scorpius	CCXCV, 716	1974
stelleri	CCXCVIII, 722, 722a, 722b	1981
verrucosus	CCXCVII, 720, 720a	1979

Genera and species.	Plate and figure.	Text page.
<i>Myrichthys pantostigmus</i>	LXII, 162	280
<i>tigrinus</i>	LXI, 161	376
<i>mystes</i> , <i>Scorpaena</i>	CCLXXVII, 670	1849
<i>mystinus</i> , <i>Sebastodes</i>	CCLXX, 656	1784
<i>Mystriophis interinctus</i>	LXV, 170	386
<i>namaycush</i> , <i>Cristivomer</i>	LXXXII, 217	504
<i>Nannobranchium macedonaldi</i>	XCI, 245	563
<i>Narcine brasiliensis</i>	XIII, 35, 35a	76
<i>narinari</i> , <i>Etobatus</i>	XV, XVI, 37, 37a	88
<i>Nauerates ductor</i>	CXXXIX, 379	960
<i>nauerates</i> , <i>Echeneis</i>	CXXXIX, 379	2369
<i>navaga</i> , <i>Eleginus</i>	CCCLX, 888	2597
<i>nebulosus</i> , <i>Cynoseion</i>	CCXNI, 563	1409
<i>Nematiotus pectoralis</i>	CXXXVIII, 377	895
<i>Nemichthys avocetta</i>	LX, 157, 157a, 157b	369
<i>Neobythites gillii</i>	CCCLVII, 877	2512
<i>marginatus</i>	CCCLVII, 876	2513
<i>Neoclinus satiricus</i>	CCXXXVI, 816	2355
<i>Neoliparis callyodon</i>	CCCXIV, 760, 760a	2110
<i>flora</i>	CCCXV, 762	2111
<i>greeni</i>	CCCXVI, 763, 763a	2112
<i>mucosus</i>	CCCXV, 761, 761a	2111
<i>Neomemus analis</i>	CXCVIII, 517	1265
<i>apodus</i>	CXCVII, 515	1258
<i>aya</i>	CXCVII, 516	1264
<i>synagris</i>	CXCVII, 518	1266
<i>nerka</i> , <i>Oncorhynchus</i>	LXXVIII, 207, 207a, 207b	471
<i>niger</i> , <i>Centrolophus</i>	CXLIX, 403	963
<i>Chiasmodon</i>	CCXXXII, 804	2291
<i>Malacosteus</i>	XCV, 256	593
<i>Myoxocephalus</i>	CXCVIII, 723	1985
<i>nigricans</i> , <i>Hypoplectrus unicolor</i>	CLXXXIX, 496	1193
<i>Istiophorus</i>	CXXXVII, 376	891
<i>nigripinnis</i> , <i>Argyrosomus</i>	LXXVI, 293	472
<i>Bathygonus</i>	CCXI, 753	2078
<i>nigrirostris</i> , <i>Chaetodon</i>	CCLXVIII, 620	1673
<i>nigrita</i> , <i>Garrupa</i>	CLXXXIV, 486	1161
<i>nigrocinetus</i> , <i>Sebastodes</i>	CCLXXVI, 667	1827
<i>nigrum</i> , <i>Boleosoma</i>	CLXX, 450	1056
<i>olmstedii</i> , <i>Boleosoma</i>	CLXXI, 451	1057
<i>nocomis</i> , <i>Notropis</i>	XLVII, 118	268
<i>nocturnus</i> , <i>Schilbeodes</i>	XXVII, 64	146
<i>normalis</i> , <i>Bassozetes</i>	CCCLVI, 875	2567
<i>Notacanthus analis</i>	XCVIII, 264	615
<i>phasganorus</i>	XCVIII, 265	616
<i>notatus</i> , <i>Fundulus</i>	CVIII, 289	659
<i>notemigonoides</i> , <i>Notropis</i>	L, 127	292
<i>nothus</i> , <i>Cynoseion</i>	CCXX, 561	1406
<i>Notorhynchus maculatus</i>	H, 7	17
<i>notospilotus</i> , <i>Astrolytes</i>	CCLXXXIV, 688, 688a	1899
<i>Notropis aztecus</i>	XLV, 112	258
<i>cayuga atrocaudalis</i>	XLVI, 114	260
<i>chihuahuana</i>	XLVI, 116	265
<i>coccogenis</i>	XLIX, 124	284
<i>galacturus</i>	XLVIII, 122	279
<i>hudsonius</i>	XLVII, 119	269
<i>saludanus</i>	XLVIII, 120	270
<i>kanawha</i>	XLVI, 115	264
<i>macedonaldi</i>	XLIX, 123	284
<i>metallicus</i>	L, 128	297
<i>nocomis</i>	XLVII, 118	268
<i>notemigonoides</i>	L, 127	292
<i>nux</i>	XLVII, 117	267
<i>swaini</i>	XLIX, 125	290
<i>telecopus</i>	L, 126	292
<i>welaka</i>	XLV, 113	2799
<i>whippellii</i>	XLVIII, 121	278
<i>nottil</i> , <i>Fundulus</i>	CVIII, 288	656
<i>Noturus flavus</i>	XXVII, 63	144
<i>Novaculichthys indrimus</i>	CCXLI, 606	1616
<i>ventralis</i>	CCXLI, 605	1615
<i>nox</i> , <i>Auchenopterus</i>	CCXXXVII, 819	2373
<i>nugator</i> , <i>Bryostoma</i>	CCXLI, 629	2410

Genera and species.	Plate and figure.	Text page.
nux, Notropis.....	XLVII, 117	267
obeyense, Etheostoma.....	CLXXV, 463	1092
oblongus, Paralichthys.....	CCCLXXIV, 924	2632
occa, Cœlorhynchus.....	CCCLXIX, 913	2588
Occa dodecaedron.....	CCCVIII, 743	2044
occidentalis, Catostomus.....	XXXIII, 79	178
Tetronarce.....	XI, 33	77
oceanicus, Gobius.....	CCCXXVII, 789, 789a	2230
ocellaris, Fundulus.....	CII, 274	642
ocellata, Raja.....	X, 30	68
ocellatus, Chaetodon.....	CCXLIX, 621	1674
Ophichthus.....	CCI, 524	1282
Platophrys.....	LXIV, 169	383
Sciænops.....	CCCLXXXII, 939	2663
Zenopsis.....	CCXXII, 567	1453
octodecimspinosus, Myoxocephalus.....	CCNLVI, 618	1660
octogrammus, Hexagrammos.....	CCXXVI, 717	1976
octonemus, Polydactylus.....	CLXXX, 677	1869
oculatus, Etelis.....	CXXVIII, 520	830
Ocyurus chrysurus.....	CXCIX, 520	1275
Ogcocephalus vespertilio.....	CCCXII, 958, 958a, 958b	2737
Ogilbia cayorum.....	CCCLV, 873	2503
ventralis.....	CCCLV, 872	2503
olfersi, Argyropelecus.....	XCVII, 261, 261a	604
olidus, Hypomesus.....	LXXXVII, 231	525
Oligocottus maculosus.....	CCII, 733	2013
Oligoplites saurus.....	CXXXVIII, 378	898
olisthostomus, Gerres.....	CCXVIII, 557	1376
olivaris, Leptops.....	XXVII, 62	143
olunstedti, Boleosoma nigrum.....	CLXXI, 451	1057
omostigmum, Otophidium.....	CCCLIV, 869	2490
Oncocottus quadricornis.....	CCC, 728	2001
Oncorhynchus gorbusha.....	LXXVII, 205	478
herka.....	LXXVIII, 207, 207a, 207b	481
tschawytscha.....	LXXVII, 206	479
onitis, Tautoga.....	CCXXCVII, 596	1578
opalescens, Lythrulon.....	CCVII, 536	1312
opalinum, Myctophum.....	XCII, 247	571
Ophichthus guttifer.....	LXIV, 168	383
ocellatus.....	LXIV, 169	383
Ophidion elongatus.....	CCCLXXII, 681	1875
Opisthognathus macrognathum.....	CCCXXI, 800, 800a	2281
Opsanus pardus.....	CCXXIV, 810	2316
Opsopæodus bolmani.....	XLIV, 110	248
emiliae.....	XLIV, 109	248
osculus.....	XLIV, 108	248
oquassa, Salvelinus.....	LXXXIII, 221	514
oregonensis, Ptychocheilus.....	XLI, 101	224
ornatus, Pholis.....	CCCLII, 833	2419
Orthodon microlepidotus.....	XXXIX, 96	207
Orthopristis chrysopterus.....	CCX, 541	1338
reddingi.....	CCIX, 540	1336
osculus, Opsopæodus.....	XLIV, 108	248
Osmerus dentex.....	LXXXVI, 229	524
mordax.....	LXXXVI, 228	523
thaleichthys.....	LXXXV, 227	522
osteoichir, Rhombochirus.....	CCCXX, 798	2273
otaki, Hexagrammos.....	CCXXVI, 680	1867
Otophidium omostigmum.....	CCCLIV, 869	2490
Otrynter caprinus.....	CCXI, 543	1345
oxigerum, Bathypasma.....	CCXXVIII, 767	2128
Oxoides setosus.....	CCLV, 646	1739
Oxylebius pictus.....	CCCLXXXII, 682	1878
oxyrhynchus, Acipenser sturio.....	XX, 45	105
pacificus, Thaleichthys.....	LXXXV, 226	521
pagei, Etheostoma.....	CLXXV, 464	1092
pagrus, Pagrus.....	CCXV, 551	1356
Pagrus pagrus.....	CCXV, 551	1356
pallasii, Clupea.....	LXX, 186	422
Pallasina barbata.....	CCCVIII, 744	2049
pallidus, Fundulus.....	CII, 272	642
Lepomis.....	CLX, 427	1005
pammelas, Melanostigma.....	CCCLII, 865	2479

Genera and species.	Plate and figure.	Page.
paranecton, <i>Apothecium</i>	CCCLXXXIV, 942	2977
Paranecton bostoni.....	XXXI, 73	171
parostigmus, <i>Myrichthys</i>	LIII, 102	2892
parvulus, <i>Blasius</i>	CCLXXXIX, 702	1992
parvulus, <i>Synchlora</i>	CCCLXXXIII, 941	2971
parvulus, <i>Gortyna</i>	CCCLXXVII, 790	2232
parvulus, <i>Pterostichus</i>	CCCVI, 740	2226
Paralabrax humeralis.....	CXC, 499	1189
maculatoscelatus.....	CXC, 498	1189
Paralepa concolorata.....	LXXVI, 299	692
Paranethys clausus.....	CCCLXXXI, 923	2969
clausus.....	CCCLXXXIV, 924	2970
clausus, <i>Hemiteles</i>	CCCLXXXIV, 925	2971
Paranthus fureder.....	CXXXI, 504	121
parasitica, <i>Simenichelys</i>	LVI, 144	346
pardus, <i>Opsanus</i>	CCCLXXXV, 910	2976
parvulus, <i>Setarches</i>	CCLXXXIX, 675	1899
parva, <i>Hemulon</i>	CCIV, 530	1297
parva, <i>Clepticus</i>	CCCLXXVII, 599	1589
parva, <i>Pepilus</i>	CL, 404	997
parva, <i>Lacania</i>	CIX, 292	677
parvulus, <i>Lycenchelys</i>	CCCLI, 860, 860a, 860b, 860d	2471
pectinatus, <i>Pristis</i>	VIII, 27	69
pectinatus, <i>Dallia</i>	XCIX, 267	611
<i>Nematistius</i>	CCCLXXVIII, 377	965
pellucida clara, <i>Ammocrypta</i>	CLXXII, 454	1099
Pempheris mulleri.....	CLIII, 412	979
<i>Pempheris</i>	CLIII, 413	979
peninsule, <i>Rascanichthys</i>	LXIII, 166, 169a	379
<i>Menidia</i>	CXXIV, 397	797
penna, <i>Calamus</i>	CCCLXIV, 949	1951
Pepilus parva.....	CX, 404	997
Percia flavescens.....	CLV, 465	1029
Percina caprodes.....	CLV, 466, 466a	1029
Percopsis guttatus.....	CXXI, 329	784
Peristedion gracile.....	CCCLXXII, 776	2176
longispinum.....	CCCLXXI, 775	2175
mamatum.....	CCCLXXI, 774	2175
platycephalum.....	CCCLXXII, 777, 777a	2176
perplexus, <i>Cottus</i>	CCCLXXIII, 799	1979
perspicillum, <i>Lycodes</i>	CCL, 395	995
pertheatus, <i>Stolephorus</i>	CLXIV, 346	842
Petromyzon marinus.....	L, 1	10
Phanerodon furcatus.....	CCCLXX, 583	1583
phasganorus, <i>Notacanthus</i>	CXXIV, 265	619
Phenacobius uranops.....	LX, 169	344
phenax, <i>Myetopentactaria</i>	CLXXXVIII, 495	1195
philadelphicus, <i>Centropristis</i>	CXCI, 591	1391
philipphi, <i>Heterodontus</i>	III, 10	10
Philypus dormitor.....	CCCLXXIV, 781	2184
Pholis dolichocentrus.....	CCCLXXIV, 831	2416
gambelii.....	CCCLXXIV, 832	2416
ornatus.....	CCCLXXIV, 833	2416
Photomachus gracilis.....	CXX, 295	695
Physiculus fulvus.....	CCCLXXIII, 809	2347
pichardi, <i>Joturus</i>	CXXVIII, 48	123
pictus, <i>Channa</i>	CCCLXXXIX, 663	1963
<i>Oxydactylus</i>	CCCLXXXIX, 662	1962
pigmentarius, <i>Apogon</i>	CLXXXVIII, 472	1199
Pimelometopon pulcher.....	CCCLXXXVIII, 598	1598
pungens, <i>Tripterygion</i>	CCCLXXXVII, 696	1896
pinatus, <i>Synphobranchius</i>	LVI, 146	346
pinniger, <i>Solenostichus</i>	CCCLXXIII, 661	1761
piscatorius, <i>Euphras</i>	CCCLXXXVIII, 952	2719
pisonis, <i>Eleotris</i>	CXXV, 783	2283
Piscodonophis euentiter.....	LXII, 163	377
pistilliger, <i>Gymnocephalus</i>	CCCL, 729, 729a, 729b	2499
Placopharynx dentifrons.....	XXXIII, 82	198
plagiata, <i>Symphurus</i>	CCCLXXXVIII, 950	2716
platyoides, <i>Hippoglossoides</i>	CCCLXXII, 919	2914
Platichthys stellatus.....	CCCLXXXI, 917, 917a	2912
Platopharynx caelatus.....	CCCLXXXII, 939	2919
platorhynchus, <i>Scaphirhynchus</i>	XXI, 48	107

Genera and species.	Plate and figure.	Text page.
platostomus, Lepisosteus	XXII, 49	110
platycephalum, Peristedion	CCCXXII, 777, 777a	2180
platycephalus Ameiurus	XXVII, 61	142
Megalocottus	CCXCIX, 724, 724a	1987
Platygobio gracilis	LIV, 139	326
Plectromus crassiceps	CXXX, 356	843
suborbitalis	CXXX, 355	841
pleuriticus, Salmo clarkii	LXXX, 211	496 2819
Pleurogrammus monopterygius	CCLXXIX, 675	1864
Pleuronectes quadrituberculatus	CCCLXXIX, 934	2648
Pleuronichthys decurrens	CCCLXXV, 926	2637
plumieri, Hæmulon	CCV, 532	1304
pocattello, Catostomus	XXXII, 76	175
Podothecus acipenserinus	CCCI, 746	2061
accipiter	CCCVIII, 745, 745a	2055
veterinus	CCCI, 747, 747a	2063
Pecilia presidionis	CXIV, 303	697
poeyi, Pempheris	CLIII, 413	979
Pogonias chromis	CCXXV, 573	1482
polaris, Lycodalepis	CCCL, 857	2468
Pollachius virens	CCCLIX, 886	2534
polyacanthocephalum, Bryostema	CCCLXI, 828	2408
polyacanthocephalus, Myoxocephalus	CCXCVI, 718	1976
Polydactylus otonemus	CCXXVIII, 350	830
Polyodon spathula	XX, 43, 43a	101
Polyprion americanus	CLXXNI, 480, 480a	1139
Polypterus bichir	I, 2	---
Pomacanthus arcuatus	CCL, 623	1679
zonipectus	CCLII, 624	1681
Pomatomus saltatrix	CXLVIII, 400	946
Pomolobus æstivalis	LXXI, 190	426
chrysochloris	LXX, 187	425
mediocris	LXXI, 188	425
pseudoharengus	LXXI, 189	426
pomotis, Acantharchus	CLV, 418	989
Pomoxis annularis	CLIV, 415	987
sparoides	CLIV, 416	987
Pontinus macrolepis	CCLXXVIII, 672	1855
Porichthys porosissimus	CCCLXXXV, 811	2319
Porogadus miles	CCCLVIII, 881	2520
Poronotus triacanthus	CL, 405	967
porosissimus, Porichthys	CCCLXXXV, 811	2319
pottsii, Etheostoma	CLXXIII, 459	1082
presidionis, Pecilia	CXIV, 303	697
pretiosus, Hypomesus	LXXXVI, 230	525
Præacanthus arenatus	CXCV, 511	1237
princeps, Cottus	CCXCIV, 713	1962
Prionace glauca	IV, V, 16, 16a	33
Prionistius macellus	CCLXXXIX, 700	1928
Prionodes bulleri	CXCI, 503	1213
Prionotus alatus	CCXCIX, 770	2159
carolinus	CCCLXXIII, 768	2156
evolaus	CCCLXX, 772	2168
scitulus	CCCLXX, 769	2157
stearnsi	CCCLXX, 771	2166
Pristis pectinatus	VIII, 27	60
probatocephalus, Archosargus	CCXVI, 554	1361
proboscidea, Limanda	CCCLXXVIII, 931	2645
proboscideus, Chaenomugil	CXXVII, 346	816
procera, Venefica	LVIII, 152	365
productus, Merluccius	CCCLIX, 884	2531
profundorum, Lepophidium	CCCLIII, 867	2484
Scylliorhinus	III, 11	22
Zesticelus	CCC, 726	1990
Promicrops itaiara	CLXXXV, 487, 487a, 487b	1162
Pronotogrammus multifasciatus	CXCI, 506	1226
proridens, Calamus	CXIII, 547	1350
proximus, Microgadus	CCCLX, 889	2539
Psettichthys melanostictus	CCCLXXIII, 921	2018
pseudoharengus, Pomolobus	LXXI, 189	425
Pseudopleuronectes americanus	CCCLXXXIX, 933	2647
Pseudopriacanthus altus	CXCV, 512	1239

Genera and species.	Plate and figure.	Text page.
<i>Pseudoscarnus guacamaia</i>	CCXLVI, 617	1657
<i>Pseudotriakis microdon</i>	IV, 14	27
<i>Psitticus, Xyrichtys</i>	CCXLII, 607	1618
<i>Psychrolutes paradoxus</i>	CCCVI, 730	2026
<i>Psychromaster tuscumbia</i>	CLXXVI, 447	1109
<i>Prilichthys goodii</i>	CCCLXVII, 848	2452
<i>Pyrrhocottus oregonensis</i>	XLII, 101	224
<i>pugetensis, Chitonotus</i>	CLXXXVIII, 686	1890
<i>pulcher, Pimelodactylopus</i>	CCXXXVIII, 598	1585
<i>pulcherus, Fundulus</i>	CVII, 285	652
<i>punctatus, Bonaparte (L.)</i>	CLXXXII, 481	1146
<i>Totidurus</i>	XXV, 58	134
<i>Stichoos</i>	CCCLV, 841	2439
<i>Xesurus</i>	CCLVII, 630	1694
<i>punctulatus, Cottus</i>	CCXIII, 708	1948
<i>putnami, Liopsetta</i>	CCCLXXX, 936	2650
<i>pygmaea, Umbra</i>	XCIX, 268	624
<i>quadracus, Apeltes</i>	CXX, 322	752
<i>quadricornis, Oncocoelus</i>	CCC, 728	2001
<i>quadrifilis, Bathypetrolis</i>	LXXXIX, 238	545
<i>quadrifimbriatus, Pleuronectes</i>	CCCLXXIX, 934	2648
<i>quadrocellata, Ancylosetta</i>	CCCLXXV, 925	2634
<i>Quassiremus evionthas</i>	LXIV, 167	380
<i>quiescens, Copelandellus</i>	CLXXXVI, 468	1100
<i>Rabirubia incrimis</i>	CXCIX, 519	1274
<i>Rachycentron canadus</i>	CLXVIII, 401	948
<i>radiatus, Iridio</i>	CCXXXIX, 600	1590
<i>Radulinus asprellus</i>	CCCLXXXVII, 695	1920
<i>boleoides</i>	CCCLXXXVII, 694	1919
<i>Raja ackleyi</i>	X, 31	70
<i>erinacea</i>	IX, 29	68
<i>ocellata</i>	X, 30	68
<i>stellulata</i>	XI, 32	75
<i>raleighana, Harriota</i>	XIX, 42	96
<i>Ranzania truncata</i>	CCLVIII, 651	1755
<i>raphidoma, Tylosurus</i>	CXVI, 308	715
<i>Rastrinus scutiger</i>	CCCLXXXVI, 691	1909
<i>rathbuni, Fundulus</i>	CV, 280	649
<i>Mulloides</i>	CXXXII, 361	887
<i>rectifrenum, Eupomacentrus</i>	CCXXXIII, 589	1757
<i>reddingi, Orthopristis</i>		3176
<i>Regalecus glesne</i>	CCIX, 540	1336
<i>regalis, Cynoscion</i>	CCCLXX, 916	2506
<i>Scomberomorus</i>	CCXX, 562	1407
<i>regina, Urophycis</i>	CXXXV, 369	875
<i>Remora brachyptera</i>	CCCLXIV, 898	2553
<i>reticulatus, Lycodes</i>	CCCLXXX, 797, 797a	2272
<i>retifera, Muraena</i>	CCCLIX, 854	2465
<i>reticulata, Apogon</i>	LXVI, 173	401
<i>Rhacochilus bogotus</i>	CLXXXVII, 471	1108
<i>Rhamphocottus richardsoni</i>	CCXXXI, 584	1597
<i>Rhinichthys duleis</i>	CCCVII, 742, 742a, 742b, 742c	2030
<i>Rhinobatus lentiginosus</i>	LII, 132	306
<i>Rhinoptera steindachneri</i>	VIII, IX, 28, 28a, 28b	62
<i>rhodoros, Ascelichthys</i>	XVII, 38, 38a	91
<i>Rhombochirus osteochir</i>	CCCV, 739	2025
<i>rhomboides, Lagodon</i>	CCCLXXX, 798	2273
<i>Rhomboplites aurorubens</i>	CCXV, 552	1358
<i>richardsoni, Astronesthes</i>	CC, 521	1277
<i>Rhamphocottus</i>	XCIV, 252	587
<i>rimator, Bathystoma</i>	CCCVII, 742, 742a, 742b, 742c	2030
<i>Rimicola muscenrum</i>	CCVI, 534	1308
<i>rimosus, Etropus</i>	CCCLXXXV, 813	2338
<i>Rissola marginata</i>	CCCLXXXV, 815	2338
<i>rivulatus, Cirrhites</i>	CCCLIII, 868	2189
<i>roberti, Hyporhamphus</i>	CCCLXXVII, 576	1491
<i>Roccus chrysops</i>	CXVII, 312	721
<i>lineatus</i>	CLXXX, 477	1132
<i>Roncador stearnsi</i>	CLXXX, 478	1132
<i>Rondeletia bicolor</i>	CCXXXIII, 508	1467
<i>roudeletii, Exonantes</i>	XC, 240	548
<i>Ronquilus jordani</i>	CXVIII, 317	733
	CCCLXXXII, 803	2289

Genera and species.	Plate and figure.	Text page.
rosaceus, Zalembius	CCXXIX, 581	1500
rubicundus, Acipenser	XXI, 46	106
Hypsypops	CCXXXIV, 591	1564
rupestre, Xiphidion	CCXLIV, 838	2426
rupestris, Ambloplites	CLVI, 419, 419a, 419b, 419c	990
Kuhlia	CLXIII, 432	
Rupiscartes atlanticus	CCXXXIX, 825	2397
rupiscartes, Moxostoma	XXXVII, 93	196
Ruscarius meanyi	CCLXXXV, 690	1908
Rutilus bicolor	XLIII, 107	244
Rypticus bistrispinus	CXCIV, 509	1233
sabina, Dasyatis	XIV, 36, 36a	84
suburra, Chasmodes	CCXXXIX, 824	2392
Saccopharynx ampullaceus	LXVI, 175	406
Sagenichthys ancyllodon	CCXXI, 564	1416
saida, Borogadus	CCCLIX, 885	2533
Salmo clarkii bouvieri	LXXX, 212	496
henshawi	LXXIX, 208	2819
macdonaldi	LXXXI, 214	497
pleuriticus	LXXX, 211	2819
spilurus	LXXIX, 210	495
stomias	LXXX, 213	497
virginialis	LXXIX, 209	2819
gairdneri	LXXXI, 215	497
irideus	LXXXI, 216	500
salmoides, Micropterus	CLXIII, 431	1012
saltatrix, Pomatomus	CXLVIII, 400	946
saludanus, Notropis hudsonius	XLVIII, 120	270
Salvelinus alpinus aureolus	LXXXIII, 220	511
fontinalis	LXXXII, 218	506
malma	LXXXII, 219	507
oquassa	LXXXIII, 221	514
sapidissima, Alosa	LXXII, 191	427
Sardinella humeralis*	LXXIII, 193	431
stolifera	LXXIII, 194	431
Sarritor frenatus	CCXC, 751	2073
satiricus, Neoclinus	CCXXXVI, 816	2355
saurus, Elops	LXVII, 178	410
Oligoplites	CXXXVIII, 378	898
Scombresox	CXVII, 314	725
saxatilis, Abudedefduf	CCXXXIV, 590	1561
sayanus, Aphredoderus	CXXII, 331	786
Scaphirhynchus platyrhynchus	XXI, 48	107
Scarus caeruleus	CCXLIV, 613	1652
cazani	CCXLIV, 612	1648
emblematicus	CCXLV, 614	1654
strongylocephalus	CCXLV, 615, 615a	
scepticus, Triglops	CCLXXXVIII, 698	1925
Schedophilus medusophagus	CL, 407	970
Schilbeodes exilis	XXVIII, 65	147
furius	XXIX, 69, 69a, 69b	149
gilberti	XXVIII, 67, 67a, 67b	148
insignis	XXVIII, 66	147
miurus	XXIX, 68	148
nocturnus	XXVII, 64	146
schmidtii, Hoplunnis	LVIII, 151	361
schæpfi, Chilomycterus	COLXXV, 648	1748
schæpfi, Alutera	CCLX, 635	1718
Sciænops ocellatus	CCXXII, 567	1453
scierus, Hadropterus	CLXVII, 441	1037
scitulus, Prionotus	CCXCIX, 768	2137
sciurus, Hæmmlon	CCV, 531	1303
Scomber colias	CXXXIII, 364	866
scombrus	CXXXIII, 363	865
Scomberomorus maculatus	CXXXIV, 368	874
regalis	CXXXV, 369	875

*Plate by error labeled *Sardinella sardina*.

Genera and species.	Plate and figure.	Text page.
<i>Scombrox saurus</i>	CXVII, 314	725
<i>scombrus</i> , <i>Scomber</i>	CXXIII, 363	865
<i>Scorpaen brasiliensis</i>	CCLXXVII, 660	1842
<i>cristulata</i>	CCLXXVI, 666	1841
<i>grandicornis</i>	CCLXXVIII, 671	1850
<i>mystes</i>	CCLXXVII, 670	1849
<i>Scorpaenichthys marmoratus</i>	CCLXXXIII, 685	1889
<i>scorpius</i> , <i>Myoxocephalus</i>	CXCXV, 716	1974
<i>scripta</i> , <i>Alutera</i>	CCLX, 636	1719
<i>scuticaris</i> , <i>Bascanichthys</i>	LXIII, 165	378
<i>scutigera</i> , <i>Rastrinus</i>	CCLXXVI, 691	1909
<i>Seyllorhinus profundorum</i>	III, 11	22
<i>Seytalina cerdale</i>	CCCXLVIII, 849, 849a, 849b	2454
<i>Sebastes marinus</i>	CCLXVIII, 652	1760
<i>Sebastodes alatus</i>	CCLXXII, 660	1790
<i>brevispinis</i>	CCLXXI, 657	1787
<i>caurinus</i>	CCLXXIV, 663	1820
<i>ciliatus</i>	CCLXX, 655	1783
<i>eigenmanni</i>	CCLXXI, 658	1789
<i>gilberti</i>	CCLXXV, 665	1823
<i>hoplostus</i>	CCLXXII, 660	1789
<i>maliger</i>	CCLXXIV, 664	1822
<i>melanops</i>	CCLXIX, 654	1782
<i>miniatus</i>	CCLXXXII, 662	1794
<i>mystinus</i>	CCLXX, 656	1784
<i>nigrocinctus</i>	CCLXXVI, 667	1827
<i>pinniger</i>	CCLXXIII, 661	1795
<i>serriceps</i>	CCLXXV, 666	1827
<i>Sebastolobus altivelis</i>	CCLXIX, 653	1763
<i>sectatrix</i> , <i>Kyphosus</i>	CXIX, 559	1387
<i>Selene vomer</i>	CXLIV, CXLV, 393, 393a	906
<i>selenops</i> , <i>Hiodon</i>	LXVIII, 181	414
<i>seminolis</i> , <i>Fundulus</i>	CIV, 277	647
<i>semotilus atromaculatus</i>	XL, 100	222
<i>Seriola dorsalis</i>	CXXXIX, 380	902
<i>lalandi</i>	CXL, 382	903
<i>zonata</i>	CXXXIX, 381	902
<i>serpentinus</i> , <i>Derichthys</i>	LV, 142	343
<i>serriceps</i> , <i>Sebastodes</i>	CCLXXV, 666	1827
<i>Serrivomer beanii</i>	LVIII, 153	367
<i>Setarches parvatus</i>	CCLXXIX, 673	1860
<i>setiger</i> , <i>Dasycottus</i>	CCC, 727	1991
<i>setipinnis</i> , <i>Vomer</i>	CXLIV, 392	904
<i>setosus</i> , <i>Ovoides</i>	CCLV, 646	1730
<i>shufeldti</i> , <i>Mancalias</i>	CCXC, 955	2730
<i>shumardi</i> , <i>Cottogaster</i>	CXLVIII, 444	1046
<i>Signalosa atchafalaya</i>	LNIX, 184	2809
<i>signatus</i> , <i>Bathymaster</i>	CCXXIII, 802	2228
<i>signifer</i> , <i>Thymallus</i>	LXXXIII, 222	517
<i>sigolutes</i> , <i>Gilbertidia</i>	CCCV, 741	2028
<i>silenus</i> , <i>Zaprora</i>	CLII, 409	2850
<i>silus</i> , <i>Argentina</i>	LXXXVII, 232	526
<i>Simenchelys parasiticus</i>	LVI, 144	349
<i>simotera</i> , <i>Cluocentra</i>	CLXX, 448	1053
<i>sinula</i> , <i>Chalinura</i>	CCLXIII, 619	2028
<i>sinus</i> , <i>Umbra</i>	CCLXIV, 671	1468
<i>Siphostoma starksi</i>	CXX, 325	771
<i>sinuatus</i> , <i>Lamprologus</i>	CCLII, 406	2797
<i>smaragdus</i> , <i>Erotelia</i>	CXIII, 200	583
<i>sordidus</i> , <i>Citharichthys</i>	CCXXV, 785	2204
<i>Verilus</i>	CCCLXXXIV, 943	2679
<i>spadicea</i> , <i>Lampetra</i>	CCL, 525	1284
<i>Sparisoma aurofrenatum</i>	II, 6	13
<i>cretense</i>	CCLIII, 610	1634
<i>hoplomystax</i>	CCXLV, 610, 610a	1632
<i>sparoides</i> , <i>Pomoxis</i>	CCLIV, 611	1632
<i>spatulula</i> , <i>Polyodon</i>	CLIV, 416	987
<i>speculigera</i> , <i>Lampadema</i>	XX, 43, 43a	101
<i>spelcus</i> , <i>Amblyopsis</i>	XCI, 244	561
<i>spengleri</i> , <i>Spheroidea</i>	CXV, 307	706
<i>Spheroides maculatus</i>	CCLXIV, 643	1732
<i>nepheus</i>	CCLXIV, 644	1733
	CCLXIV, 642	1732

Genera and species.	Plate and figure.	Text page.
<i>Spheroides spengleri</i>	CCLXIV, 643	1732
<i>testudineus</i>	CCLXV, 645, 645a	1734
<i>Sphyrna barracuda</i>	CXXVIII, 349	823
<i>Sphyrna tiburo</i>	V, 19	44
<i>spilotus</i> , <i>Hypohomus</i>	CLXVIII, 443	1043
<i>spilurus</i> , <i>Salmo clarkii</i>		495
<i>spiniger</i> , <i>Icelus</i>	LXXIX, 210	2819
<i>splendens</i> , <i>Beryx</i>	CCLXXXVI, 692	1914
<i>Squalus acanthias</i>	CXXXI, 357	814
<i>squamilentus</i> , <i>Paralichthys</i>	VII, 24, 24a	54
<i>starksii</i> , <i>Siphostoma</i>	CCCLXXIV, 923	2631
<i>Stathmonotus hemphilli</i>	CXX, 325	771
<i>stearnsi</i> , <i>Pronotus</i>	CCCL, 827	2407
<i>Roncador</i>	CCCLXX, 771	2166
<i>steindachneri</i> , <i>Rhinoptera</i>	CCXXIII, 568	1457
<i>Steindachneria argentea</i>	XVII, 38, 38a	91
<i>Stelgis vulsus</i>	CCCLXVIII, 909	2568
<i>stellatus</i> , <i>Platichthys</i>	CCCIX, 748, 748a	2067
<i>stelleri</i> , <i>Hexagrammos</i>	CCCLXXXI, 937, 937a	2652
<i>Myoxocephalus</i>	CCCLXXXI, 678	1871
<i>stelliter</i> , <i>Fiindulus</i>	CCXCVIII, 722, 722a, 722b	1981
<i>stellulata</i> , <i>Raja</i>	CV, 279	648
<i>Stenodus mackenzii</i>	XI, 32	75
<i>Stenotomus aculeatus</i>	LXXVII, 204	174
<i>chrysops</i>	CCXII, 545	1346
<i>Stephanoberyx monae</i>	CCXI, 544	1346
<i>sterletus</i> , <i>Averruncus</i>	CXXIX, 353	836
<i>Sternias xenostethus</i>	CCCX, 750, 750a	2071
<i>Stichæus punctatus</i>	CCLXXXVIII, CCLXXXIX, 699, 699a	1927
<i>stigmaticus</i> , <i>Gobius</i>	CCCLIV, 841	2439
<i>stille</i> , <i>Zalocys</i>	CCCLXXVI, 787	2324
<i>stillius</i> , <i>Leuroglossus</i>	CXLVIII, 399	2848
<i>stipes</i> , <i>Atherina</i>	LXXXVII, 233	527
<i>Stizostedion canadense</i>	CXXII, 332	799
<i>vitreum</i>	CLXIV, 434	1022
<i>Stolephorus perthecatus</i>	CLXIV, 433, 433a	1021
<i>stolifera</i> , <i>Sardinella</i>	LXXIV, 196	442
<i>stomias</i> , <i>Atheresthes</i>	LXXIII, 194	431
<i>Chasmistes</i>	CCCLXXI, 917	2649
<i>Salmo clarkii</i>	XXXV, 86	2794
<i>Stomias ferox</i>	LXXX, 213	497
<i>striatus</i> , <i>Centropristes</i>		2819
<i>Epinephelus</i>	XCV, 253	583
<i>strongylocephalus</i> , <i>Scarus</i>	CXC, 500	1189
<i>sturio oxyrinchus</i> , <i>Acipenser</i>	CLXXXIII, 483	1157
<i>subbifurcata</i> , <i>Utraria</i>	CCXIV, 615, 615a	—
<i>suborbitalis</i> , <i>Plectromus</i>	XX, 45	195
<i>subterraneus</i> , <i>Typhlichthys</i>	CCCLIV, 841	2449
<i>succetta</i> , <i>Erimyzon</i>	CXXX, 355	841
<i>superciliatus</i> , <i>Hexagrammos</i>	CXV, 306	794
<i>surinamensis</i> , <i>Anisotremus</i>	XXXVI, 89	185
<i>Lobotes</i>	CCCLXXXI, 679	1872
<i>swaini</i> , <i>Notropis</i>	CCVII, 537	1344
<i>Syacium papillosum</i>	CXCIV, 510	1235
<i>symmetricus</i> , <i>Apomotis</i>	XLIX, 125	290
<i>Symphurus marginatus</i>	CCCLXXXIII, 941	2471
<i>plagiata</i>	CLIX, 424	988
<i>williamsi</i>	CCCLXXXVII, 949	2703
<i>synagris</i> , <i>Neomysis</i>	CCCLXXXVIII, 950	2740
<i>Synaphobranchus pinnatus</i>	CCCLXXXVIII, 951	2741
<i>Synodus foetens</i>	CXCVIII, 518	1270
<i>taeniatus</i> , <i>Exocoetometopon</i>	LVI, 146	351
<i>taheensis</i> , <i>Carostomus</i>	LXXXVIII, 236	598
<i>Talismanianantillarum</i>	CXXXVI, 372	886
<i>Tarletonbeania tenua</i>	XXXII, 78	177
<i>Tarpon atlanticus</i>	LXXIV, 198	455
<i>Tautoga onitis</i>	XCI, 248	555
<i>Tautoglabrus adspersus</i>	LXVII, 177	440
<i>telescopus</i> , <i>Notropis</i>	CCXXXVII, 596	1578
<i>tenua</i> , <i>Tarletonbeania</i>	CCXXXVII, 595	1577
	L, 126	292
	XCI, 248	555

Genera and species.	Plate and figure.	Text page
tenuis, Uranidea	CCXCIV, 714	1906
tenuis, Urophycis	CCCLXV, 901	2555
tergicus, Rhodon	LXVIII, 180	413
testudineus Spheroides	COLXV, 645, 645a	1794
Tetragonurus cuvieri	CLII, 411	976
Tetronarce californica	XII, 34, 34a	77
occidentalis	XI, 33	77
Tenthia brianus	CCCLVI, CCLVII, 629, 629a	1696
crestonis	CLVI, 628	1692
thaleichthys, Osmerus	LXXXV, 227	522
Thaleichthys pacificus	LXXXV, 226	521
thazard, Auxis	CXXXIII, 365	867
Theragra chalcogramma	CCCLX, 887	2535
thoburni, Aleidea	CCLXXXIII, 684	1887
Thymallus tricolor	LXXXIV, 223	518
montanus	LXXXIV, 224, 224a	519
Thyrina evermanni	CXXV, 340	994
tiburo, Sphyrna	V, 19	44
tlagius, Microgadus	LXI, 161	376
toncod, Microgadus	CCCLX, 890	2540
toxotes, Rhacochilus	CXXXI, 584	1597
Trachinocephalus myops	LXXXVIII, 235	593
Trachinotus carolinus	CXLVII, 398	944
culveri	CXLVII, 397	942
falcatus	CXLVI, 396	941
glaucus	CXLVI, 395	940
Trachurops crumenophthalmus	CXLI, 385	911
Trachurus trachurus	CXL, 384	910
trachurus, Trachurus	CXL, 384	910
transmontana, Columbia	CXII, 330	784
transmontanus, Acipenser	XX, 44	104
traski, Hysteroecarpus	CCXXXVII, 577	1496
triaacanthus, Poronotus	CL, 405	967
Trichiurus lepturus	CXXXVII, 375	869
Trichodon trichodon	CCXXXIII, 896	2295
Trichopsetta ventralis	CCLXXXIII, 940	2669
tricolor, Holacanthus	CLII, 625	1684
montanus, Thymallus	LXXXIV, 224, 224a	519
Thymallus	LXXXIV, 223	518
tricornis, Lactophrys	CCLXI, 688	1724
tridentatus, Entosphenus	I, 4	12
Triglops beani	CCLXXXVIII, 697	1924
pingell	CCLXXXVII, 696	1923
sepiensis	CCLXXXVIII, 698	1925
trigonus, Lactophrys	CCLXIII, 640, 640a	1723
triqueter, Lactophrys	CCLXI, 637	1722
tristoechus, Lepisosteus	XXII, 50	111
truncata, Ranzania	LXXXVII, 651	1755
tachawytsha, Oncochelychus	LXXXVII, 266	479
talitcosensis, Catostomus	XXXIII, 80	2768
turneri, Lycodalepis	CCCL, 858	2469
tuscumbia, Psychromaster	CLXXVI, 467	1199
Tylosurus acus	CXVI, 309	716
raphidoma	CXVI, 308	715
Typhlichthys subterraneus	CXV, 306	704
Typhlogobius californiensis	CCXXXIX, 795	2262
tyrannus, Brevoortia	LXIII, 195	433
Cloacina gilberti	CLXIX, 446	1049
meadia	CLXIX, 447	2852
ulva, Xiphistius	CCCLIII, 636	2422
Ulvaria subbifurcata	CCCLIV, 842	2440
umatilla, Agosia	LII, 134	313
Umbra pygmaea	XCIX, 268	624
Umbra sinalea	CCXXIV, 571	1468
underhualis, Centropomus	CLXXIX, 476	1118
undulatus, Micropogon	CCXXIV, 570	1461

Genera and species.	Plate and figure.	Text page.
unicolor nigricans, <i>Hypoplectrus</i>	CLXXXIX, 496	1193
unifasciatus, <i>Hyporhamphus</i>	CXVI, 311	720
unimaculatus, <i>Archosargus</i>	CCXVI, 553	1359
<i>Upeneus maculatus</i>	CXXXII, 362	858
<i>Uraleptus maldardi</i>	CCCLXII, 894	2545
<i>Uranidea tenuis</i>	CCXCIV, 714	1966
uranops, <i>Phenacobius</i>	LI, 130	304
<i>Urophycis chesteri</i>	CCCLXVI, 903	2556
chuss.....	CCCLXV, 902	2555
cirratus.....	CCCLXIV, 899	2553
earli.....	CCCLXV, 900	2554
regius.....	CCCLXIV, 898	2553
tenuis.....	CCCLXV, 901	2555
uter, <i>Catulus</i>	III, 12	25
vagrans, <i>Kirtlandia</i>	CXXIV, 336	794
variatus, <i>Characodon</i>	CXI, 295, 295a	669
variegatus, <i>Cyprinodon</i>	CXI, CXII, 296, 296a	671
velifer, <i>Letharchus</i>	LXI, 160	375
Venetica procera.....	LVIII, 152	365
venenosa, <i>Myeteroperca</i>	CLXXXVII, 491	1172
ventralis, <i>Novaculichthys</i>	CCXLI, 605	1615
Ogilbia.....	CCCLV, 872	2503
Trichopsetta.....	CCCLXXXIII, 940	2669
venusta, <i>Eumekia</i>	CCXL, 603	1602
Verilussordidus.....	CCII, 525	1284
Verna kendalli.....	LX, 159, 159a	375
verrilli, <i>Lycenchelys</i>	CCCL, 859	2470
verrucosus, <i>Myoxocephalus</i>	CCXCVII, 720, 720a	1979
vespertilio, <i>Ogcocephalus</i>	CCXCII, 958-958b	2737
veterans, <i>Podothecus</i>	CCXIX, 747, 747a	2063
villosus, <i>Mallotus</i>	LXXXV, 225	520
vinolentus, <i>Lethotremus</i>	CCXCIV, 759	2101
viola, <i>Antimora</i>	CCCLXII, 893, 893a	2544
violaceus, <i>Escobar</i>	CXXXV, 370	878
virens, <i>Pollachius</i>	CCCLIX, 886	2534
virgatum, <i>Etheostoma</i>	CLXXV, 465	1093
virginalis, <i>Salmo clarkii</i>	LXXIX, 209	495
virginicus, <i>Anisotremus</i>	CCIX, 539	2819
viridis, <i>Evoplites</i>	CXCVI, 514	1322
Gymnelis.....	CCCLII, 864-864c	1246
vitreum, <i>Stizostedion</i>	CLXIV, 433, 433a	2479
vittata, <i>Channomurana</i>	LXVI, 174	404
vivans, <i>Hemianthias</i>	CXCII, 505	1223
volitans, <i>Cephalacanthus</i>	CCCXIII, 778	2183
Exocoetus.....	CXVIII, 318	734
vomer, <i>Selene</i>	CXLIV, CXLV, 393, 393a	936
Vomer setipinnis.....	CXLIV, 392	934
vulpes, <i>Albula</i>	LXVIII, 179	411
Alopias.....	VI, 20	45
vulsus, <i>Stelgis</i>	CCCIX, 748, 748a	2067
watauga, <i>Hybopsis</i>	LIII, 137	319
welaka, <i>Notropis</i>	XLV, 113	2799
whippell, <i>Notropis</i>	XLVIII, 121	278
williamsi, <i>Symphurus</i>	CCCLXXXVIII, 951	2711
willoughbyi, <i>Aerotus</i>	CLI, 408	973
xanthurus, <i>Leiostomus</i>	CCXXXIII, 569	1458
Xenichthys agassizii.....	CCII, 527	1287
Xenochirus triacanthus.....	CCCXI, 754, 754a	2084
Xenocys jessiae.....	CCII, 526	1285
xenodon, <i>Calotomus</i>	CCXLIII, 609, 609a	1626
Xenopsis ocellatus.....	CCXLVI, 618	1669
xenostethus, <i>Sternias</i>	CCCLXXXVIII, 609, 609a	1927
Xesurus punctatus.....	CCLVII, 630	1694
Xiphodon rupestre.....	CCCXIV, 838	2426
Xiphistes chinus.....	CCCXIV, 837	2424
ulva.....	CCCLIII, 836	2423
Xiphophorus helleri.....	CXV, 304	701
Xyrauchen cypho.....	XXXV, 88	184
Xyrichtys psitticus.....	CCXLII, 607	1618
Xystema cinereum.....	CCXVIII, 556	1372
Xystes axinophrys.....	CCCX, 752, 752a	2076

Genera and species.	Plate and figure.	Text page.
<i>Varrella blackfordi</i>	XCH, 249	284
<i>y. græcum, Astroscopus</i>	CCCXXIV, 808	2307
<i>Z. amblyus</i>	CCXXIX, 581	1509
<i>Zalocys stilbe</i>	CXLVIII, 399	2818
<i>zamelus, Dermatolepis</i>	CLXXNVI, 489	2854
<i>Zamelus cornutus</i>	CLV, 627	1687
<i>Zaprora silenus</i>	CLII, 409	2850
<i>zebrinus, Fundulus</i>	CH, 276	646
<i>Zesticelus profundorum</i>	CCC, 726	1990
<i>Zoarcetes anguillaris</i>	CCCXLVIII, 850	2457
<i>zoarcelus, Lycodes</i>	CCXXIX, 853	2464
<i>zonata, Seriola</i>	CXXXIX, 381	2
<i>zonipectus, Pomacanthus</i>	CCLII, 624	1681
<i>zonope, Jordania</i>	CCLXXXII, 683	1884
<i>zosteræ, Hippocampus</i>	CXXI, 328	778
<i>zosterura, Evermannia</i>	CCCXXIX, 794	2256
<i>zyopterus, Galeorhinus</i>	IV, 15	32

EXPLANATION OF PLATES AND FIGURES.

NOTE.—The actual size of the specimen from which each illustration was drawn may, in most instances, be determined by the use of the inch mark beneath the engraving, which, in the photographic reduction of the drawing, is reduced in the same proportion as the drawing itself.

PLATE I.

	Text page.
1. <i>Branchiostoma caribæum</i> Sundeval.....	3
Drawing by A. H. Baldwin from a specimen in the United States National Museum.	
2. <i>Polypterus bichir</i> Geoff. St. Hilaire.....	
Drawing by Anna L. Brown.	
3. <i>Petromyzon marinus</i> Linnaeus.....	10
Drawing by H. L. Todd from No. 10654, U.S.N.M., collected at Woods Hole, Massachusetts, by V. N. Edwards.	
4. <i>Entosphenus tridentatus</i> (Gairdner).....	12
Drawing by A. H. Baldwin from No. 48204, U.S.N.M., collected in Kamchatka by Dr. L. Stejneger.	

PLATE II.

5. <i>Lampetra aurea</i> (Bean)	13
Drawing by H. L. Todd from No. 21524, U.S.N.M., collected by Lucien M. Turner in the Yukon River, Alaska.	
6. <i>Lampetra spadicea</i> Bean	13
Drawing by H. L. Todd from the type specimen, No. 38005, U.S.N.M., collected by Prof. A. Dugès at Guanajato, Mexico.	
7. <i>Notorhynchus maculatus</i> Ayres.....	17
Drawing by H. L. Todd from No. 27191, U.S.N.M., collected in Humboldt Bay, California, by Dr. Jordan.	
8. <i>Hexanchus griseus</i> (Gmelin).....	19
Drawing by H. L. Todd from No. 37790, U.S.N.M., collected in Currituck Inlet, North Carolina, by D. M. Etheridge.	

PLATE III.

9. <i>Gyroleurodus francisci</i> (Girard).....	20
Drawing from No. 24977, U.S.N.M., collected at Wilmington, California.	
10. <i>Heterodontus philippii</i>	
Drawing by Anna L. Brown.	

	Text page.
11. <i>Scylliorhinus profundorum</i> Goode and Bean.....	22
Drawing by M. M. Smith from the type, No. 35646, U.S.N.M., collected by the <i>Albatross</i> at 39° 9' N. and 72° 3' 15' W.	
12. <i>Catulus uter</i> Jordan and Gilbert.....	25
Drawing by A. H. Baldwin from No. 26866, U.S.N.M., col- lected at Santa Barbara, California.	

PLATE IV.

13. <i>Ginglymostoma cirratum</i> (Gmelin).....	26
Drawing by H. L. Todd from No. 2983, U.S.N.M., collected at Fort Jefferson, Florida, by Dr. Whitehurst.	
14. <i>Pseudotriakis microdon</i> Capello.....	27
Drawing by H. L. Todd from No. 32516, U.S.N.M., collected at Amagansett Island by J. B. Edwards.	
15. <i>Galeorhinus zyopterus</i> Jordan and Gilbert.....	32
16. <i>Prionace glauca</i> (Linnaeus).....	33
Drawing by H. L. Todd from No. 38001, U.S.N.M., collected by schooner <i>Grampus</i> .	

PLATE V.

16a. <i>Prionace glauca</i> (Linnaeus).....	33
Drawing by H. L. Todd from No. 38001, U.S.N.M., collected by the schooner <i>Grampus</i> .	
17. <i>Carcharhinus lamia</i> (Rafinesque).....	38
Drawing by H. L. Todd.	
18. <i>Hypoprion brevirostris</i> Poey.....	41
Drawing by W. S. Haines from No. 38497, U.S.N.M., collected by the <i>Albatross</i> at Watlings Island.	
19. <i>Sphyrna tiburo</i> (Linnaeus).....	44
Drawing by H. L. Todd from No. 26582, U.S.N.M., collected by Silas Stearns at Cedar Keys, Florida.	

PLATE VI.

20. <i>Alopias vulpes</i> (Gmelin).....	45
Drawing by H. L. Todd from No. 25962, U.S.N.M., collected off Newport, Rhode Island, by Captain Rockliff.	
21. <i>Isurus dekayi</i> (Gill).....	48
Drawing by H. L. Todd from No. 37665, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
22. <i>Lamna cornubica</i> (Gmelin).....	49
Drawing by H. L. Todd from No. 27368, U.S.N.M., collected at Santa Barbara, California, by Dr. Jordan.	

PLATE VII.

23. <i>Cetorhinus maximus</i> (Gunner).....	51
Drawing by S. F. Denton, copied from <i>Annales du Museum d'Histoire Naturelle</i> , vol. 18, pl. 6.	

	Text page.
24, 24a. <i>Squalus acanthias</i> Linnaeus	54
Drawings by S. F. Denton from No. 22316, U.S.N.M., collected at Gloucester, Massachusetts, by the U. S. F. C.	

PLATE VIII.

25. <i>Centroscymnus coelolepis</i> Bocage and Capello	55
Drawing by H. L. Todd from No. 26219, U.S.N.M., collected by the <i>Fish Hawk</i> off Newport, Rhode Island.	
26. <i>Centroscyllium fabricii</i> (Reinhardt)	56
Drawing by H. L. Todd from No. 22879, U.S.N.M., collected by George W. Scott at 44° 23' N., 53° 25' W., in 200 fathoms.	
27. <i>Pristis pectinatus</i> Linnaeus	60
Drawing by H. L. Todd from No. 30678, U.S.N.M., collected at Pensacola, Florida, by Silas Stearns.	
28. <i>Rhinobatus lentiginosus</i> Garman; lateral view	62
Drawing by H. L. Todd from No. 30175, U.S.N.M., collected at Pensacola, Florida, by Silas Stearns.	

PLATE IX.

28a, 28b. <i>Rhinobatus lentiginosus</i> Garman; dorsal and ventral views	62
Drawings by H. L. Todd from No. 30175, U.S.N.M., collected at Pensacola, Florida, by Silas Stearns.	
29. <i>Raja erinacea</i> Mitchill	68
Drawing by H. L. Todd from No. 10428, U.S.N.M., collected at Woods Hole, Massachusetts, by S. F. Baird.	

PLATE X.

30. <i>Raja ocellata</i> Mitchill	68
Drawing by H. L. Todd from No. 24228, U.S.N.M., collected at Provincetown, Massachusetts, by U.S.F.C.	
31. <i>Raja ackleyi</i> Garman	70
Drawing by H. L. Todd from No. 2684, U.S.N.M., collected by the <i>Albatross</i> at 39° 35' N., and 70° 54' W.	

PLATE XI.

32. <i>Raja stellulata</i> Jordan and Gilbert	75
Drawing by H. L. Todd.	
33. <i>Tetronarce occidentalis</i> (Storer)	77
Drawing by H. L. Todd from a specimen collected at Woods Hole, Massachusetts, in the summer of 1881 by the U.S.F.C.	

PLATE XII.

34, 34a. <i>Tetronarce californica</i> (Ayres)	77
Drawings by H. L. Todd from No. 27212, U.S.N.M., collected by Dr. Jordan at Sequel, California.	

PLATE XIII.

	Text page.
35, 35a. <i>Narcine brasiliensis</i> (Ölfers).....	78
Drawings by H. L. Todd from No. 30178, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE XIV.

36, 36a. <i>Dasyatis sabina</i> (Le Sueur).....	81
Drawings by H. L. Todd from No. 31043, U.S.N.M., collected at Galveston, Texas, by Dr. Jordan.	

PLATE XV.

37. <i>Aetobatus narinari</i> (Euphrasen).....	88
Drawing by H. L. Todd from No. 37196, U.S.N.M., collected by E. F. Denechaud near Cedar Keys, Florida.	

PLATE XVI.

37a. <i>Aetobatus narinari</i> (Euphrasen).....	88
Drawing by H. L. Todd from No. 37196, U.S.N.M., collected by E. F. Denechaud near Cedar Keys, Florida.	

PLATE XVII.

38, 38a. <i>Rhinoptera steindachneri</i> Evermann and Jenkins.....	91
Drawings by A. H. Baldwin from the type, No. 43235, U.S.N.M., collected at Guaymas, on the Gulf of California, by Drs. Evermann and Jenkins in 1887.	

PLATE XVIII.

39. <i>Manta birostris</i> (Walbaum)	92
Drawing by A. H. Baldwin.	

PLATE XIX.

40. <i>Chimæra affinis</i> Capello; female.....	95
Drawing by H. L. Todd from a specimen collected on the southeastern portion of Le Have Bank, in 42° 40' N., 63° 23' W.	
41. <i>Hydrolagus colliei</i> (Lay and Bennett).....	95
Drawing by H. L. Todd, from No. 26976, U.S.N.M., collected at Monterey, California, by Dr. Jordan.	
42. <i>Harriota raleighana</i> Goode and Bean.....	96
Drawing by A. H. Baldwin from the type, No. 35520, U.S.N.M., collected by the <i>Albatross</i> at station 2210, lat. 39° 37' 45" N., long. 71° 18' 45" W., at a depth of 991 fathoms.	

PLATE XX.

43, 43a. <i>Polyodon spathula</i> (Walbaum).....	101
Drawings by H. L. Todd from No. 12235, U.S.N.M., collected at Cincinnati, Ohio, by J. W. Milner.	

	Text page.
44. Heterocercal tail of <i>Acipenser transmontanus</i> Richardson ..	104
Drawing by Anna L. Brown.	
45. <i>Acipenser sturio oxyrhynchus</i> (Mitchill)	105
Drawing by H. L. Todd from No. 22495, U.S.N.M., collected by William Woltz in the Potomac River.	

PLATE XXI.

46. <i>Acipenser rubicundus</i> Le Sueur	106
Drawing by H. L. Todd from No. 10252, U.S.N.M., collected at Ecorse, Michigan, by J. W. Milner.	
47. <i>Acipenser brevirostrum</i> Le Sueur	106
Drawing by H. L. Todd from photograph of specimen taken at Woods Hole by the U.S.F.C.	
48. <i>Scaphirhynchus platyrhynchus</i> (Rafinesque)	107
Drawing by H. L. Todd.	

PLATE XXII

49. <i>Lepisosteus platostomus</i> Rafinesque	110
Drawing by H. L. Todd from No. 3241, U.S.N.M., collected at Cleveland, Ohio, by Spencer F. Baird.	
50. <i>Lepisosteus tristoechus</i> (Bloch and Schneider)	111
Drawing by A. H. Baldwin from No. 24794, U.S.N.M., collected by Professor Poey in Cuba.	
51, 51a. <i>Amia calva</i> Linnaeus, female	113
Drawings by S. F. Denton.	

PLATE XXIII.

52. <i>Felichthys felis</i> (Linnaeus)	118
Drawing by H. L. Todd from No. 10422, U.S.N.M., collected at Woods Hole, Massachusetts, by Spencer F. Baird.	
53. <i>Galeichthys milberti</i> (Cuvier and Valenciennes)	128
Drawing by H. L. Todd from a specimen collected at Pensacola, Florida, by Silas Stearns.	

PLATE XXIV.

54. <i>Galeichthys gilberti</i> Jordan and Williams	2773
Drawing by Anna L. Brown from the type, No. 1667, L. S. Jr. Univ. Mus., collected by the Hopkins expedition at Mazatlan, Mexico.	
55. <i>Galeichthys azureus</i> Jordan and Williams	2775
Drawing by Anna L. Brown from the type, No. 1575, L. S. Jr. Univ. Mus., collected by the Hopkins expedition at Mazatlan, Mexico.	

PLATE XXV.

	Text page.
56. <i>Ictalurus furcatus</i> (Le Sueur).....	134
Drawing by M. M. Smith from No. 838, U.S.N.M., type of <i>Pimelodus affinis</i> , collected at Brownsville, Texas, by Capt. Van Vliet.	
57. <i>Ictalurus anguilla</i> Evermann and Kendall.....	2788
Drawing by A. H. Baldwin from the type, No. 48788, U.S.N.M., collected by Dr. Evermann in the Atchafalaya River, Morgan City, Louisiana.	
58. <i>Ictalurus punctatus</i> (Rafinesque).....	134
Drawing by H. L. Todd from No. 27846, U.S.N.M., collected at Pekin, Illinois, by Dr. S. A. Forbes.	

PLATE XXVI.

59, 59a, 59b. <i>Ameiurus dugesii</i> Bean.....	138
Drawings by H. L. Todd from the type, No. 23123, U.S.N.M., collected by Prof. A. Dugès in Rio Turbio, Mexico.	
60. <i>Ameiurus melas</i> (Rafinesque)	141
Drawing by H. L. Todd from No. 1497, U.S.N.M., collected in Aux Plaines River, Illinois, by Robert Kennicott.	

PLATE XXVII.

61. <i>Ameiurus platycephalus</i> (Girard).....	142
Drawing by H. L. Todd from No. 1534, U.S.N.M., collected by Mrs. E. Daniel at Anderson, South Carolina.	
62. <i>Leptops olivaris</i> (Rafinesque)	143
Drawing by H. L. Todd from No. 27873, U.S.N.M., collected by S. A. Forbes in the Illinois River.	
63. <i>Noturus flavus</i> Rafinesque.....	144
Drawing by H. L. Todd from No. 1478, U.S.N.M., collected by Professor Baird in Lake Champlain, Westport, New York.	
64. <i>Schilbeodes nocturnus</i> (Jordan and Gilbert).....	146
Drawing by H. L. Todd from the type, No. 36461, U.S.N.M., collected by Jordan and Gilbert in the Sabine River near Benton, Arkansas.	

PLATE XXVIII.

65. <i>Schilbeodes exilis</i> (Nelson).....	147
Drawing by H. L. Todd from No. 36261, U.S.N.M., collected by Gilbert and Swain in the Ozark Fork of the Gasconade River, Marshfield, Missouri.	
66. <i>Schilbeodes insignis</i> (Richardson)	147
Drawing by H. L. Todd from No. 18016, U.S.N.M., collected by T. H. Bean in Consy Creek, Bainbridge, Pennsylvania.	
67, 67a, 67b. <i>Schilbeodes gilberti</i> (Jordan and Evermann).....	148
Drawings by S. F. Denton from the type, No. 39931, U.S.N.M., collected by D. S. Jordan and party in Roanoke River, Salem, Virginia.	

PLATE XXIX.

	Text page.
68. <i>Schilbeodes miurus</i> (Jordan)	148
Drawing by H. L. Todd from No. 20926, U.S.N.M.; collected by J. W. Milner in Tar River, North Carolina.	
69, 69a, 69b. <i>Schilbeodes furiosus</i> (Jordan and Meek)	149
Drawings by S. F. Denton from the type, No. 39932, U.S.N.M., collected by D. S. Jordan and party in Neuse River, Raleigh, North Carolina.	

PLATE XXX.

70. <i>Ictiobus cyprinella</i> (Cuvier and Valenciennes)	163
Drawing by H. L. Todd from No. 20774, U.S.N.M., collected by S. A. Forbes at Normal, Illinois.	
71. <i>Carpionodes cyprinus</i> (Le Sueur)	167
Drawing by H. L. Todd from a specimen collected by Dr. Bean at Havre de Grace, Maryland.	
72. <i>Cycleptus elongatus</i> (Le Sueur)	168
Drawing by H. L. Todd from No. 10790, U.S.N.M., collected by J. W. Milner in the Ohio River at Cincinnati, Ohio.	

PLATE XXXI.

73. <i>Pantosteus jordani</i> Evermann	171
Drawing by A. H. Baldwin from the type, No. 43963, U.S.N.M., collected by Evermann and McCormick, in Whitewood Creek, near Deadwood, South Dakota.	
74. <i>Catostomus latipinnis</i> Baird and Girard	174
Drawing by H. L. Todd from No. 20078, U.S.N.M., collected in the Gila River, Arizona.	
75. <i>Catostomus griseus</i> (Girard)	175
Drawing by S. F. Denton from No. 21197, U.S.N.M., collected by Jordan and Evermann.	

PLATE XXXII.

76. <i>Catostomus pocatello</i> Gilbert and Evermann	175
Drawing by A. H. Baldwin from the type, No. 45385, U.S.N.M., collected by Evermann and Gilbert in Ross Fork of Snake River, near Pocatello, Idaho.	
77. <i>Catostomus catostomus</i> (Forster)	176
Drawing by H. L. Todd from No. 32888, U.S.N.M., collected by E. W. Nelson, in the Yukon River, Alaska.	
78. <i>Catostomus tahoensis</i> Gill and Jordan	177
Drawing by H. L. Todd from No. 5240, U.S.N.M., collected in Lake Tahoe.	

PLATE XXXIII.

79. <i>Catostomus occidentalis</i> Ayres	178
Drawing by A. H. Baldwin from a specimen collected in the Sacramento River, by Dr. Jordan.	

	Text page.
80. <i>Catostomus tsitlicoosensis</i> Evermann and Meek	2793
Drawing by A. H. Baldwin from the type, No. 48479, U.S.N.M., collected by Dr. Meek in Tsitlicoos Lake, Oregon.	
81. Pharyngeal teeth of <i>Catostomus macrocheilus</i> Girard	178
82. Pharyngeal teeth of <i>Placopharynx duquesnii</i> (Le Sueur)	198

PLATE XXXIV.

83. <i>Catostomus commersonii</i> (Lacépède)	178
Drawing by H. L. Todd from No. 10458, U.S.N.M., collected by J. W. Milner at Ecorse, Michigan.	
84. <i>Catostomus ardens</i> Jordan and Gilbert	179
Drawing by H. L. Todd from the type, No. 27363, U.S.N.M., collected by Dr. Jordan in Utah Lake, Utah.	
85. <i>Chasmistes liorus</i> Jordan	183
Drawing by S. F. Denton from No. 3042, U.S.N.M., collected by Dr. Jordan in Utah Lake.	

PLATE XXXV.

86. <i>Chasmistes stomias</i> Gilbert	2794
Drawing by A. H. Baldwin from the type, No. 48223, U.S.N.M., collected by Gilbert and Cramer in Upper Klamath Lake, Oregon.	
87. <i>Chasmistes copei</i> Evermann and Meek	2795
Drawing by A. H. Baldwin from the type, No. 48224, U.S.N.M., collected by Meek and Alexander in Upper Klamath Lake, Oregon.	
88. <i>Xyrauchen cypho</i> (Lockington)	184
Drawing by S. F. Denton from a specimen collected by Dr. Jordan in Green River, Blake City, Utah.	

PLATE XXXVI.

89. <i>Erimyzon sucetta</i> Lacépède	185
Drawing by H. L. Todd from No. 27867, U.S.N.M., collected by Dr. Forbes in Nipisink Lake, Illinois.	
90. <i>Minytrema melanops</i> (Rafinesque)	187
Drawing by H. L. Todd from No. 17800, U.S.N.M., collected by Dr. Bean in Round Lake, near Montgomery, Alabama.	
91. <i>Moxostoma congestum</i> (Baird and Girard)	192
Drawing by H. L. Todd from No. 36510, U.S.N.M., collected in the Rio Lampasas, Belton, Texas.	

PLATE XXXVII.

92. <i>Moxostoma austrinum</i> Bean	192
Drawing by H. L. Todd from the type, No. 23121, U.S.N.M., collected at Piedad, in Morelia (Michoacan), Mexico, by Prof. A. Duges.	

	Text page.
93. <i>Moxostoma rupiscartes</i> Jordan and Jenkins	196
Drawing by S. F. Denton from the type, No. 39927, U.S.N.M., collected in the Catawba River, Morganton, North Caro- lina, by Jordan, Jenkins, and Meek.	

PLATE XXXVIII.

94, 94a. <i>Lagochila lacera</i> Jordan and Brayton	199
Drawing by H. L. Todd from No. 25238, U.S.N.M., collected by J. B. McElwin at Fairview, Tennessee.	

PLATE XXXIX.

95. <i>Campostoma anomalum</i> (Rafinesque)	205
Drawing by W. S. Haines from No. 36328, U.S.N.M., collected by Jordan and Gilbert in White River, near Eureka Springs, Arkansas.	
96. <i>Orthodon microlepidotus</i> (Ayres)	207
Drawing by H. L. Todd from No. 27139, U.S.N.M., collected by Dr. Jordan in the Sacramento River, California.	
97. <i>Acrocheilus alutaceus</i> Agassiz and Pickering	208
Drawing by H. L. Todd from No. 30298, U.S.N.M., collected by Capt. Charles Bendire in John Day River, Oregon.	

PLATE XL.

98. <i>Algansea dugesi</i> Bean.....	211
Drawing by A. H. Baldwin from No. 43764, U.S.N.M., collected by Professor Dugès in Mexico.	
99. <i>Mylocheilus caurinus</i> (Richardson)	219
Drawing by A. H. Baldwin.	
100. <i>Semotilus atromaculatus</i> (Mitchill)	222
Drawing by H. L. Todd from No. 19163, U.S.N.M., collected by Robert Kennicott in Aux Plaines River, Illinois.	

PLATE XLI.

101. <i>Ptychocheilus oregonensis</i> (Richardson).....	224
Drawing by A. H. Baldwin.	
102. <i>Leuciscus bicolor</i> (Girard)	232
Drawing by Chloe Lesley Starks from a specimen collected in Upper Klamath Lake, Oregon, by Gilbert, Cramer, and Otaki.	
103. <i>Leuciscus lineatus</i> (Girard)	232
Drawing by S. F. Denton from a specimen collected in Yellow- stone Park by Dr. Jordan.	

PLATE XLII.

104. <i>Leuciscus hydrophlox</i> (Cope)	238
Drawing by S. F. Denton from a specimen collected in Yellow- stone Park by Dr. Jordan.	

	Text page.
105. <i>Leuciscus balteatus</i> (Richardson).....	238
Drawing by H. L. Todd from No. 36869, U.S.N.M., collected in the Columbia River, Oregon, by J. H. Clarke.	
105a. <i>Leuciscus balteatus</i> (Richardson)	238
Drawing by A. H. Baldwin from No. 43953, U.S.N.M., type of <i>Leuciscus gilli</i> Evermann, collected in Browns Gulch Creek, Silver Bow, Montana, by Evermann, Jenkins, and Clapham.	

PLATE XLIII.

106. <i>Leuciscus siuslawi</i> Evermann and Meek	2797
Drawing by A. H. Baldwin from the type, No. 48180, U.S.N.M., collected by Dr. Meek in the Siuslaw River, Mapleton, Oregon.	
107. <i>Rutilus bicolor</i> (Girard)	244
Drawing by Anna L. Brown from a specimen collected by Gilbert, Cramer, and Otaki in Upper Klamath Lake, Oregon.	

PLATE XLIV.

108. <i>Opsopœodus osculus</i> Evermann.....	248
Drawing by A. H. Baldwin from the type, No. 45560, U.S.N.M., collected by Evermann, Scovell, and Gurley in Buffalo Bayou, near Houston, Texas.	
109. <i>Opsopœodus emiliæ</i> Hay	248
Drawing by A. H. Baldwin.	
110. <i>Opsopœodus bollmani</i> Gilbert	248
Drawing by S. F. Denton from the type, collected by Bollman and Fesler in Buckland Creek, Millen, Georgia.	

PLATE XLV.

111. <i>Abramis crysoleucas</i> (Mitchill)	250
Drawing from No. 20243, U.S.N.M., collected by Professor Baird in the Hackensack River, New Jersey.	
112. <i>Notropis aztecus</i> Woolman	258
Drawing by A. H. Baldwin from the type, No. 45569, U.S.N.M., collected by A. J. Woolman at the City of Mexico.	
113. <i>Notropis welaka</i> Evermann and Kendall	2799
Drawing by A. H. Baldwin from the type, No. 48786, U.S.N.M., collected by Dr. Kendall in St. Johns River, Welaka, Florida.	

PLATE XLVI.

114. <i>Notropis cayuga atrocaudalis</i> Evermann.....	260
Drawing by A. H. Baldwin from the type, No. 45557, U.S.N.M., collected by Evermann, Scovell, and Gurley in the Neches River, near Palestine, Texas.	

115. <i>Notropis kanawha</i> Jordan and Jenkins.....	Text page. 264
Drawing by S. F. Denton from the type, No. 39928, U.S.N.M., collected by Jordan, Evermann, and Jenkins, in Reed Creek, Wytheville, Virginia.	
116. <i>Notropis chihuahua</i> Woolman	265
Drawing by A. H. Baldwin from the type, No. 44151, U.S.N.M., collected by Woolman and Cox in the Rio de las Conchas, Chihuahua, Mexico.	

PLATE XLVII.

117. <i>Notropis nux</i> Evermann	267
Drawing by A. H. Baldwin from the type, No. 45555, U.S.N.M., collected by Evermann, Scovell, and Gurley, in Trinity River, near Palestine, Texas.	
118. <i>Notropis nocomis</i> Evermann.....	268
Drawing by A. H. Baldwin from the type, No. 45556, U.S.N.M., collected by Evermann, Scovell, and Gurley in Trinity River, Magnolia Point, Texas.	
119. <i>Notropis hudsonius</i> (Clinton)	269
Drawing by A. H. Baldwin from a specimen collected by Geo. D. Head in Kilpatrick Lake, Minnesota.	

PLATE XLVIII.

120. <i>Notropis hudsonius saludanus</i> (Jordan and Brayton).....	270
Drawing by H. L. Todd from No. 23513, U.S.N.M., the type of <i>Hudsonius euryopa</i> Bean, collected by A. Graves in McBean Creek, Georgia.	
121. <i>Notropis whipplii</i> (Girard)	278
Drawing by H. L. Todd from No. 36748, U.S.N.M., collected in White River, Indiana, by Dr. Gilbert.	
122. <i>Notropis galacturus</i> (Cope).....	279
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in Tellico River, Tellico Plains, Tennessee.	

PLATE XLIX.

123. <i>Notropis macdonaldi</i> Jordan and Jenkins.....	284
Drawing by S. F. Denton from the type, No. 39859, U.S.N.M., collected by Jordan and Jenkins in the Shenandoah River, Luray, Virginia.	
124. <i>Notropis coccogenis</i> (Cope)	284
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in Arwine Spring Creek, Mount Verd, Tennessee.	
125. <i>Notropis swaini</i> Jordan	290
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in San Marcos River, San Marcos, Texas.	

PLATE L.

	Text page.
126. <i>Notropis telescopus</i> (Cope)	292
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Tellico River, Tellico Plains, Tennessee.	
127. <i>Notropis notemigonoides</i> Evermann	292
Drawing by A. H. Baldwin from the type, No. 45559, U.S.N.M., collected by Evermann, Seovell, and Gurley in Neches River, near Palestine, Texas.	
128. <i>Notropis metallicus</i> Jordan and Meek	297
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in the Withlacoochee River, near Richland, Florida.	

PLATE LI.

129. <i>Ericymba buccata</i> Cope	302
Drawing by A. H. Baldwin from No. 36803, U.S.N.M., collected by Dr. Meek in Lost Creek, near Defiance, Ohio.	
130. <i>Phenacobius uranops</i> Cope	304
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Chickamauga Creek, Lee & Gordon's mill, Georgia.	
131. <i>Evarra eigenmanni</i> Woolman	304
Drawing by A. H. Baldwin from the type, No. 45571, U.S.N.M., collected by Woolman and Cox at the City of Mexico.	

PLATE LII.

132. <i>Rhinichthys dulcis</i> (Girard)	306
Drawing by S. F. Denton from a specimen collected by Dr. Jordan in Yellowstone Park.	
133. <i>Agosia klamathensis</i> Evermann and Meek	314
Drawing by A. H. Baldwin from the type, No. 48225, U.S.N.M., collected by Meek and Alexander in Upper Klamath Lake, Oregon.	
134. <i>Agosia umatilla</i> Gilbert and Evermann	313
Drawing by A. H. Baldwin from the type, No. 45390, U.S.N.M., collected by Gilbert and Rutter in the Columbia River at Umatilla, Oregon.	

PLATE LIII.

135. <i>Agosia falcata</i> Eigenmann and Eigenmann	313
Drawing by A. H. Baldwin from the type collected by C. H. Eigenmann in Boise River near Caldwell, Idaho.	
136. <i>Hybopsis aestivalis marconis</i> Jordan and Gilbert	316
Drawing by A. H. Baldwin from a specimen collected in the San Marcos River, San Marcos, Texas, by Evermann, Seovell, and Gurley.	
137. <i>Hybopsis watauga</i> Jordan and Evermann	319
Drawing by S. F. Denton from the type, No. 39929, U.S.N.M., collected by Jordan and Evermann in the Watauga River near Elizabethtown, Tennessee.	

PLATE LIV.

	Text page.
138. <i>Hybopsis altus</i> (Jordan)	321
Drawing by H. L. Todd from the type, No. 23125, U.S.N.M., collected in Lake Tupaturo, Guanajuato, Mexico, by Prof. A. Dugès.	
139. <i>Platygobio gracilis</i> (Richardson)	326
Drawing by A. H. Baldwin from a specimen collected by Evermann, Cox, and Rutter in White River near Chamber- lain, South Dakota.	
140. <i>Exoglossum maxillingua</i> (Le Sueur)	327
Drawing by Anna L. Brown.	

PLATE LV.

141. <i>Brycon dentex</i> Günther	337
Drawing by A. H. Baldwin from No. 39909, U.S.N.M., collected by Dr. L. E. H. Best in Nicaragua.	
142. <i>Derichthys serpentinus</i> Gill	343
Drawing by H. L. Todd from the type collected by the <i>Alba-</i> <i>tross</i> in the Gulf Stream at Station 2094 in 1,022 fathoms.	
143. <i>Anguilla chrysypa</i> Rafinesque	348
Drawing by H. L. Todd from No. 20470, U.S.N.M., collected at Holyoke, Massachusetts.	

PLATE LVI.

144. <i>Simenchelys parasiticus</i> Gill	349
Drawing by H. L. Todd from No. 21673, U.S.N.M., collected by Capt. N. McPhee near Sable Island Bank.	
145. <i>Ilyophis brunneus</i> Gilbert	350
Drawing by A. H. Baldwin from the type collected by the <i>Albatross</i> at Chatham Island.	
146. <i>Synaphobranchus pinnatus</i> (Gronow)	351
Drawing by H. L. Todd from No. 21681, U.S.N.M., collected by Captain Olsen on Le Have Bank.	

PLATE LVII.

147. <i>Histiobranchus infernalis</i> Gill	352
Drawing by H. L. Todd from No. 38205, U.S.N.M., collected by the <i>Albatross</i> in lat. 36° 35' N., long. 74° 03' 30" W.	
148. <i>Leptocephalus conger</i> (Linnaeus)	354
Drawing by H. L. Todd from No. 16027, U.S.N.M., collected at Noank, Connecticut, by J. W. Latham.	
149. <i>Leptocephalus caudilimbatus</i> (Poey)	355
Drawing by H. L. Todd from the type of <i>Conger caudicula</i> Bean, No. 30709, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE LVIII.

	Text page.
150. <i>Congrellus flavus</i> (Goode and Bean)	357
Drawing by H. L. Todd from the type, No. 44612, U.S.N.M., collected by the <i>Albatross</i> in the Gulf Stream.	
151. <i>Hoplunnis schmidtii</i> Kaup	361
Drawing by J. C. Van Hook from No. 44240, U.S.N.M., col- lected by the <i>Albatross</i> at Station 2402.	
152. <i>Venefica procera</i> Goode and Bean	365
Drawing by H. L. Todd from a specimen collected in the Gulf Stream.	
153. <i>Serrivomer beanii</i> Gill and Ryder	367
Drawing by A. H. Baldwin from the type, No. 33383, U.S.N.M., collected by the <i>Albatross</i> in the Gulf Stream.	

PLATE LIX.

154. <i>Avocettina gillii</i> Bean	367; 2801
Drawing by A. H. Baldwin from the type, No. 44239, U.S.N.M., collected by the <i>Albatross</i> east of Prince of Wales Island, Alaska, at Station 2859.	
154a, 154b. <i>Avocettina gillii</i> Bean	2801
Drawings by Anna L. Brown from No. 679, L. S. Jr. Univ. Mus., collected by the <i>Albatross</i> at Station 2860.	
155. <i>Labichthys carinatus</i> Gill and Ryder	368
Drawing by A. H. Baldwin from the type, No. 33369, U.S.N.M., collected by the <i>Albatross</i> at Station 2076 in the Gulf Stream.	
156. <i>Labichthys elongatus</i> Gill and Ryder	369
Drawing by A. H. Baldwin from the type, No. 33755, U.S.N.M., collected by the <i>Albatross</i> at Station 2100 in the Gulf Stream.	

PLATE LX.

157, 157a, 157b. <i>Nemichthys avocetta</i> Jordan and Gilbert	369
Drawings by Anna L. Brown from a specimen in the Pro- vincial Museum at Victoria, British Columbia, collected by M. W. Norgate, at Beacon Hill, near Victoria.	
158. <i>Ahlia egmontis</i> (Jordan)	370
Drawing by H. L. Todd from the type, No. 35086, U.S.N.M., collected by Dr. Jordan at Egmont Key, Florida.	
159. <i>Verma kendalli</i> (Gilbert)	375
Drawings by A. H. Baldwin from the type, No. 44301, U.S.N.M., collected by W. C. Kendall off west coast of Florida.	

PLATE LXI.

160. <i>Letharchus velifer</i> Goode and Bean	375
Drawing by H. L. Todd from the type, No. 31458, U.S.N.M., collected by Kaiser and Martin, on west coast of Florida.	
161. <i>Myrichthys tigrinus</i> Girard	376
Drawing by A. H. Baldwin.	

PLATE LXII.

	Text page.
162. <i>Myrichthys pantostigmus</i> Jordan and McGregor	2802
Drawing by W. S. Atkinson from the type, No. 5710, L. S. Jr. Univ. Mus., collected by R. C. McGregor, at Clarion Island.	
163. <i>Pisoodonophis cruentifer</i> Goode and Bean	377
Drawing by A. H. Baldwin from the type, No. 28938, U.S.N.M., collected by the <i>Fish Hawk</i> .	

PLATE LXIII.

164. <i>Calechelys muræna</i> Jordan and Evermann	378
Drawing by A. H. Baldwin from the type, No. 37996, U.S.N.M., collected by Silas Stearns at the Pensacola Snapper Banks.	
165. <i>Bascanichthys scuticaris</i> (Goode and Bean)	378
Drawing by H. L. Todd from the type of <i>Sphagebranchus teres</i> Goode and Bean, No. 31457, U.S.N.M., collected by Kaiser and Martin on west coast of Florida.	
166, 166a. <i>Bascanichthys peninsulæ</i> (Gilbert)	379
Drawings by A. H. Baldwin from the type, No. 44297, U.S.N.M., collected by the <i>Albatross</i> in La Paz Bay, Lower California.	

PLATE LXIV.

167. <i>Quassiremus evionthas</i> (Jordan and Bollman)	380
Drawing by A. H. Baldwin.	
168. <i>Ophichthus guttifer</i> (Bean and Dresel)	383
Drawing by H. L. Todd from the type, No. 32647, U.S.N.M., collected by Silas Stearns on the Pensacola Snapper Banks.	
169. <i>Ophichthus ocellatus</i> (Le Sueur)	383
Drawing by H. L. Todd from No. 22289, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE LXV.

170. <i>Mystriophis intertinctus</i> (Richardson)	386
Drawing by H. L. Todd from No. 22865, U.S.N.M., collected by Kaiser and Martin on west coast of Florida.	
171. <i>Lycodontis moringa</i> (Cuvier)	395
Drawing by H. L. Todd from No. 6994, U.S.N.M., collected at Garden Key, Florida.	
172. <i>Muræna insularum</i> Jordan and Davis	400
Drawing by A. H. Baldwin.	

PLATE LXVI.

173. <i>Muræna retifera</i> Goode and Bean	401
Drawing by H. L. Todd from the type, No. 31393, U.S.N.M., collected by C. C. Leslie, at Charleston, South Carolina.	
174. <i>Channomuræna vittata</i> (Richardson)	404
Drawing by A. H. Baldwin.	
175. <i>Saccopharynx ampullaceus</i> (Harwood)	406
Drawing from Günther, Challenger Report, Vol. XXII, Pl. LXVI.	

PLATE LXVII.

	Text page.
176. <i>Gastrostomus bairdii</i> Gill and Ryder	406
Drawing by H. L. Todd from No. 33386, U.S.N.M., collected by the <i>Albatross</i> at Station 2074, in N. lat. 41° 43', W. long. 65° 21' 50'', at a depth of 1,309 fathoms.	
177. <i>Tarpon atlanticus</i> (Cuvier and Valenciennes)	409
Drawing by H. L. Todd.	
178. <i>Elops saurus</i> Linnaeus	410
Drawing by H. L. Todd.	

PLATE LXVIII.

179. <i>Albula vulpes</i> (Linnaeus)	411
Drawing by H. L. Todd.	
180. <i>Hiodon tergisus</i> Le Sueur	413
Drawing by H. L. Todd from No. 8710, U.S.N.M., collected by George Clark, at Ecorse, Michigan.	
181. <i>Hiodon selenops</i> Jordan and Bean	414
Drawing by H. L. Todd from the type, No. 19844, U.S.N.M., collected by Daniel J. Duffy, at Chattanooga, Tennessee.	

PLATE LXIX.

182. <i>Chanos chanos</i> (Forskål)	414
Drawing by A. H. Baldwin from No. 28240, U.S.N.M., col- lected by Dr. Gilbert at Mazatlan, Mexico.	
183. <i>Dorosoma cepedianum</i> (Le Sueur)	416
Drawing by H. L. Todd.	
184. <i>Signalosa atchafalayæ</i> Evermann and Kendall	2809
Drawing by A. H. Baldwin from the type, No. 48790, U.S.N.M., collected by Fred M. Chamberlain in the Atchafalaya River at Melville, Louisiana.	

PLATE LXX.

185. <i>Clupea harengus</i> Linnaeus	421
Drawing by H. L. Todd.	
186. <i>Clupea pallasii</i> Cuvier and Valenciennes	422
Drawing by H. L. Todd from No. 27718, U.S.N.M., collected by L. Bailey at Unalaska.	
187. <i>Pomolobus chrysochloris</i> Rafinesque	425
Drawing by H. L. Todd from No. 30159, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE LXXI.

188. <i>Pomolobus mediocris</i> (Mitchill)	425
Drawing by H. L. Todd from No. 25132, U.S.N.M., collected at Washington market by Dr. Bean.	

	Text page.
189. <i>Pomolobus pseudoharengus</i> (Wilson).....	426
Drawing by H. L. Todd from No. 25197, U.S.N.M., collected at Washington market.	
190. <i>Pomolobus æstivalis</i> (Mitchill)	426
Drawing by H. L. Todd from No. 32639, U.S.N.M., collected at Washington market.	

PLATE LXXII.

191. <i>Alosa sapidissima</i> (Wilson).....	427
Drawing by H. L. Todd from No. 25099, U.S.N.M., collected by U. S. F. C. at Norfolk, Virginia.	
192, 192a. <i>Alosa alabamæ</i> Jordan and Evermann.....	2810
Drawings by A. H. Baldwin from the types, Nos. 47690, male, and 47689, female, U.S.N.M., collected by J. N. Fitts in Black Warrior River, at Tuscaloosa, Alabama.	

PLATE LXXIII.

193. <i>Sardinella humeralis</i> (Cuvier & Valenciennes)	431
Drawing by H. L. Todd from the type of <i>Harengula pensacola</i> Goode and Bean, No. 22831, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
194. <i>Sardinella stolifera</i> (Jordan and Gilbert).....	431
Drawing by Anna L. Brown from No. 2693, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
195. <i>Brevoortia tyrannus</i> (Latrobe).....	433
Drawing by H. L. Todd from No. 20666, U.S.N.M., collected at Woods Hole, Massachusetts.	

PLATE LXXIV.

196. <i>Stolephorus perthecatus</i> Goode and Bean	442
Drawing by H. L. Todd from No. 30483, U.S.N.M., collected by Silas Stearns in south Florida.	
197. <i>Alepocephalus agassizii</i> Goode and Bean	453
Drawing by H. L. Todd from No. CCCXXXVIII, M. C. Z., collected by A. Agassiz in N. lat. 38° 18' 40'', W. long. 73 18' 10'', at a depth of 922 fathoms.	
198. <i>Talismania antillarum</i> Goode and Bean.....	455
Drawing by M. M. Smith from the type, No. 43739, U.S.N.M., collected by the <i>Albatross</i> at Station 2394, in N. lat. 28° 38 30'', W. long. 87° 02'', at a depth of 420 fathoms.	

PLATE LXXV.

199. <i>Aleposomus copei</i> Gill.....	459
Drawing by H. L. Todd from the type, No. 33551, U.S.N.M., collected by the <i>Albatross</i> at Station 2099, in N. lat. 37° 12 20'', W. long. 69° 39', at a depth of 2,949 fathoms.	

	Text page.
200. <i>Coregonus williamsoni</i> Girard	463
Drawing by A. H. Baldwin from a breeding male collected by B. A. Bean in Little Spokane River, near Clarks Spring, Washington.	
200a. <i>Coregonus williamsoni</i> Girard.....	463
Drawing by A. H. Baldwin from a young individual collected by Dr. Evermann in Montana.	

PLATE LXXVI.

201. <i>Coregonus coulterii</i> Eigenmann and Eigenmann.....	462
Drawing by A. H. Baldwin from the type, No. 44875, U.S. N.M., collected by Dr. Eigenmann in the Kicking Horse River at Field, British Columbia.	
202. <i>Coregonus clupeiformis</i> (Mitchill).....	465
Drawing by H. L. Todd from No. 10300, U.S.N.M., collected by George Clark at Ecorse, Michigan.	
203. <i>Argyrosomus nigripinnis</i> Gill.....	472
Drawing by A. H. Baldwin from a nearly ripe male collected in Lake Michigan, off Sheboygan, Wisconsin, in 90 fathoms.	

PLATE LXXVII.

204. <i>Stenodus mackenzii</i> (Richardson)	474
Drawing from No. 29889, U.S.N.M., collected at Nulato, Alaska, by E. W. Nelson.	
205. <i>Oncorhynchus gorbuscha</i> (Walbaum).....	478
Drawing by H. L. Todd from No. 27743, U.S.N.M., collected by Dr. Bean in Cooks Inlet, Alaska.	
206. <i>Oncorhynchus tshawytscha</i> (Walbaum).....	479
Drawing by H. L. Todd.	

PLATE LXXVIII.

207. <i>Oncorhynchus nerka</i> (Walbaum)	481
Drawing by A. H. Baldwin from a male specimen of the large form collected by T. M. Williams at Big Payette Lake, Idaho.	
207a. <i>Oncorhynchus nerka</i> (Walbaum).....	481
Drawing by A. H. Baldwin from a female specimen of the small form collected by Dr. Evermann at Alturas Lake, Idaho.	
207b. <i>Oncorhynchus nerka</i> (Walbaum).....	481
Drawing by A. H. Baldwin from a mutilated male specimen of the small form collected by Dr. Evermann at Alturas Lake, Idaho.	

PLATE LXXIX.

208. <i>Salmo clarkii henshawi</i> (Gill and Jordan).....	493; 2819
Drawing by S. F. Denton from No. 17086, U.S.N.M., collected by H. W. Henshaw in Lake Tahoe, California.	

	Text page.
209. <i>Salmo clarkii virginalis</i> (Girard)	495; 2819
Drawing by S. F. Denton from a specimen collected by Peter Madsen in Utah Lake, Utah.	
210. <i>Salmo clarkii spilurus</i> (Cope)	495; 2819
Drawing by S. F. Denton from a specimen collected by Jordan and Evermann at Del Norte, Colorado.	

PLATE LXXX.

211. <i>Salmo clarkii pleuriticus</i> (Cope)	496; 2819
Drawing by S. F. Denton from specimen collected by Jordan and Evermann at Trappers Lake, Colorado.	
212. <i>Salmo clarkii bouvieri</i> (Bendire)	496; 2819
Drawing by S. F. Denton from the type, collected by Capt. Charles Bendire at Waha Lake, Idaho.	
213. <i>Salmo clarkii stomias</i> (Cope)	497; 2819
Drawing by S. F. Denton from a specimen collected by Jordan and Evermann at Twin Lakes, Colorado.	

PLATE LXXXI.

214. <i>Salmo clarkii macdonaldi</i> Jordan and Evermann	497; 2819
Drawing by S. F. Denton from the type, No. 41730, U.S.N.M., collected by George Fisher in Twin Lakes, Colorado.	
215. <i>Salmo gairdneri</i> Richardson	497
216. <i>Salmo irideus</i> Gibbons	500
Drawing by S. F. Denton from No. 37782, U.S.N.M., a male example, collected by William Montgomery at Verona, Missouri, where the species had been introduced.	

PLATE LXXXII.

217. <i>Cristivomer namaycush</i> (Walbaum)	504
Drawing by S. F. Denton.	
218. <i>Salvelinus fontinalis</i> (Mitchill)	506
Drawing by H. L. Todd from No. 28651, U.S.N.M., collected by E. G. Blackford.	
219. <i>Salvelinus malma</i> (Walbaum)	507
Drawing by H. L. Todd from No. 27740, U.S.N.M., collected by T. H. Bean in Cooks Inlet.	

PLATE LXXXIII.

220. <i>Salvelinus alpinus aureolus</i> (Bean)	511
Drawing by H. L. Todd from No. 39899, U.S.N.M., a female, collected by E. B. Hodge at Sunapee Lake, New Hampshire.	
221. <i>Salvelinus oquassa</i> (Girard)	514
Drawing by H. L. Todd from No. 20688, U.S.N.M., collected by E. G. Blackford at Oquassa Lake, Maine.	
222. <i>Thymallus signifer</i> (Richardson)	517
Drawing by H. L. Todd from a specimen collected by E. W. Nelson at Nulato, Alaska.	

PLATE LXXXIV.

	Text page.
223. <i>Thymallus tricolor</i> Cope	518; 2871
Drawing by H. L. Todd from No. 11115, U.S.N.M., collected by J. W. Milner in Ausable River, Michigan.	
224. <i>Thymallus tricolor montanus</i> (Milner)	519; 2871
Drawing by S. F. Denton from a specimen collected by Dr. Jordan at Horsethief Springs, Montana.	
224a. <i>Thymallus tricolor montanus</i> (Milner)	519; 2871
Drawing by A. H. Baldwin from a young example collected in the Yellowstone Park by Dr. Evermann.	

PLATE LXXXV.

225. <i>Mallotus villosus</i> (Müller)	520
Drawing by H. L. Todd from No. 3418, U.S.N.M., collected by Dr. E. Cones in Grosswater Bay.	
226. <i>Thaleichthys pacificus</i> (Richardson)	521
Drawing by H. L. Todd from No. 28001, U.S.N.M., collected by Marcus Baker in Chilkat River, Alaska.	
227. <i>Osmerus thaleichthys</i> Ayres	522
Drawing by H. L. Todd from No. 28087, U.S.N.M., collected by Dr. Bean at San Francisco, California.	

PLATE LXXXVI.

228. <i>Osmerus mordax</i> (Mitchill)	523
Drawing by H. L. Todd from No. 21435, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	
229. <i>Osmerus dentex</i> Steindachner	524
Drawing by H. L. Todd from No. 27914, U.S.N.M., collected at Port Clarence, Alaska, by Dr. Bean.	
230. <i>Hypomesus pretiosus</i> (Girard)	525
Drawing by H. L. Todd from No. 27995, U.S.N.M., collected in Yakutat Bay, Alaska, by Dr. Bean.	

PLATE LXXXVII.

231. <i>Hypomesus olidus</i> (Pallas)	525
Drawing by H. L. Todd from No. 23973, U.S.N.M., collected by L. M. Turner at St. Michaels, Alaska.	
232. <i>Argentina silus</i> Acaninus	526
Drawing by H. L. Todd from No. 37801, U.S.N.M., collected by E. H. Bunker at Biddeford Pool, Maine.	
233. <i>Leuroglossus stilbius</i> Gilbert	527
Drawing by A. H. Baldwin from the type, No. 44283, U.S.N.M., collected by the <i>Albatross</i> at Station 2997 in 221 fathoms.	

PLATE LXXXVIII.

234. <i>Bathylagus benedicti</i> Goode and Bean	529
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> at Station 2711, in N. lat. 38° 59', W. long. 70° 07', in 1,344 fathoms.	

	Text page.
235. <i>Trachinocephalus myops</i> (Forster).....	533
Drawing by H. L. Todd.	
236. <i>Synodus foetens</i> (Linnaeus).....	538
Drawing by H. L. Todd from No. 25998, U.S.N.M., collected by C. C. Leslie at Charleston, South Carolina.	

PLATE LXXXIX.

237. <i>Benthosaurus grallator</i> Goode and Bean.....	543
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> at Station CLXXIV, in N. lat. $24^{\circ} 23'$, W. long. $84^{\circ} 23'$, in 1,850 fathoms.	
238. <i>Bathypterois quadrifilis</i> Günther.....	545
Drawing by A. H. Baldwin from a specimen collected by the <i>Blake</i> at Station XCVIII, off St. Vincent.	
239. <i>Ipnops murrayi</i> Günther.....	547
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> at Station CCXXXIII, in N. lat. $24^{\circ} 36'$, W. long. $84^{\circ} 5'$, in 955 fathoms.	

PLATE XC.

240. <i>Rondeletia bicolor</i> Goode and Bean.....	548
Drawing by H. L. Todd from the type, No. 38202, U.S.N.M., collected by the <i>Albatross</i> at Station 2206, in N. lat. $36^{\circ} 47'$, W. long. $73^{\circ} 25'$, in 1,641 fathoms.	
241. <i>Cetomimus gillii</i> Goode and Bean.....	549
Drawing by M. M. Smith from the type, No. 35529, U.S.N.M., collected by the <i>Albatross</i> at Station 2206, in N. lat. $39^{\circ} 35'$, W. long. $71^{\circ} 24' 30''$, in 1,043 fathoms.	
242. <i>Ceratoscopus madeirensis</i> (Lowe).....	557
Drawing by J. C. Van Hook from No. 43776, U.S.N.M., col- lected by the <i>Albatross</i> at Station 2528, in N. lat. $41^{\circ} 47'$ W. long. $65^{\circ} 37' 30''$, in 677 fathoms.	

PLATE XCI.

243. <i>Lampanyctus crocodilus</i> (Risso).....	558
Drawing by A. H. Baldwin from a specimen collected at Nice, and obtained by the U.S.N.M. through the Royal Zoolog- ical Museum at Florence, Italy.	
244. <i>Lampadena speculigera</i> Goode and Bean.....	561
Drawing by J. C. Van Hook from the type, No. 43797, U.S.N.M., collected by the <i>Fish Hawk</i> at Station 797, off Newport, Rhode Island, in 16.5 fathoms.	
245. <i>Nannobranchium macdonaldi</i> Goode and Bean.....	563
Drawing by S. F. Denton from No. 35445, U.S.N.M., collected by the <i>Albatross</i> at Station 2182, in N. lat. $39^{\circ} 25' 30''$, W. long. $71^{\circ} 44'$, in 861 fathoms.	

PLATE XCII.

	Text page.
246. <i>Æthoprora lucida</i> Goode and Bean	565
Drawing by A. H. Baldwin from No. 44084, U.S.N.M., collected by the <i>Albatross</i> at Station 2127, in N. lat. 19° 45', W. long. 75° 04', in 1639 fathoms.	
247. <i>Myctophum opalinum</i> Goode and Bean	571
Drawing by J. C. Van Hook from No. 43798, U.S.N.M., collected by the <i>Albatross</i> at Station 2585, in N. lat. 39° 08' 30'', W. long. 72° 17', in 542 fathoms.	
248. <i>Tarletonbeania tenua</i> Eigenmann and Eigenmann	575
Drawing by A. H. Baldwin from No. 41882, U.S.N.M., collected by C. H. Eigenmann off Point Loma, near San Diego, California.	

PLATE XCIII.

249. <i>Yarrella blackfordii</i> Goode and Bean	584
Drawing by A. H. Baldwin from the type, No. 44242, U.S.N.M., collected by the <i>Albatross</i> at Station 2376, in N. lat. 29° 03' 15'', W. long. 88° 16', in 324 fathoms.	
250. <i>Chauliodus sloanei</i> Bloch and Schneider	585
Drawing by H. L. Todd from No. 23420, U.S.N.M., collected by Capt. Charles Anderson and crew, of the Gloucester fishing fleet, in N. lat. 42° 08', W. long. 65° 35', in 185 fathoms.	
251. <i>Astronesthes gemmifer</i> Goode and Bean	586
Drawing by A. H. Baldwin from the type, No. 24645, U.S.N.M., collected by the schooner <i>Polar Wave</i> from the stomach of a halibut, in N. lat. 44° 25', W. long. 53° 12', in 300 fathoms.	

PLATE XCIV.

252. <i>Astronesthes richardsoni</i> Poey	587
Drawing by M. M. Smith from No. 35540, U.S.N.M., collected by the <i>Albatross</i> at Station 2202, in N. lat. 39° 38', W. long. 71° 39' 45'', in 515 fathoms.	
253. <i>Stomias ferox</i> Reinhardt	588
Drawing by H. L. Todd from No. 23360, U.S.N.M., collected by Capt. David Cammel and crew, of the Gloucester fishing fleet, at East Banquereux.	
254. <i>Grammatostomias dentatus</i> Goode and Bean	590
Drawing by H. L. Todd from the type, No. 37370, U.S.N.M., collected by the <i>Albatross</i> , at Station 2565, in N. lat. 38° 19' 20'', W. long. 69° 02' 30'', in 2069 fathoms.	

PLATE XCV.

255. <i>Photonectes graciles</i> Goode and Bean	591
Drawing by M. M. Smith from the type, collected by the <i>Blake</i> at Station XI., off Martinique, in 472 fathoms.	

	Text page.
256. <i>Malacosteus niger</i> Ayres.....	593
Drawing by H. L. Todd, from No. 32169, U.S.N.M., collected by Capt. Charles Anderson and crew, of the schooner <i>Alice G. Wonson</i> , on the northeastern edge of Georges Bank, in 125 fathoms.	

257. <i>Alepisaurus ferox</i> Lowe.....	595
Drawing by H. L. Todd from No. 20593, U.S.N.M., obtained in the New York market by E. G. Blackford.	

PLATE XCVI.

258. <i>Alepisaurus æsculapius</i> (Bean).....	595
Drawing by H. L. Todd from the type, No. 27705, U.S.N.M., collected by Robert King at Unalaska, Alaska.	
259. <i>Arctozenus coruscans</i> (Jordan & Gilbert).....	601
Drawing by A. H. Baldwin from the type, No. 27171, U.S.N.M., collected by Mr. Brown, at Port Townsend, Washington.	
260. <i>Paralepis coregonoides</i> Risso.....	602
Drawing by H. L. Todd from a specimen in the Academy of Natural Sciences of Montreal.	

PLATE XCVII.

261, 261a. <i>Argyropelecus olfersi</i> (Cuvier).....	604
Drawings by H. L. Todd from No. 33393, U. S. N. M., collected by the <i>Albatross</i> in N. lat. 41° 40' 30'', W. long. 65° 35', in 855 fathoms.	

PLATE XCVIII.

262. <i>Aldrovandia macrochir</i> (Günther).....	609
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> at Station LIII, off Havana, in 242 fathoms.	
263. <i>Aldrovandia gracilis</i> Goode and Bean.....	610
Drawing by S. F. Denton, from a specimen collected by the <i>Blake</i> at Station LXX, off Guadaloupe, in 769 fathoms.	
264. <i>Notacanthus analis</i> Gill.....	615
Drawing by H. L. Todd from the type, No. 37856, U.S.N.M., collected by the <i>Albatross</i> at Station 2677, in N. lat. 32° 39', W. long. 76° 50' 30'', in 478 fathoms.	
265. <i>Notacanthus phasganorus</i> Goode.....	616
Drawing by H. L. Todd from the type, No. 25972, U.S.N.M., collected by Capt. Briggs Gilpatrick, of the schooner <i>Gath-erer</i> , from the stomach of a ground shark, on the Grand Bank.	

PLATE XCIX.

266. <i>Lipogenys gillii</i> Goode and Bean.....	619
Drawing by H. L. Todd from the type, No. 39212, U.S.N.M., collected by the <i>Albatross</i> at Station 2742, in N. lat. 37° 46' 30'', W. long. 73° 56' 30'', in 865 fathoms.	

	Text page.
267. <i>Dallia pectoralis</i> Bean.....	621
Drawing by H. L. Todd from the type, No. 23498, U.S.N.M., collected by L. M. Turner, at St. Michaels, Alaska.	
268. <i>Umbra pygmæa</i> (De Kay)	624
Drawing by H. L. Todd from No. 34886, U.S.N.M., collected in New Jersey.	

PLATE C.

269, 269a. <i>Lucius lucius</i> (Linnaeus)	628
Drawings by H. L. Todd from No. 9389, U.S.N.M., collected at Ecorse, Michigan.	
270. <i>Lucius masquinongy</i> (Mitchill).....	629
Drawing by H. L. Todd from No. 10607, U.S.N.M., collected by Geo. Clark at Ecorse, Michigan.	

PLATE CI.

271, 271a. <i>Fundulus majalis</i> (Walbaum)	639
Drawings by H. L. Todd from No. F3788, U.S.N.M. (Female and male), collected by the U. S. Fish Commission at Woods Hole, Massachusetts.	
271b. <i>Fundulus majalis</i> (Walbaum).....	639
Drawing by A. H. Baldwin from a young example collected by H. M. Smith at St. George Island, Maryland.	

PLATE CII.

272. <i>Fundulus pallidus</i> Evermann.....	638
Drawing by A. H. Baldwin from the type, No. 45561, U.S.N.M., collected by Evermann, Seovell, and Gurley in Galveston Bay, near Swan Lake, Galveston, Texas.	
273. <i>Fundulus heteroclitus</i> (Linnaeus).....	640
Drawing by A. H. Baldwin from a male example collected by H. M. Smith at St. George Island, Maryland.	
274. <i>Fundulus ocellaris</i> Jordan and Gilbert.....	642
Drawing by A. H. Baldwin from a specimen collected in the Withlacoochee River, Florida, by A. J. Woolman.	

PLATE CIII.

275. <i>Fundulus diaphanus</i> (Le Sueur).....	645
Drawing by A. H. Baldwin from a male example collected by H. M. Smith at St. George Island, Maryland.	
275a. <i>Fundulus diaphanus</i> (Le Sueur)	645
Drawing by A. H. Baldwin from a female example collected by H. M. Smith at St. George Island, Maryland.	
276. <i>Fundulus zebrinus</i> Jordan and Gilbert.....	646
Drawing by H. L. Todd from No. 36610, U.S.N.M., collected at Ellis, Kansas, by F. W. Cragin.	

PLATE CIV.

	Text page.
277. <i>Fundulus seminolis</i> Girard.....	647
Drawing by A. H. Baldwin from a specimen collected in Charlie Apopka Creek, Florida, by A. J. Woolman.	
278. <i>Fundulus catenatus</i> (Storer).....	648
Drawing by A. H. Baldwin from a male example collected by Dr. Gurley in Ball Creek, near Tazewell, Tennessee.	
278a. <i>Fundulus catenatus</i> (Storer).....	648
Drawing by H. L. Todd from No. 36456, U.S.N.M., collected by Jordan and Gilbert in Saline River, Benton, Arkansas.	

PLATE CV.

279. <i>Fundulus stellifer</i> (Jordan).....	648
Drawing by H. L. Todd from No. 17888, U.S.N.M., collected by Dr. Jordan in Etowa River, Rome, Georgia.	
280. <i>Fundulus rathbuni</i> Jordan and Meek.....	649
Drawing by S. F. Denton from the type, No. 39860, U.S.N.M., collected in Allemanee Creek, Greensboro, North Carolina, by Jordan, Jenkins, and Meek.	
281. <i>Fundulus albolineatus</i> Gilbert.....	649
Drawing by S. F. Denton from the type, collected by P. H. Kirsch in Spring Creek, Huntsville, Alabama.	

PLATE CVI.

282. <i>Fundulus funduloides</i> (Evermann)	650
Drawing by A. H. Baldwin from the type, No. 45563, U.S.N.M., collected by Evermann, Seovell, and Gurley in Dickinson Bayou, near Galveston, Texas.	
283. <i>Fundulus macdonaldi</i> (Meek).....	651
Drawing by S. F. Denton from the type collected by Meek, Drew, and Rettger in Jones Creek, Dixon, Missouri.	
284. <i>Fundulus jenkinsi</i> Evermann	651
Drawing by A. H. Baldwin from the type, No. 45562, U.S.N.M., collected by Evermann, Seovell, and Gurley in Dickinson Bayou, near Galveston, Texas.	

PLATE CVII.

285. <i>Fundulus pulvereus</i> (Evermann).....	652
Drawing by A. H. Baldwin from the type, No. 45561, U.S.N.M., collected in Dickinson Bayou, near Galveston, Texas, by Evermann, Seovell, and Gurley.	
286. <i>Fundulus luciae</i> (Baird).....	654
Drawing by A. H. Baldwin from a specimen collected by H. M. Smith at St. George Island, Maryland.	
287. <i>Fundulus chrysotus</i> Holbrook	655
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in Florida.	

PLATE CVIII.

	Text page.
288. <i>Fundulus nottii</i> (Agassiz)	656
Drawing by H. L. Todd from No. 31439, U.S.N.M., collected in Elbow Creek, Florida, by J. A. Henshall.	
289. <i>Fundulus notatus</i> (Rafinesque)	659
Drawing by H. L. Todd from No. 36324, U.S.N.M., collected in White River at Eureka Springs, Arkansas, by Jordan and Gilbert.	
290. <i>Adinia dugesii</i> (Bean)	661
Drawing by H. L. Todd from the type, No. 37831, U.S.N.M., collected by Prof. A. Dugès, in Guanajuato, Mexico.	

PLATE CIX.

291. <i>Fundulus goodei</i> (Jordan)	664; 2831
Drawing by A. H. Baldwin, from a specimen collected by A. J. Woolman in Florida.	
292. <i>Lucania parva</i> (Baird and Girard)	665
Drawing by W. S. Haines from a specimen collected by Dr. Bean in New Jersey.	
293. <i>Characodon bilineatus</i> Bean	668
Drawing by W. S. Haines from the type, No. 37832, U.S.N.M., collected by Professor Dugès in Guanajuato, Mexico.	

PLATE CX.

294, 294a, 294b, 294c, 294d. <i>Empetrichthys merriami</i> Gilbert	667
Drawings from the type, No. 46101, U.S.N.M., collected by Merriam and Bailey in Ash Meadows, Amargosa Desert, on the boundary between California and Nevada.	

PLATE CXI.

295, 295a. <i>Characodon variatus</i> Bean	669
Drawings by H. L. Todd from No. 37810, U.S.N.M., the type of <i>C. ferrugineus</i> Bean, collected by Professor Dugès in Guanajuato, Mexico.	
296. <i>Cyprinodon variegatus</i> Lacépède	671
Drawing by A. H. Baldwin from a male example collected by H. M. Smith at St. George Island, Maryland.	

PLATE CXII.

296a. <i>Cyprinodon variegatus</i> Lacépède	671
Drawing by A. H. Baldwin from a young example collected by H. M. Smith at St. George Island, Maryland.	
297. <i>Cyprinodon carpio</i> Günther	675
Drawing by H. L. Todd from No. 32151, U.S.N.M., collected by Dr. J. W. Velie at Boca Ciega Bay, Florida.	
298. <i>Jordanella floridae</i> Goode and Bean	677
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in Florida.	

PLATE CXIII.

	Text page.
299. <i>Gambusia affinis</i> (Baird and Girard)	680
Drawing by A. H. Baldwin from No. 37839, U.S.N.M., a male, collected by Professor Dugès in Mexico.	
299a. <i>Gambusia affinis</i> (Baird and Girard)	680
Drawing by A. H. Baldwin from a female example collected by H. M. Smith at St. George Island, Maryland.	
300. <i>Anableps dovii</i> Gill	685
Drawing by A. H. Baldwin from No. 48214, U.S.N.M., col- lected by E. W. Nelson in Tehuantepec, Mexico.	

PLATE CXIV.

301. <i>Goodea atripinnis</i> Jordan	685
Drawing from the type, No. 23137, U.S.N.M., collected by Professor Dugès at Leon in Guanajuato, Mexico.	
302. <i>Heterandria formosa</i> Agassiz	687
Drawing by A. H. Baldwin.	
303. <i>Pœcilia presidionis</i> Jordan and Culver	697
Drawing by Anna L. Brown from the type, a female, No. 2687, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico, in the Rio Presidio.	

PLATE CXV.

304. <i>Xiphophorus helleri</i> Heckel	701
Drawing by A. H. Baldwin from No. 44948, U.S.N.M., col- lected by A. L. Herrera at Vera Cruz, Mexico.	
305. <i>Chologaster cornutus</i> Agassiz	703
Drawing by S. F. Denton from the type of <i>C. aritus</i> Jordan and Jenkins, No. 39864, U.S.N.M., collected by Jenkins and Meek in the outlet of the Dismal Swamp, Virginia.	
306. <i>Typhlichthys subterraneus</i> Girard	704
Drawing by H. L. Todd from No. 36806, U.S.N.M., collected in Mammoth Cave, Kentucky.	
307. <i>Amblyopsis spelæus</i> DeKay	706
Drawing by H. L. Todd from No. 5863, U.S.N.M., collected in Mammoth Cave, Kentucky.	

PLATE CXVI.

308. <i>Tylosurus raphidoma</i> (Ranzani)	715
Drawing by H. L. Todd.	
309. <i>Tylosurus acus</i> (Lacépède)	716
Drawing by H. L. Todd from No. 21422, U.S.N.M., received from E. G. Blackford.	
310. <i>Chriodorus atherinoides</i> Goode and Bean	719
Drawing by H. L. Todd from the type, No. 26593, U.S.N.M., collected by Silas Stearns at Key West, Florida.	
311. <i>Hyporhamphus unifasciatus</i> (Ranzani)	720
Drawing by H. L. Todd from No. 16944, U.S.N.M., collected by Otto Lugger in Chesapeake Bay.	

PLATE CXVII.

	Text page.
312. <i>Hyporhamphus roberti</i> (Cuvier and Valenciennes)	721
Drawing by W. S. Haines from a specimen collected at Longport, New Jersey, by Dr. Bean.	
313. <i>Hemirhamphus brasiliensis</i> (Linnaeus)	722
Drawing by H. L. Todd from No. 26400, U.S.N.M., collected at Hungers Wharf, Virginia, by J. T. Wilkins.	
314. <i>Scombrosox saurus</i> (Walbaum)	725
Drawing by H. L. Todd from No. 19853, U.S.N.M., collected by V. N. Edwards at Woods Hole.	
315. <i>Fodiator acutus</i> (Cuvier and Valenciennes)	728
Drawing by A. H. Baldwin from No. 43427, U.S.N.M., collected by the <i>Albatross</i> at Panama.	

PLATE CXVIII.

316. <i>Exonautes exsiliens</i> (Müller)	732; 2830
Drawing by H. L. Todd from No. 25187, U.S.N.M., collected by E. G. Blackford.	
317. <i>Exonautes rondeletti</i> (Cuvier and Valenciennes)	733; 2830
Drawing by H. L. Todd from No. 21871, U.S.N.M., collected by Capt. N. McPhee in N. lat. 41° 40', W. long. 62° 28'.	
318. <i>Exocoetus volitans</i> Linnaeus	734
Drawing by H. L. Todd from No. 20636, U.S.N.M., collected by V. N. Edwards at Woods Hole.	

PLATE CXIX.

319. <i>Cypsilurus californicus</i> (Cooper)	740; 2830
Drawing by H. L. Todd from No. 26907, U.S.N.M., collected by Dr. Jordan at Santa Barbara, California.	
320. <i>Gasterosteus aculeatus</i> Linnaeus	747
Drawing by H. L. Todd from No. 20875, U.S.N.M., collected at Woods Hole, Massachusetts, by V. N. Edwards.	
321. <i>Gasterosteus cataphractus</i> (Pallas)	749
Drawing by H. L. Todd from a specimen collected by Dr. Bean at St. Paul Island, Alaska.	

PLATE CXX.

322. <i>Apeltes quadracus</i> (Mitchill)	752
Drawing by A. H. Baldwin from No. 13409, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	
323. <i>Aulorhynchus flavidus</i> Gill	754
Drawing by A. H. Baldwin from No. 21585, U.S.N.M., collected by J. G. Swan in Puget Sound.	
324. <i>Aulostomus maculatus</i> Valenciennes	754
Drawing by H. L. Todd from No. 34838, U.S.N.M., collected by U. S. Fish Commission, Potomac River, Washington.	

	Text page.
325. <i>Siphostoma starksii</i> Jordan & Culver.....	771
Drawing by Anna L. Brown from the type, No. 2686, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition in the Rio Presidio, Mazatlan, Mexico.	
326. <i>Corythoichthys cayorum</i> Evermann and Kendall.....	2838
Drawing by A. H. Baldwin from the type, No. 48784, U.S.N.M., a male, collected by Evermann and Kendall at Key West, Florida.	

PLATE CXXI.

327. <i>Hippocampus hudsonius</i> De Kay	777
Drawing by H. L. Todd.	
328. <i>Hippocampus zosteræ</i> Jordan and Gilbert	778
Drawing by W. S. Atkinson from a specimen collected by Dr. Jordan at Pensacola, Florida.	
329. <i>Percopsis guttatus</i> Agassiz.....	784
Drawing by A. H. Baldwin from a specimen collected by Dr. Evermann in East Okoboji Lake, Iowa.	

PLATE CXXII.

330. <i>Columbia transmontana</i> Eigenmann and Eigenmann	784
Drawing by A. H. Baldwin from the type, collected at the mouth of the Umatilla River, Oregon, by Dr. Eigenmann.	
331. <i>Aphredoderus sayanus</i> (Gilliams)	786
Drawing from No. 34401, U.S.N.M., collected by William McAdams in the Illinois River.	
332. <i>Atherina stipes</i> Müller and Troschel.....	790
Drawing by A. H. Baldwin from No. 38456, U.S.N.M., col- lected by the <i>Albatross</i> in the Bahamas.	

PLATE CXXIII.

333. <i>Atherina aræa</i> Jordan and Gilbert.....	790
Drawing by W. S. Haines from the type, No. 34967, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
334. <i>Chirostoma humbolditanum</i> (Cuvier and Valenciennes)	793
Drawing by A. H. Baldwin from No. 44156, U.S.N.M., col- lected by Scovell and Woolman in Mexico.	
335. <i>Eslopsarum jordani</i> (Woolman)	793; 2840
Drawing by A. H. Baldwin from the type, collected by A. J. Woolman in the canals at Salamanca, Mexico.	

PLATE CXXIV.

336. <i>Kirklandia vagrans</i> (Goode and Bean)	794
Drawing by H. L. Todd from No. 22864, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
Bull. No. 47, pt. 4—xv	

	Text page.
337. <i>Menidia peninsulæ</i> (Goode and Bean)	797
Drawing by H. L. Todd from No. 21481, U.S.N.M., collected at Pensacola, Florida., by Silas Stearns.	
338. <i>Menidia gracilis beryllina</i> (Cope)	797
Drawing by A. H. Baldwin from a specimen collected by H. M. Smith in the Potomac River.	

PLATE CXXV.

339. <i>Eurystole eriarcha</i> (Jordan and Gilbert)	803
Drawing by Anna L. Brown from No. 2689, L. S. Jr. Univ. Mus., collected by the Hopkins expedition at Mazatlan, Mexico.	
340. <i>Thyrina evermanni</i> Jordan and Culver	804
Drawing by Anna L. Brown from the type, No. 2688, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
341. <i>Atherinopsis californiensis</i> Girard	806
Drawing from No. 26764, U.S.N.M., collected by Dr. Jordan at San Diego, California.	

PLATE CXXVI.

342. <i>Atherinops affinis</i> (Ayres)	807
Drawing by Anna L. Brown.	
343. <i>Mugil cephalus</i> Linnaeus	811
Drawing by H. L. Todd from No. 24456, U.S.N.M., collected at Woods Hole, Massachusetts, by V. N. Edwards.	
344. <i>Mugil curema</i> Cuvier and Valenciennes	813
Drawing by H. L. Todd.	

PLATE CXXVII.

345. <i>Mugil hospes</i> Jordan and Culver	814
Drawing by Anna L. Brown from the type, No. 2890, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
346. <i>Chænomugil proboscideus</i> (Günther)	816
Drawing by A. H. Baldwin from No. 46563, U.S.N.M., collected by the <i>Albatross</i> at Clarion Island.	
347. <i>Agonostomus monticola</i> (Bancroft)	819
Drawing by A. H. Baldwin from No. 45482, U.S.N.M., collected by E. W. Nelson in Mexico.	

PLATE CXXVIII.

348. <i>Joturus pichardi</i> Poey	821
Drawing by A. H. Baldwin from No. 31010, U.S.N.M., collected by Captain Dow at Panama.	

	Text page.
349. <i>Sphyræna barracuda</i> (Walbaum).....	823; 2841
Drawing by H. L. Todd from No. 14978, U.S.N.M., received from E. G. Blackford, collected in Florida.	
350. <i>Polydactylus octonemus</i> (Girard).....	830
Drawing by H. L. Todd from No. 22821, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE CXXIX.

351. <i>Anmodytes americanus</i> De Kay.....	833
Drawing by H. L. Todd from No. 16500, U.S.N.M., collected by the U. S. Fish Commission at Nantucket.	
352. <i>Bathyclupea argentea</i> Goode and Bean.....	835
Drawing by A. H. Baldwin from the type collected by the Blake, off Neris.	
353. <i>Stephanoberyx monæ</i> Gill.....	836
Drawing by H. L. Todd from the type, No. 33445, U.S.N.M., collected by the <i>Albatross</i> at Station 2077, in the Gulf Stream.	

PLATE CXXX.

354. <i>Hoplostethus mediterraneus</i> Cuvier and Valenciennes.....	837
Drawing by A. H. Baldwin from No. 43624, U.S.N.M., collected by the <i>Albatross</i> at Station 2059.	
355. <i>Plectromus suborbitalis</i> Gill.....	841
Drawing by H. L. Todd from the type, No. 33271, U.S.N.M., collected by the <i>Albatross</i> at Station 2036, in N. lat. $38^{\circ} 52' 40''$, W. long. $69^{\circ} 24' 40''$, in 1,735 fathoms.	
356. <i>Plectromus crassiceps</i> Günther.....	843
Drawing by S. F. Denton from No. 33378, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $41^{\circ} 40' 30''$, W. long. $65^{\circ} 35'$, in 855 fathoms.	

PLATE CXXXI.

357. <i>Beryx splendens</i> Lowe.....	844
Drawing by M. M. Smith from a specimen collected by the <i>Albatross</i> at Station 2415, in N. lat. $30^{\circ} 44'$, W. long. $79^{\circ} 26'$, in 440 fathoms.	
358. <i>Holocentrus ascensionis</i> (Osbeck).....	848
Drawing by H. L. Todd.	
359. <i>Flammeo marianus</i> (Cuvier and Valenciennes).....	852; 2871
Drawing by W. S. Atkinson from specimen No. 4972, L. S. Jr. Univ. Mus., collected by Rev. J. S. Roberts at Kingston, Jamaica.	

PLATE CXXXII.

360. <i>Mullus auratus</i> Jordan and Gilbert.....	856
Drawing by A. H. Baldwin.	
361. <i>Mulloidés rathbuni</i> (Evermann and Jenkins).....	857
Drawing by A. H. Baldwin from the type, No. 43241, U.S.N.M., collected by Evermann and Jenkins at Guaymas, Mexico.	

	Text page
362. Upeneus maculatus (Bloch)	858
Drawing by H. L. Todd from No. 21910, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	

PLATE CXXXIII.

363. Scomber scombrus Linnaeus	865
Drawing by H. L. Todd from No. 25256, U.S.N.M., obtained in the Washington market.	
364. Scomber colias Gmelin	866
Drawing by H. L. Todd from No. 23180, U.S.N.M., collected by the U. S. Fish Commission at Provincetown, Massachusetts.	
365. Auxis thazard (Lacépède)	867
Drawing by H. L. Todd from No. 35136, U.S.N.M., collected by the U. S. Fish Commission at Woods Hole, Massachusetts.	

PLATE CXXXIV.

366. Gymnosarda alleterata (Rafinesque)	869
Drawing by H. L. Todd from No. 10136, U.S.N.M., collected by S. F. Baird at Woods Hole, Massachusetts.	
367. Germo alalunga (Gmelin)	871
Drawing by H. L. Todd from No. 21844, U.S.N.M., collected by Capt. William Thompson of the schooner <i>Magic</i> , in 300 fathoms.	
368. Scomberomorus maculatus (Mitchill)	874
Drawing by H. L. Todd from No. 15582, U.S.N.M., obtained by E. G. Blackford in the New York market.	

PLATE CXXXV.

369. Scomberomorus regalis (Bloch)	875
Drawing by H. L. Todd from No. 12527, U.S.N.M., collected by E. G. Blackford at Key West.	
370. Escolar violaceus (Bean)	878; 2843
Drawing by S. F. Denton from the type, No. 39287, U.S.N.M., collected by Capt. Thomas Thompson on Le Have Bank in 125 fathoms.	
371. Epinnula magistralis Poey	880
Drawing by H. L. Todd from No. 37238, U.S.N.M., collected by the <i>Albatross</i> in the Caribbean Sea.	

PLATE CXXXVI.

372. Evoxymetopon taeniatus Poey	886
Drawing by H. L. Todd from No. 5735, U.S.N.M., collected by Professor Poey in Cuba.	
373. Lepidopus caudatus (Euphrases)	886
Drawing by A. H. Baldwin from No. 10115, U.S.N.M., col- lected by John Xantus at Cape San Lucas, Lower California.	

	Text page.
374. Benthodesmus atlanticus Goode and Bean.....	887
Drawing by H. L. Todd from the type, No. 29116, U.S.N.M., taken from the stomach of a halibut by Capt. R. Morrison, of the schooner <i>Laura Nelson</i> , on the west edge of the Grand Bank of Newfoundland, in 80 fathoms.	

PLATE CXXXVII.

375. Trichiurus lepturus Linnaeus	889
Drawing by H. L. Todd from No. 18028, U.S.N.M., collected by Dr. Janeway at St. Augustine, Florida.	
376. Istiophorus nigricans (Lacépède)	891
Drawing by H. L. Todd from No. 37923, U.S.N.M., collected by U. S. Fish Commission at Woods Hole, Massachusetts.	

PLATE CXXXVIII.

377. Nematistius pectoralis Gill	895
Drawing by A. H. Baldwin.	
378. Oligoplites saurus (Bloch and Schneider)	898
Drawing by H. L. Todd from No. 16354, U.S.N.M., collected by the U. S. Fish Commission at Memensha Bight.	

PLATE CXXXIX.

379. Naucrates ductor Linnaeus	900
Drawing by H. L. Todd from No. 23197, U.S.N.M., collected by William A. Bansett at New Bedford, Massachusetts.	
380. Seriola dorsalis (Gill)	902
Drawing by H. L. Todd from a specimen collected by Jordan and Gilbert at San Pedro, California.	
381. Seriola zonata (Mitchill)	902
Drawing by H. L. Todd from No. 18720, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	

PLATE CXL.

382. Seriola lalandi Cuvier and Valenciennes	903
Drawing by H. L. Todd from No. 37918, U.S.N.M., collected by the U. S. Fish Commission at Woods Hole, Massachusetts.	
383. Decapterus macarellus (Cuvier and Valenciennes)	909
Drawing by H. L. Todd.	
384. Trachurus trachurus (Linnaeus)	910
Drawing by H. L. Todd from No. 23421, U.S.N.M., collected at Newport, Rhode Island.	

PLATE CXLI.

385. Trachurops crumenophthalmus (Bloch)	911
Drawing by H. L. Todd from No. 20681, U.S.N.M., collected by V. N. Edwards, at Woods Hole, Massachusetts.	

	Text page.
386. Hemicaranx amblyrhynchus (Cuvier and Valenciennes).....	912
Drawing by H. L. Todd from No. 30177, U.S.N.M., collected by Silas Stearns, at Pensacola, Florida.	
387. Caranx hippos (Linnaeus)	920
Drawing by H. L. Todd from No. 10131, U.S.N.M., collected by V. N. Edwards, at Woods Hole, Massachusetts.	

PLATE CXLII.

388. Caranx latus Agassiz.	921
Drawing by H. L. Todd from No. 20247, U.S.N.M., collected by V. N. Edwards, at Woods Hole, Massachusetts.	
389. Caranx crysos (Mitchill)	923
Drawing by H. L. Todd from No. 16512, U.S.N.M., collected by the U.S. Fish Commission at Woods Hole, Massachusetts.	

PLATE CXLIII.

390. Caranx medusicola Jordan and Starks	924
Drawing by Anna L. Brown from the type, No. 2615, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
391. Hynn timer hopkinsi Jordan and Starks	933
Drawing by Anna L. Brown from the type, No. 1563, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CXLIV.

392. Vomer setipinnis (Mitchill)	934
Drawing by H. L. Todd from No. 16252, U.S.N.M., obtained by E. G. Blackford in the Fulton Market, New York.	
393. Selene vomer (Linnaeus)	936
Drawing by H. L. Todd from No. 22007, U.S.N.M., a young example, collected by C. J. Copley at Stapleton, Staten Island.	

PLATE CXLV.

393a. Selene vomer (Linnaeus)	936
Drawing by H. L. Todd from No. 22279, U.S.N.M., an adult.	
394. Chloroscombrus chrysurus (Linnaeus)	938
Drawing by H. L. Todd from No. 21286, U.S.N.M., collected by Dr. Goode in the St. Johns River, Florida.	

PLATE CXLVI.

395. Trachinotus glaucus (Bloch)	940
Drawing by H. L. Todd from No. 30176, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
396. Trachinotus falcatus (Linnaeus)	941
Drawing by H. L. Todd from No. 26585, U.S.N.M., collected by Silas Stearns in Florida.	

PLATE CXLVII.

	Text page.
397. <i>Trachinotus culveri</i> Jordan and Starks.....	942
Drawing by Anna L. Brown from the type, No. 2691, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
398. <i>Trachinotus carolinus</i> (Linnaeus)	944
Drawing by H. L. Todd from No. 10427, U.S.N.M., collected by S. F. Baird at Woods Hole, Massachusetts.	

PLATE CXLVIII.

399. <i>Zalocys stilbe</i> Jordan and McGregor.....	2848
Drawing by Anna L. Brown from the type, No. 11996, L. S. Jr. Univ. Mus., collected by R. C. McGregor, at Clarion Island.	
400. <i>Pomatomus saltatrix</i> (Linnaeus)	946
Drawing by H. L. Todd, from a cast.	
401. <i>Rachycentron canadus</i> (Linnaeus)	948
Drawing by H. L. Todd from No. 18563, U.S.N.M.	

PLATE CXLIX.

402. <i>Coryphæna hippurus</i> Linnaeus.....	952
Drawing by H. L. Todd from No. 16482, U.S.N.M., obtained by E. G. Blackford in Fulton Market.	
403. <i>Centrolophus niger</i> (Gmelin).....	963
Drawing by S. F. Denton from a specimen obtained at Dennis, Massachusetts.	

PLATE CL.

404. <i>Peprilus paru</i> (Linnaeus)	965
Drawing by H. L. Todd from No. 15234, U.S.N.M.	
405. <i>Poronotus triacanthus</i> (Peck).....	967
Drawing by H. L. Todd from No. 787, U.S.N.M., collected by S. F. Baird at Beesleys Point, New Jersey.	

PLATE CLI.

406. <i>Icichthys lockingtoni</i> Jordan and Gilbert	969
Drawing by A. H. Baldwin from No. 27397, U.S.N.M., collected at Point Reyes, California.	
407. <i>Schedophilus medosophagus</i> Cocco.....	970
Drawing from H. L. Todd from a specimen collected by the Albatross in lat. 27° 49' N., 76° 12' W.	
408. <i>Acrotus willoughbyi</i> Bean.....	973
Drawing by H. L. Todd from the type, No. 39340, U.S.N.M., collected by Chas. Willoughby at the Quinault Agency, west coast of Washington.	

PLATE CLII.

	Text page.
409. <i>Zaprora silenus</i> Jordan	2850
Drawing by Anna L. Brown from the type, in the Provincial Museum at Victoria, British Columbia, collected by H. T. Stainton, at Nanaimo, Vancouver Island.	
410. <i>Grammicolepis brachiusculus</i> Poey	971
Drawing by A. H. Baldwin from a drawing by R. W. Shufeldt. Jour. Morph., Vol. II.	
411. <i>Tetragonurus cuvieri</i> Risso	976
Drawing by Mary Hildebrandt from a specimen collected by V. N. Edwards at Woods Hole.	

PLATE CLIII.

412. <i>Pempheris mulleri</i> Poey	978
Drawing by M. M. Smith from No. 37111, U.S.N.M., collected by the <i>Albatross</i> at Cozumel.	
413. <i>Pempheris poeyi</i> Bean	979
Drawing by M. M. Smith from the type, No. 37184, U.S.N.M., collected by Prof. Poey in Cuba.	
414. <i>Elassoma evergladei</i> Jordan	982
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in Florida.	

PLATE CLIV.

415. <i>Pomoxis annularis</i> Rafinesque	987
Drawing by H. L. Todd from No. 10387, U.S.N.M.	
416. <i>Pomoxis sparoides</i> (Lacépède)	987
Drawing by H. L. Todd from No. 10077, U.S.N.M.	

PLATE CLV.

417. <i>Centrarchus macropterus</i> (Lacépède)	988
Drawing by H. L. Todd from No. 20397, U.S.N.M., collected by W. S. Hyatt at Kingston, North Carolina.	
418. <i>Acantharchus pomotis</i> (Baird)	989
Drawing by H. L. Todd from No. 6475, U.S.N.M., collected at Tarboro, North Carolina.	

PLATE CLVI.

419. <i>Ambloplites rupestris</i> (Rafinesque)	990
Drawing by H. L. Todd from No. 9401, U.S.N.M., collected by George Clark at Ecorse, Michigan.	
419, A, B, C. Skull of <i>Ambloplites rupestris</i> (Rafinesque)	990
Drawings from Boulenger's Catalogue of Perciform Fishes, Vol. I, p. 3.	

PLATE CLVII.

	Text page
420. <i>Archoplites interruptus</i> (Girard)	991
Drawing by H. L. Todd from No. 27137, U.S.N.M., collected by Dr. Jordan at San Francisco.	
421. <i>Chænobryttus gulosus</i> (Cuvier and Valenciennes)	992
Drawing by H. L. Todd from No. 17803, U.S.N.M., collected by Kumlien and Bean in Jackson Lake, near Montgomery, Alabama.	

PLATE CLVIII.

422. <i>Enneacanthus gloriosus</i> (Holbrook)	993
Drawing by H. L. Todd from No. 20356, U.S.N.M., collected by C. C. Abbott at Trenton, New Jersey.	
423. <i>Mesogonistius chætodon</i> (Baird)	995
Drawing from No. 20354, U.S.N.M., collected by C. C. Abbott at Trenton, New Jersey.	

PLATE CLIX.

424. <i>Apomotis symmetricus</i> (Forbes)	998
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Kilpers Pond, Houston, Texas.	
425. <i>Lepomis auritus</i> (Linnaeus)	1001
Drawing by H. L. Todd.	
425a. Skull of <i>Lepomis auritus</i> (Linnaeus)	1001
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, p. 24.	

PLATE CLX.

426. <i>Lepomis megalotis</i> (Rafinesque)	1002
Drawing by H. L. Todd from No. 36465, U.S.N.M., collected by Jordan and Gilbert in Saline River, Benton, Arkansas.	
427. <i>Lepomis pallidus</i> (Mitchill)	1005
Drawing by H. L. Todd from No. 8448, U.S.N.M.	

PLATE CLXI.

428. <i>Eupomotis euryorus</i> (McKay)	1008
Drawing by H. L. Todd from the type No. 4109, U.S.N.M., collected in Lake Huron, at Fort Gratiot, Michigan.	
429. <i>Eupomotis gibbosus</i> (Linnaeus)	1009
Drawing by H. L. Todd from No. 4163, U.S.N.M., collected by Professor Baird in Root River, Wisconsin.	

PLATE CLXII.

430. <i>Micropterus dolomieu</i> Lacépède	1011
Drawing by H. L. Todd from No. 14143, U.S.N.M., obtained in the Washington market.	
430a. <i>Vertebræ</i> of <i>Micropterus dolomieu</i> Lacépède	1011
From Boulenger's Catalogue Perciform Fishes, Vol. I, p. 4.	

PLATE CLXIII.

	Text page.
431. <i>Micropterus salmoides</i> (Lacépède).....	1012
Drawing by H. L. Todd.	
432. <i>Kuhlia rupestris</i> (Lacépède)	
Drawings from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 4, p. 35.	

PLATE CLXIV.

433. <i>Stizostedion vitreum</i> (Mitchill).....	1021
Drawing by H. L. Todd from No. 10072, U.S.N.M., collected by J. W. Milner at Rochester, New York.	
433a. Tail of <i>Stizostedion vitreum</i> (Mitchill).....	1021
Drawing by Anna L. Brown.	
434. <i>Stizostedion canadense</i> (Smith)	1022
Drawing by H. L. Todd from No. 10555, U.S.N.M., collected by J. W. Milner at Ecorse, Michigan.	

PLATE CLXV.

435. <i>Perca flavescens</i> (Mitchill).....	1023
Drawing by H. L. Todd.	
436. <i>Percina caprodes</i> (Rafinesque)	1026
Drawing by H. L. Todd from No. 34744, U.S.N.M., collected by H. G. Dresel in Licking County reservoir, Ohio.	
436a. Skull of <i>Percina caprodes</i> (Rafinesque).....	1026
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 7, p. 57.	

PLATE CLXVI.

437. <i>Hadropterus macrocephalus</i> (Cope)	1031
Drawing by A. H. Baldwin from a specimen collected by Dr. Gurley in Indian Creek, near Cumberland Gap, Tennessee.	
438. <i>Hadropterus aspro</i> (Cope and Jordan)	1032
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Chickamauga Creek, at Lee and Gordon's mill, Georgia.	

PLATE CLXVII.

439. <i>Hadropterus gruntheri</i> Eigenmann and Eigenmann	1033
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in the Red River of the North, Moorehead, Minnesota.	
440. <i>Hadropterus evides</i> (Jordan and Copeland).....	1036
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Clinch River, at Walkers Ford, Tennessee.	
441. <i>Hadropterus scierus</i> Swain.....	1037
Drawing by A. H. Baldwin from a specimen collected by Evermann, Seovell, and Gurley in Clinch River, at Walkers Ford, Tennessee.	

PLATE CLXVIII.

	Text page.
442. <i>Hypohomus aurantiacus</i> (Cope)	1040
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in Clinch River, at Walkers Ford, Tennessee.	
443. <i>Hypohomus spilotos</i> (Gilbert).....	1043
Drawing by A. H. Baldwin.	
444. <i>Cottogaster shumardi</i> (Girard).....	1046
Drawing by H. L. Todd from No. 17852, U.S.N.M., collected by Dr. Jordan in the Wabash River, Indiana.	

PLATE CLXIX.

445. <i>Cottogaster cheneyi</i> Evermann and Kendall.....	2851
Drawing by A. H. Baldwin from the type No. 48781, U.S.N.M., collected by Evermann and Bean in Racket River, Norfolk, New York.	
446. <i>Ulocentra gilberti</i> Evermann and Thoburn.....	1049
Drawing by A. H. Baldwin from the type No. 47531, U.S.N.M., collected by Evermann, Scovell, and Gurley in Clinch River, Walkers Ford, Tennessee.	
447. <i>Ulocentra meadiæ</i> Jordan and Evermann.....	2852
Drawing by A. H. Baldwin from the type No. 48903, U.S.N.M., collected by Dr. Gurley in Indian Creek, Cumberland Gap, Tennessee.	

PLATE CLXX.

448. <i>Ulocentra simotera</i> (Cope)	1051
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in Arnwine Spring, Mount Verd, Tennessee.	
449. <i>Diplesion blennioides</i> (Rafinesque).....	1053
Drawing by A. H. Baldwin from a specimen collected by Evermann, Scovell, and Gurley in Clinch River, at Walkers Ford, Tennessee.	
450. <i>Boleosoma nigrum</i> (Rafinesque)	1056
Drawing by A. H. Baldwin from a specimen collected by R. R. Gurley in Ball Creek, near Tazewell, Tennessee.	

PLATE CLXXI.

451. <i>Boleosoma nigrum olmstedii</i> (Storer).....	1057
Drawing by H. L. Todd from No. 30243, U.S.N.M., col- lected by Col. Marshall McDonald in the Potomac River, Gunston, Virginia.	
452. <i>Boleosoma camurum</i> Forbes	1060
Drawing by H. L. Todd from the type No. 23455, U.S.N.M., collected by Dr. Jordan in the Illinois River.	
453. <i>Crystallaria asprella</i> (Jordan)	1061
Drawing by A. H. Baldwin from No. 45455, U.S.N.M., col- lected by Dr. Evermann in the Wabash River, New Har- mony, Indiana.	

PLATE CLXXII.

	Text pages
454. <i>Ammocrypta pellucidā clara</i> (Jordan and Meek)	1063
Drawing by S. F. Denton from the type No. 35828, U.S.N.M., collected by Jordan and Meek in the Des Moines River, Ottumwa, Iowa.	
455. <i>Ammocrypta beanii</i> Jordan	1064
Drawing by A. H. Baldwin from No. 17833, U.S.N.M., collected by Bean and Maxson in Notalbany River, Louisiana.	
456. <i>Etheostoma camurum</i> (Cope)	1076
Drawing by A. H. Baldwin from a specimen collected by R. R. Gurley in Indian Creek, near Cumberland Gap, Tennessee.	

PLATE CLXXIII.

457. <i>Etheostoma cinereum</i> Storer	1078
Drawing by A. H. Baldwin from a specimen collected by P. H. Kirsch in Wolf River, Byrdstown, Tennessee.	
458. <i>Etheostoma jordani</i> Gilbert	1079
Drawing by S. F. Denton.	
459. <i>Etheostoma pottsii</i> (Girard)	1082
Drawing by H. L. Todd from No. 38245, U.S.N.M., the type of <i>Etheostoma micropterus</i> Gilbert, collected by E. Wilkinson in Chihuahua, Mexico.	

PLATE CLXXIV.

460. <i>Etheostoma iowæ</i> Jordan and Meek	1083
Drawing by A. H. Baldwin from a specimen collected by A. J. Woolman in Pomme de Terre River, Appleton, Wisconsin.	
461. <i>Etheostoma jessiae</i> (Jordan and Brayton)	1084
Drawing by H. L. Todd from No. 27896, U.S.N.M., collected by Dr. Forbes, in Lake Peoria, Illinois.	
462. <i>Etheostoma lepidogenys</i> Evermann and Kendall	1087
Drawing by A. H. Baldwin from the type, No. 44840, U.S.N.M., collected by Evermann, Scovell, and Gurley, in Comal Spring, New Braunfels, Texas.	

PLATE CLXXV.

463. <i>Etheostoma obeyense</i> Kirsch	1092
Drawing by A. H. Baldwin from the type, No. 45565, U.S.N.M., collected by Dr. Kirsch, in tributary of Obeyes River, Clinton County, Kentucky.	
464. <i>Etheostoma pagei</i> Meek	1092
Drawing by A. H. Baldwin from the type, No. 45556, U.S.N.M., collected by Dr. Meek in Spring Branch at Neosho, Missouri.	
465. <i>Etheostoma virgatum</i> (Jordan)	1093
Drawing by A. H. Baldwin from No. 36644, U.S.N.M., collected by Gilbert and Swain in Rock Castle River, Livingston, Kentucky.	

PLATE CLXXVI.

Text page.

466. *Etheostoma juliae* Meek 1093
 Drawing by S. F. Denton from the type collected by Meek,
 Drew, and Rettger in James River, near Springfield, Missouri.
467. *Psychromaster tuscumbia* (Gilbert and Swain) 1100
 Drawing by A. H. Baldwin from the type, No. 36154, U.S.N.M.,
 collected by Gilbert and Swain in Spring Creek, Tuscum-
 bia, Alabama.
468. *Copelandellus quiescens* (Jordan) 1100
 Drawing by A. H. Baldwin.

PLATE CLXXVII.

469. *Boleichthys fusiformis* (Girard) 1101
 Drawing by H. L. Todd from No. 36415, U.S.N.M., collected by
 Jordan and Gilbert in Washita River, Arkadelphia, Ar-
 kansas.
470. *Microperca fonticola* (Jordan and Gilbert) 1104
 Drawing by Ernest Copeland from the type, No. 36523,
 U.S.N.M., collected by Jordan and Gilbert in San Marcos
 River, San Marcos, Texas.
471. *Apogon retrosella* (Gill) 1108
 Drawing by Anna L. Brown from No. 2917, L. S. Jr. Univ. Mus.,
 collected by the Hopkins expedition at Mazatlan, Mexico.

PLATE CLXXVIII.

472. *Apogon pigmentarius* (Poey) 1109
473. *Apogonichthys alutus* (Jordan & Gilbert) 1110
 Drawing by A. H. Baldwin from No. 30874, U.S.N.M., collected
 by Jordan and Stearns at Pensacola, Florida.

PLATE CLXXIX.

474. *Cheilodipterus affinis* Poey 1113
 Drawing by A. H. Baldwin from No. 37416, U.S.N.M., collected
 by Professor Poey in Cuba.
475. *Hypoclydonia bella* Goode and Bean 1115
 Drawing by S. F. Denton from No. 39338, U.S.N.M., collected
 by the *Albatross* at Station 2426, in N. lat. $36^{\circ} 01' 30''$, W.
 long. $74^{\circ} 47' 30''$, in 93 fathoms.
476. *Centropomus undecimalis* (Bloch) 1118
 Drawing by H. L. Todd from No. 19907, U.S.N.M.

PLATE CLXXX.

477. *Roccus chrysops* (Rafinesque) 1132
 Drawing by H. L. Todd from No. 10326, U.S.N.M., collected by
 J. W. Milner at Sandusky, Ohio.
478. *Roccus lineatus* (Bloch) 1132
 Drawing by H. L. Todd from No. 25219, U.S.N.M., obtained
 by Professor Baird in the Washington market.

PLATE CLXXXI.

	Text page.
479. <i>Morore americana</i> (Gmelin).....	1134
Drawing by H. L. Todd from No. 15861, U.S.N.M., received from the New York market.	
480, 480a. <i>Polyprion americanus</i> (Bloch & Schneider).....	1139
Drawings from Boulenger's Catalogue of Perciform Fishes Vol. I, fig. 12, p. 149.	

PLATE CLXXXII.

481. <i>Bodianus fulvus punctatus</i> (Linnaeus)	1146
Drawing by A. H. Baldwin from No. 33717, U.S.N.M., collected by J. C. Brevoort in the West Indies.	
482. <i>Epinephelus adscensionis</i> (Osbeck).....	1152
Drawing by H. L. Todd from No. 26574, U.S.N.M., collected by Silas Stearns, at Key West, Florida.	

PLATE CLXXXIII.

483. <i>Epinephelus striatus</i> (Bloch).....	1157
Drawing by H. L. Todd from No. 31910, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
484. <i>Epinephelus drummond-hayi</i> Goode and Bean	1159
Drawing by H. L. Todd from No. 31719, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE CLXXXIV.

485. <i>Epinephelus morio</i> (Cuvier and Valenciennes).....	1160
Drawing by H. L. Todd from No. 22129, U.S.N.M., collected in Florida and obtained in the Washington market by Dr. Goode.	
486. <i>Garrupa nigrita</i> (Holbrook).....	1161
Drawing by H. L. Todd from No. 37207, U.S.N.M., collected by the <i>Albatross</i> .	

PLATE CLXXXV.

487. <i>Promicrops itaiara</i> (Lichtenstein)	1162
Drawing by H. L. Todd from No. 22306, U.S.N.M., collected at mouth of St. Johns River, Florida.	
487a, 487b. <i>Promicrops itaiara</i> (Lichtenstein).....	1162
Drawings from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 13, p. 164.	

PLATE CLXXXVI.

488. <i>Alphestes chloropterus</i> (Cuvier and Valenciennes).....	1164
Drawing by A. H. Baldwin from No. 9821, U.S.N.M., collected by Professor Poey in Cuba.	
488a. <i>Alphestes chloropterus</i> (Cuvier and Valenciennes).....	1164
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 18, p. 254.	

	Text page.
489. <i>Dermatolepis zancus</i> Evermann and Kendall	2854
Drawing by A. H. Baldwin from the type, No. 48843, U.S.N.M., collected by Evermann and Kendall at Key West, Florida.	

PLATE CLXXXVII.

490. <i>Mycteroperca bouleengeri</i> Jordan and Starks	1171
Drawing by Anna L. Brown from the type, No. 1691, L. S. Jr. Univ. Mus., collected by the Hopkins expedition to Mazatlan, Mexico.	
491. <i>Mycteroperca venenosa</i> (Linnaeus)	1172
Drawing by H. L. Todd from No. 35103, U.S.N.M., collected by Dr. Jordan at Havana, Cuba.	
492. Skull of <i>Mycteroperca bonaci</i> (Poey)	1174
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 19, p. 258.	

PLATE CLXXXVIII.

493. <i>Mycteroperca jordani</i> (Jenkins and Evermann)	1176
Drawing by A. H. Baldwin from the type, No. 39628, U.S.N.M., collected at Guaymas, Mexico, by Jenkins and Evermann.	
494. <i>Mycteroperca microlepis</i> (Goode and Bean)	1177
Drawing by H. L. Todd from No. 26587, U.S.N.M., collected by Silas Stearns at Key West, Florida.	
495. <i>Mycteroperca falcata phenax</i> Jordan and Swain	1185
Drawing by H. L. Todd from No. 34992, U.S.N.M., collected at Key West, Florida, by Dr. Jordan.	

PLATE CLXXXIX.

496. <i>Hypoplectrus unicolor nigricans</i> (Poey)	1193
Drawing by H. L. Todd from No. 3423, U.S.N.M., collected at Garden Key, Florida.	
497. <i>Hypoplectrus gemma</i> Goode and Bean	1193
Drawing by H. L. Todd from the type, No. 3422, U.S.N.M., collected at Garden Key, Florida.	

PLATE CXC.

498. <i>Paralabrax maculatofasciatus</i> (Steindachner)	1196
Drawing by A. H. Baldwin from No. 34754, U.S.N.M., col- lected by Rosa Smith at San Diego, California.	
499. Skull of <i>Paralabrax humeralis</i> (Cuvier and Valenciennes)...	1196
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, fig. 20, p. 275.	
500. <i>Centropristes striatus</i> (Linnaeus)	1199
Drawing by H. L. Todd from No. 14838, U.S.N.M., collected by the U. S. Fish Commission at Noank, Connecticut.	

PLATE CXCI.

	Text page.
501. <i>Centropristes philadelphicus</i> (Linnaeus).....	1201
Drawing by A. H. Baldwin from No. 33161, U.S.N.M., collected by Dr. Gilbert at Charleston, South Carolina.	
502. <i>Diplectrum formosum</i> (Linnaeus)	1207
Drawing by H. L. Todd from No. 21543, U.S.N.M., collected by C. C. Leslie at Charleston, South Carolina.	
503. <i>Prionodes bulleri</i> (Boulenger).....	1213
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, pl. x.	

PLATE CXCH.

504. <i>Paranthias furcifer</i> (Cuvier and Valenciennes)	1221
Drawing by A. H. Baldwin from No. 12540, U.S.N.M., collected by Professor Poey in Cuba.	
505. <i>Hemianthias vivanus</i> (Jordan and Swain).....	1223
Drawing by W. S. Atkinson from specimen No. 1655, L. S. Jr. Univ. Mus., collected by Dr. Jordan at Pensacola, Florida.	
506. <i>Pronotogrammus multifasciatus</i> Gill.....	1226
Drawing by H. L. Todd from the type, No. 2762, U.S.N.M., collected by John Xantus at Cape San Lucas, Lower California.	

PLATE CXCH.

507. <i>Anthias asperilinguis</i> Günther.....	1227
Drawing from Boulenger's Catalogue of Perciform Fishes, Vol. I, pl. XIII.	
508. <i>Gramma loreto</i> Poey	1229
Drawing by J. W. Folsom from the type, No. 10031, M.C.Z., collected by Professor Poey at Matanzas, Cuba.	

PLATE CXCV.

509. <i>Rypticus bistrispinus</i> (Mitchill).....	1233
Drawing by H. L. Todd.	
510. <i>Lobotes surinamensis</i> (Bloch).....	1235
Drawing by H. L. Todd.	

PLATE CXCV.

511. <i>Priacanthus arenatus</i> Cuvier and Valenciennes	1237
Drawing by H. L. Todd from No. 26680, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	
512. <i>Pseudopriacanthus altus</i> Gill	1239
Drawing by H. L. Todd from No. 2317, U.S.N.M., collected by the Albatross off Key West, Florida.	

PLATE CXCVI.

	Text page.
513. <i>Hoplopagrus guntheri</i> Gill.....	1244
Drawing by A. H. Baldwin from No. 28367, U.S.N.M., collected by Dr. Gilbert at Mazatlan, Mexico.	
514. <i>Evoplites viridis</i> (Valenciennes)	1246
Drawing by W. S. Atkinson from a specimen collected by Alfonse Forrer at Tres Marias Islands, Mexico.	

PLATE CXCVII.

515. <i>Neomænis apodus</i> (Walbaum)	1258
Drawing by H. L. Todd from No. 33220, U.S.N.M., collected by Dr. Henshall at Indian River Inlet, Florida.	
516. <i>Neomænus aya</i> (Bloch)	1264
Drawing by A. H. Baldwin from a specimen obtained in the Washington Market.	

PLATE CXCVIII.

517. <i>Neomænis analis</i> (Cuvier and Valenciennes).....	1265
Drawing by H. L. Todd from No. 35030, U.S.N.M.	
518. <i>Neomænis synagris</i> (Linnaeus).....	1266
Drawing by H. L. Todd from No. 36922, U.S.N.M., collected by the U. S. Fish Commission at Key West, Florida.	

PLATE CXCIX.

519. <i>Rabirubia inermis</i> (Peters)	1274
Drawing by Anna L. Brown from No. 4983, L. S. Jr. Univ. Mus., collected by the <i>Albatross</i> at Panama.	
520. <i>Ocyurus chrysurus</i> (Bloch)	1275
Drawing by S. F. Denton from No. 26583, U.S.N.M., collected by Silas Stearns at Key West, Florida.	

PLATE CC.

521. <i>Rhomboplites aurorubens</i> (Cuvier and Valenciennes)	1277
Drawing by H. L. Todd from No. 21338, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
522. <i>Apsilus dentatus</i> Guichenot.....	1278
Drawing by A. H. Baldwin from No. 9809, U.S.N.M., collected by Professor Poey in Cuba.	

PLATE CCI.

523. <i>Aprion macrophthalmus</i> (Müller and Troschel).....	1280
Drawing by M. M. Smith from a specimen collected by the <i>Blake</i> in N. lat. 23° 13', W. long. 89° 10', in 84 fathoms.	
524. <i>Etelis oculatus</i> (Cuvier and Valenciennes)	1282
Drawing by A. H. Baldwin from No. 35049, U.S.N.M., collected by Dr. Jordan at Havana, Cuba.	
Bull. No. 47, pt. 4—XVI	

PLATE CCH.

	Text page.
525. <i>Verilus sordidus</i> Poey	1284
Drawing by A. H. Baldwin from No. 12565, U.S.N.M., collected by Professor Poey in Cuba.	
526. <i>Xenocys jessiae</i> Jordan and Bollman	1285
Drawing by A. H. Baldwin from the type, No. 41166, U.S.N.M., collected by the <i>Albatross</i> at Charles Island, Galapagos Group.	

PLATE CCIII.

527. <i>Xenichthys agassizii</i> Steindachner	1287
Drawing by A. H. Baldwin from No. 26671, U.S.N.M., collected in the Galapagos Islands.	
528. <i>Hæmulon album</i> Cuvier and Valenciennes	1295
Drawing by H. L. Todd from No. 35035, U.S.N.M., collected at Key West, Florida, by Dr. Jordan.	

PLATE CCIV.

529. <i>Hæmulon macrostomum</i> Günther	1296
Drawing by H. L. Todd from No. 30057, U.S.N.M., received from the Kingston Public Museum, Jamaica.	
530. <i>Hæmulon parra</i> (Desmarest)	1297
Drawing by H. L. Todd.	

PLATE CCV.

531. <i>Hæmulon sciurus</i> (Shaw)	1303
Drawing by H. L. Todd from No. 32603, U.S.N.M., collected at Key West, Florida, by J. A. Henshall.	
532. <i>Hæmulon plumieri</i> (Lacépède)	1304
Drawing by H. L. Todd from No. 20980, U.S.N.M., collected by Dr. Goode at Charleston, South Carolina.	

PLATE CCVI.

533. <i>Brachygenys chrysargyreus</i> (Günther)	1307
Drawing by H. L. Todd from No. 35150, U.S.N.M., collected at Havana, Cuba, by Dr. Jordan.	
534. <i>Bathystoma rimator</i> (Jordan and Swain)	1308
Drawing by H. L. Todd from No. 34957, U.S.N.M., collected by the <i>Albatross</i> at St. Thomas, West Indies.	

PLATE CCVII.

535. <i>Bathystoma aurolineatum</i> (Cuvier and Valenciennes)	1310
Drawing by H. L. Todd from No. 26567, U.S.N.M., collected by Silas Stearns at Key West, Florida.	
536. <i>Lythrulon opalescens</i> Jordan and Starks	1312
Drawing by Anna L. Brown from the type, No. 2963, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCVIII.

	Text page.
537. <i>Anisotremus surinamensis</i> (Bloch).....	1318
Drawing by A. H. Baldwin from a specimen collected by Evermann and Bean in Indian River at Fort Pierce, Florida.	
538. <i>Anisotremus bilineatus</i> (Cuvier and Valenciennes).....	1319
Drawing by H. L. Todd from No. 30878, U.S.N.M., collected by Dr. J. A. Henshall in Indian River Inlet, Florida.	

PLATE CCIX.

539. <i>Anisotremus virginicus</i> (Linnaeus).....	1322
Drawing by H. L. Todd from No. 33189, U.S.N.M., collected by Dr. J. A. Henshall at Key West, Florida.	
540. <i>Orthopristis reddingi</i> Jordan and Richardson.....	1336
Drawing by Anna L. Brown from the type, No. 3458, L. S. Jr. Univ. Mus., collected by J. A. Richardson in La Paz Har- bor, Lower California.	

PLATE CCX.

541. <i>Orthopristis chrysopterus</i> (Linnaeus)	1338
Drawing by H. L. Todd from No. 3113, U.S.N.M., collected at Pensacola, Florida.	
542. <i>Microlepidotus inornatus</i> Gill	1341
Drawing by A. H. Baldwin, from No. 43267, U.S.N.M., col- lected by Evermann and Jenkins at Guaymas, Mexico.	

PLATE CCXI.

543. <i>Otrynter caprinus</i> (Bean)	1345
Drawing by H. L. Todd from No. 32683, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
544. <i>Stenotomus chrysops</i> (Linnaeus).....	1346
Drawing by H. L. Todd from No. 10425, U.S.N.M., collected by Professor Baird at Woods Hole, Massachusetts.	

PLATE CCXII.

545. <i>Stenotomus aculeatus</i> (Cuvier and Valenciennes)	1346
Drawing by H. L. Todd from No. 24694, U.S.N.M., collected by R. E. Earll near Charleston, South Carolina.	
546. <i>Calamus calamus</i> (Cuvier and Valenciennes)	1349
Drawing by H. L. Todd from No. 35040, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	

PLATE CCXIII.

547. <i>Calamus proridens</i> Jordan and Gilbert	1350
Drawing by H. L. Todd from No. 35056, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
548. <i>Calamus bajonado</i> (Bloch and Schneider)	1352
Drawing by H. L. Todd from No. 35042, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	

PLATE CCXIV.

	Text page.
549. <i>Calamus penna</i> (Cuvier and Valenciennes)	1354
Drawing by H. L. Todd from No. 6134, U.S.N.M., collected in Charlotte Harbor, Florida.	
550. <i>Calamus arctifrons</i> Goode and Bean.	1355
Drawing by H. L. Todd from the type, No. 30163, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE CCXV.

551. <i>Pagrus pagrus</i> (Linnaeus)	1356
Drawing by H. L. Todd from a specimen collected by Silas Stearns at Pensacola, Florida.	
552. <i>Lagodon rhomboides</i> (Linnaeus)	1358
Drawing by H. L. Todd from No. 21280, U.S.N.M., collected by Dr. Goode in St. Johns River, Florida.	

PLATE CCXVI.

553. <i>Archosargus unimaculatus</i> (Bloch)	1359
Drawing by H. L. Todd from No. 35031, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
554. <i>Archosargus probatocephalus</i> (Walbaum)	1361
Drawing by H. L. Todd from No. 19647, U.S.N.M., collected by Dr. H. C. Yarrow at Beaufort, North Carolina.	

PLATE CCXVII.

555. <i>Diplodus holbrookii</i> (Bean)	1362
Drawing by H. L. Todd from No. 32632, U.S.N.M., collected at Pensacola, Florida.	
555a. <i>Diplodus holbrookii</i> (Bean)	1362
Drawing by H. L. Todd from a young example, No. 4693, U.S.N.M.	

PLATE CCXVIII.

556. <i>Xystema cinereum</i> (Walbaum)	1372
Drawing by H. L. Todd from No. 35051, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
557. <i>Gerres olisthostomus</i> Goode and Bean.	1376
Drawing by H. L. Todd from the type, No. 25118, U.S.N.M., collected by R. E. Earll in Indian River, Florida.	

PLATE CCXIX.

558. <i>Hermosilla azurea</i> Jenkins and Evermann	1383
Drawing by A. H. Baldwin from the type, No. 36269, U.S.N.M., collected by Jenkins and Evermann at Guaymas, Mexico.	
559. <i>Kyphosus sectatrix</i> (Linnaeus)	1387
Drawing by H. L. Todd from No. 20635, U.S.N.M., collected at Woods Hole, Massachusetts.	

PLATE CCXX.

	Text page.
560. <i>Medialuna californiensis</i> (Steindachner)	1391
Drawing by H. L. Todd.	
561. <i>Cynoscion nothus</i> (Holbrook)	1406
Drawing by H. L. Todd from No. 34921, U.S.N.M., collected by the <i>Albatross</i> at Trinidad, West Indies.	
562. <i>Cynoscion regalis</i> (Bloch and Schneider)	1407

PLATE CCXXI.

563. <i>Cynoscion nebulosus</i> (Cuvier and Valenciennes)	1409
Drawing by H. L. Todd.	
564. <i>Sagenichthys ancylodon</i> (Bloch and Schneider)	1416
Drawing by A. H. Baldwin from No. 29722, U.S.N.M., collected by Dr. Gilbert at Panama.	
565. <i>Larimus argenteus</i> (Gill)	1421
Drawing by Anna L. Brown from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXXII.

566. <i>Bairdiella chrysura</i> (Lacépède)	1433
Drawing by H. L. Todd.	
567. <i>Sciænops ocellatus</i> (Linnaeus)	1453
Drawing by H. L. Todd from No. 622, U.S.N.M., collected by Dr. Kennerly at Indianola, Texas.	

PLATE CCXXIII.

568. <i>Roncador stearnsi</i> (Steindachner)	1557
Drawing by H. L. Todd from No. 26864, U.S.N.M., collected by Dr. Jordan at Santa Barbara, California.	
569. <i>Leiostomus xanthurus</i> Lacépède	1458
Drawing by H. L. Todd from No. 20222, U.S.N.M., collected by Samuel Powell at Newport, Rhode Island.	

PLATE CCXXIV.

570. <i>Micropogon undulatus</i> (Linnaeus)	1461
Drawing by H. L. Todd from No. 20742, U.S.N.M., collected by Samuel Powell at Newport, Rhode Island.	
571. <i>Umbrina sinaloæ</i> Seefield	1468
Drawing by Anna L. Brown from the type, No. 1632, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCXXV.

572. <i>Menticirrhus americanus</i> (Linnaeus)	1474
Drawing by H. L. Todd from No. 22832, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
573. <i>Pogonias chromis</i> (Linnaeus)	1482
Drawing by H. L. Todd from No. 18036, U.S.N.M., collected by J. C. Willetts at Matanzas River Inlet, Florida.	

PLATE CCXXVI.

	Text page.
574. <i>Aplidonotus grunniens</i> Rafinesque	1484
Drawing by H. L. Todd from No. 10542, U.S.N.M., collected by J. W. Milner at Ecorse, Michigan.	
575. <i>Eques lanceolatus</i> (Linnaeus)	1489
Drawing by H. L. Todd from No. 32097, U.S.N.M., collected by Professor Poey in Cuba.	

PLATE CCXXVII.

576. <i>Cirrhitcs rivulatus</i> Valenciennes	1491
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> in the Pacific.	
577. <i>Hysterocharpus traski</i> Gibbons	1496
Drawing by J. C. Van Hook.	

PLATE CCXXVIII.

578. <i>Abeona minima</i> (Gibbons)	1497
Drawing by A. H. Baldwin from No. 26913, U.S.N.M., col- lected by Dr. Jordan at Santa Barbara, California.	
579. <i>Cymatogaster aggregatus</i> Gibbons	1498
Drawing by M. M. Smith from No. 31971, U.S.N.M., a male, collected at Fort Wrangell, Alaska, by Capt. H. E. Nichols.	
579a. <i>Cymatogaster aggregatus</i> Gibbons	1498
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXXIX.

580. <i>Brachyistius frenatus</i> Gill	1499
Drawing by A. H. Baldwin from No. 26990, U.S.N.M., col- lected by Dr. Jordan in Monterey Bay, California.	
581. <i>Zalemblus rosaceus</i> (Jordan and Gilbert)	1500
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXXX.

582. <i>Hypocritichthys analis</i> (A. Agassiz)	1500
Drawing by A. H. Baldwin from No. 27075, U.S.N.M., col- lected by Dr. Jordan in Monterey Bay, California.	
583. <i>Phanerodon furcatus</i> Girard	1506
Drawing by A. H. Baldwin from No. 24905, U.S.N.M., col- lected by Dr. Jordan at San Diego, California.	

PLATE CCXXXI.

584. <i>Rhacochilus toxotes</i> Agassiz	1507
Drawing from No. 27015, U.S.N.M., collected by Dr. Jordan at Monterey, California.	
585. <i>Hypsurus caryi</i> (Agassiz)	1508
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXXXII.

	Text page.
586. <i>Damalichthys argyrosomus</i> (Girard).....	1509
Drawing by H. L. Todd from No. 29811, U.S.N.M., collected by Capt. H. E. Nichols in Friendly Cove, British Columbia.	
587. <i>Cichlasoma bartoni</i> (Bean).....	1515
Drawing by A. H. Baldwin from the type, No. 43765, U.S.N.M., collected by Professor Dugès at Huazteca Potosina, San Luis Potosi, Mexico.	

PLATE CCXXXIII.

588. <i>Azurina hirundo</i> Jordan and McGregor.....	1544
Drawing by Anna L. Brown from the type, collected by R. C. McGregor at Guadalupe Island.	
589. <i>Eupomacentrus rectifrenum</i> (Gill).....	1557; 3176
Drawing by Anna L. Brown from No. 3460, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCXXXIV.

590. <i>Abudefduf saxatilis</i> (Linnaeus).....	1561
Drawing by A. H. Baldwin from No. 33688, U.S.N.M., col- lected by J. C. Brevoort in the West Indies.	
591. <i>Hypsypops rubicundus</i> (Girard).....	1564
Drawing by W. S. Atkinson from No. 43080, U.S.N.M., col- lected by Rosa Smith at San Diego, California.	

PLATE CCXXXV.

592. <i>Microspathodon bairdii</i> (Gill)	1566
Drawing by Anna L. Brown from No. 2940, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
593. <i>Microspathodon chrysurus</i> (Cuvier and Valenciennes)	1567
Drawing by A. H. Baldwin from No. 13042, U.S.N.M., col- lected by Professor Poey in Cuba.	

PLATE CCXXXVI.

594. <i>Microspathodon dorsalis</i> (Gill)	1568
Drawing by Anna L. Brown from No. 2895, L. S. Jr. Univ. Mus., type of <i>M. azurissimus</i> Jordan and Starks, collected by the Hopkins Expedition at Venados Island, Mazatlan, Mexico.	
595. <i>Tautogolabrus adspersus</i> (Walbaum)	1577
Drawing by H. L. Todd from No. 17745, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	

PLATE CCXXXVII.

	Text page.
596. <i>Tautoga onitis</i> (Linnaeus)	1578
Drawing by H. L. Todd from No. 17738, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	
597. <i>Lachnolaimus maximus</i> (Walbaum)	1579
Drawing by H. L. Todd.	

PLATE CCXXXVIII.

598. <i>Pimelometopon pulcher</i> (Ayres)	1585
Drawing by H. L. Todd from No. 24890, U.S.N.M., collected by Dr. Jordan at San Diego, California.	
599. <i>Clepticus parræ</i> (Bloch and Schneider)	1586
Drawing by A. H. Baldwin from No. 9797, U.S.N.M., collected by Professor Poey in Cuba.	

PLATE CCXXXIX.

600. <i>Iridio radiatus</i> (Linnaeus)	1590
Drawing by H. L. Todd from No. 31168, U.S.N.M., collected at Key West, Florida.	
601. <i>Iridio bivittatus</i> (Bloch)	1595
Drawing by A. H. Baldwin from No. 35168, U.S.N.M., collected at Key West, Florida.	

PLATE CCXL.

602. <i>Iridio dispilus</i> (Günther)	1597
Drawing by Anna L. Brown from No. 2904, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition in the Astillero at Mazatlan, Mexico.	
603. <i>Emmeekia venusta</i> (Jenkins & Evermann)	1602
Drawing by A. H. Baldwin from the type, No. 39631, U.S.N.M., collected by Jenkins & Evermann at Guaymas, Mexico.	

PLATE CCXLI.

604. <i>Chlorichthys grammaticus</i> (Gilbert)	1610
Drawing by A. H. Baldwin from No. 46934, U.S.N.M., collected by the <i>Albatross</i> at Socorro Island.	
605. <i>Novaculichthys ventralis</i> (Bean)	1615
Drawing by S. F. Denton from the type, No. 37077, U.S.N.M., collected by Dr. Bean at Cozumel Island.	
606. <i>Novaculichthys infirmus</i> (Bean)	1616
Drawing by H. L. Todd from the type, No. 37076, U.S.N.M., collected by Dr. Bean at Cozumel Island.	

PLATE CCXLII.

607. <i>Xyrichthys psitticus</i> (Linnaeus)	1618
Drawing by H. L. Todd from No. 5815, U.S.N.M., collected by Dr. Whitehurst at Garden Key, Florida.	
608. <i>Cryptotomus beryllinus</i> (Jordan and Swain)	1625
Drawing by H. L. Todd from a specimen collected by the <i>Albatross</i> .	

PLATE CCXLIII.

	Text page.
609, 609a. <i>Calotomus xenodon</i> Gilbert	1626
Drawings by A. H. Baldwin from No. 46935, U.S.N.M., collected by the <i>Albatross</i> at Socorro Island.	
610. <i>Sparisoma aurofrenatum</i> (Cuvier and Valenciennes)	1634
Drawing by Anna L. Brown from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXLIV.

611. <i>Sparisoma hoplomystax</i> (Cope)	1632
Drawing by H. L. Todd from No. 35173, U.S.N.M., type of <i>S. cyanolepis</i> Jordan and Swain, collected by Jordan and Dye at Key West, Florida.	
612. <i>Scarus cuzamilæ</i> Bean	1648
Drawing by S. F. Denton from the type, No. 37128, U.S.N.M., collected by Dr. Bean at Cozumel Island.	
613. <i>Jaws of Scarus caeruleus</i> (Bloch)	1652
Drawing by Anna L. Brown from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCXLV.

614. <i>Scarus emblematicus</i> Jordan and Rutter	1654
Drawing by W. S. Atkinson from the type in L. S. Jr. Univ. Mus., collected by Rev. J. S. Roberts in Jamaica.	
615, 615a. <i>Scarus strongylocephalus</i>	
Lower and upper pharyngeal bones. Drawings by Anna L. Brown.	
616, 616a. <i>Sparisoma cretense</i>	
Lower and upper pharyngeal bones. Drawings by Anna L. Brown.	

PLATE CCXLVI.

617. <i>Pseudoscarus guacamaia</i> (Cuvier)	1657
Drawing by H. L. Todd.	
618. <i>Zenopsis ocellatus</i> (Storer)	1660
Drawing from a specimen in the Boston Society of Natural History.	

PLATE CCXLVII.

619. <i>Chaetodipterus faber</i> (Broussonet)	1668
Drawing by H. L. Todd from No. 22921, U.S.N.M., from east coast of United States.	

PLATE CCXLVIII.

620. <i>Chaetodon nigristrostris</i> (Gill)	1673
Drawing by W. S. Atkinson from No. 5981, L. S. Jr. Univ. Mus., collected by R. C. McGregor at Clarion Island.	

PLATE CCXLIX.

	Text page.
621. <i>Chaetodon ocellatus</i> (Bloch)	1674
Drawing by W. S. Haines. Specimen collected by Dr. Bean
at Beesley's Point, New Jersey.	

PLATE CCL.

622. <i>Chaetodon capistratus</i> Linnaeus	1677
Drawing by M. M. Smith from No. 30143, U.S.N.M., received
from the Public Museum of Kingston, Jamaica.	

PLATE CCLI.

623. <i>Pomacanthus arcuatus</i> (Linnaeus)	1679
Drawing by H. L. Todd from No. 33197, U.S.N.M., collected
by Lewis G. Mitchell at Barnegat, New Jersey.	

PLATE CCLII.

624. <i>Pomacanthus zonipectus</i> (Gill)	1681
Drawing from No. 31482, U.S.N.M., collected by Kaiser and
Martin in West Florida.	

PLATE CCLIII.

625. <i>Holacanthus tricolor</i> (Bloch)	1684
Drawing by A. H. Baldwin from a specimen collected by Dr.
Evermann at Arroyo, Puerto Rico.	

PLATE CCLIV.

626. <i>Angelichthys ciliaris</i> (Linnaeus)	1684
Drawing by A. H. Baldwin from No. 30023, U.S.N.M., received
from the Public Museum at Kingston, Jamaica.	
626a. <i>Angelichthys ciliaris</i> (Linnaeus), skeleton showing vertebrae
reduced in number and enlarged	1684
Drawing by W. S. Atkinson from a specimen in L. S. Jr.
Univ. Mus.	

PLATE CCLV.

627. <i>Zanclus cornutus</i> (Linnaeus)	1687
Drawing by W. S. Atkinson from a specimen in L. S. Jr.
Univ. Mus.	

PLATE CCLVI.

628. <i>Teuthis crestonis</i> Jordan and Starks.	1692
Drawing by Anna L. Brown from the type, No. 2899, L. S. Jr.
Univ. Mus., collected by the Hopkins Expedition in the
Astillero at Mazatlan, Mexico.	
629. <i>Teuthis bahianus</i> (Castelman)	1693
Drawing by H. L. Todd from No. 3424, U.S.N.M., collected at
Garden Key, Florida.	

PLATE CCLVII.

	Text page.
629a. Tail of <i>Teuthis bahianus</i> (Castelnau).....	1693
630. <i>Xesurus punctatus</i> (Gill).....	1694
Drawing by Anna L. Brown from No. 2911, U.S.N.M., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCLVIII.

631. <i>Balistes carolinensis</i> Gmelin	1701
Drawing by H. L. Todd from No. 15233, U.S.N.M., collected at New York.	
632. <i>Cantherines carolæ</i> Jordan and McGregor	1713
Drawing by Anna L. Brown from the type, No. 11995, L. S. Jr. Univ. Mus., collected by R. C. McGregor at Socorro Island.	

PLATE CCLIX.

633. <i>Monacanthus ciliatus</i> (Mitchill).....	1714
Drawing by W. S. Haines.	
634. <i>Monacanthus hispidus</i> (Linnaeus)	1715
Drawing by W. S. Haines.	

PLATE CCLX.

635. <i>Alutera schœpfii</i> (Walbaum)	1718
Drawing by W. S. Haines from No. 6068, U.S.N.M., collected by Judge Steele at Cedar Keys, Florida.	
636. <i>Alutera scripta</i> (Osbeck)	1719
Drawing by W. S. Haines from No. 34397, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	

PLATE CCLXI.

637. <i>Lactophrys triqueter</i> (Linnaeus)	1722
Drawing by W. S. Haines from No. 5989, U.S.N.M., collected at Garden Key, Florida, by Dr. Whitehurst.	
638. <i>Lactophrys tricornis</i> (Linnaeus)	1724
Drawing by W. S. Haines from No. 21548, U.S.N.M., collected by C. C. Leslie at Charleston, South Carolina.	

PLATE CCLXII.

639, 639a, 639b. <i>Lactophrys bicaudalis</i> (Linnaeus).....	1723
Drawings by H. L. Todd from No. 37130, U.S.N.M., collected at Cozumel Island by the <i>Albatross</i> ; 640a, ventral view; 640b, front view.	

PLATE CCLXIII.

640, 640a. <i>Lactophrys trigonus</i> (Linnaeus)	1723
Drawing by H. L. Todd from No. 7987, U.S.N.M., collected at Garden Key, Florida, by Dr. Whitehurst.	
641. <i>Lagocephalus lævigatus</i> (Linnaeus)	1728
Drawing by H. L. Todd from No. 35135, U.S.N.M.	

PLATE CCLXIV.

	Text page.
642. <i>Spheroides nephelus</i> Goode and Bean	1732
Drawing by H. L. Todd from No. 31428, U.S.N.M., the type, collected by R. E. Earll in Indian River, Florida.	
643. <i>Spheroides spengleri</i> (Bloch)	1732
Drawing from No. 20608, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	
644. <i>Spheroides maculatus</i> (Bloch and Schneider)	1733
Drawing by W. S. Haines from No. 14827, U.S.N.M., collected by the U. S. Fish Commission at Noank, Connecticut.	

PLATE CCLXV.

645, 645a. <i>Spheroides testudineus</i> (Linnaeus)	1734
Drawings by H. L. Todd from No. 30060, U.S.N.M., received from the museum at Kingston, Jamaica.	
646. <i>Ovoides setosus</i> (Rosa Smith)	1739
Drawing by W. S. Atkinson from No. 319, L. S. Jr. Univ. Mus., collected by the <i>Albatross</i> at Clarion Island.	

PLATE CCLXVI.

647. <i>Diodon hystrix</i> Linnaeus	1745
Drawing by H. L. Todd from No. 5985, U.S.N.M., collected by H. E. Wright at Tortugas Islands.	
648. <i>Chilomycterus schoepfi</i> (Walbaum)	1748
Drawing from a specimen collected at Noank, Connecticut.	

PLATE CCLXVII.

649. <i>Lyosphaera globosa</i> Evermann and Kendall	1751
Drawing by A. H. Baldwin from the type, No. 48794, U.S.N.M., collected by W. C. Kendall in the Rappahannock River, Virginia.	
649a. <i>Lyosphaera globosa</i> Evermann and Kendall	1751
Drawing by A. H. Baldwin from the cotype, a young example collected by Evermann and Kendall at Cape Florida, Florida.	
650. <i>Mola mola</i> (Linnaeus)	1753
Drawing taken from a washed drawing taken from a cast.	

PLATE CCLXVIII.

651. <i>Ranzania truncata</i> (Retzius)	1755
Drawing from a specimen collected in the Bermudas.	
652. <i>Sebastes marinus</i> (Linnaeus)	1760
Drawing by H. L. Todd.	

PLATE CCLXIX.

	Text page.
653. Sebastolobus altivelis Gilbert	1763
Drawing by A. H. Baldwin from the type collected by the <i>Albatross</i> at Station 3338, south of the Alaskan Peninsula, in 625 fathoms.	
654. Sebastodes melanops (Girard)	1782
Drawing by H. L. Todd from No. 27628, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	

PLATE CCLXX.

655. Sebastodes ciliatus (Tilesius)	1783
Drawing by H. L. Todd from No. 32014, U.S.N.M., collected in Tolstoi Bay, Alaska, by Capt. H. E. Nichols.	
656. Sebastodes mystinus (Jordan and Gilbert)	1784
Drawing by H. L. Todd from No. 27031, U.S.N.M., collected by Dr. Jordan at Monterey, California.	

PLATE CCLXXI.

657. Sebastodes brevispinis (Bean)	1787
Drawing by W. S. Haines from the type, No. 32004, U.S.N.M., collected by Capt. H. E. Nichols in Hassler Harbor, Alaska.	
658. Sebastodes eigenmanni Cramer	1789
Drawing by Anna L. Brown from the type, No. 4046, L. S. Jr. Univ. Mus., collected by Dr. W. W. Thoburn at Pacific Grove, California.	

PLATE CCLXXII.

659. Sebastodes hopkinsi Cramer	1789
Drawing by Anna L. Brown from the type, No. 2282, L. S. Jr. Univ. Mus., collected by Gilbert and Starks at Pacific Grove, California.	
660. Sebastodes alutus (Gilbert)	1790
Drawing by A. H. Baldwin from the type, No. 48244, U.S.N.M., collected by the <i>Albatross</i> at Station 3339, Santa Barbara Islands.	

PLATE CCLXXIII.

661. Sebastodes pinniger (Gill)	1793
Drawing by H. L. Todd from No. 27488, U.S.N.M., collected by J. G. Swan at Neah Bay, Washington.	
662. Sebastodes miniatus (Jordan and Gilbert)	1794
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus., showing vertebrae in moderate number, rela- tively increased in size.	

PLATE CCLXXIV.

	Text page.
663. <i>Sebastes caurinus</i> (Richardson)	1820
Drawing by H. L. Todd from No. 31999, U.S.N.M., collected by Capt. H. E. Nichols in Departure Bay, British Columbia.	
664. <i>Sebastes maliger</i> (Jordan and Gilbert)	1822
Drawing by H. L. Todd from No. 27713, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	

PLATE CCLXXV.

665. <i>Sebastes gilberti</i> Cramer	1823
Drawing by Anna L. Brown from the type, No. 3893, L. S. Jr. Univ. Mus., collected by Dr. Jordan in the San Francisco market.	
666. <i>Sebastes serripes</i> (Jordan and Gilbert)	1827
Drawing by H. L. Todd from No. 27041, U.S.N.M., collected by Dr. Jordan at Monterey, California.	

PLATE CCLXXVI.

667. <i>Sebastes nigrocinctus</i> (Ayres)	1827
Drawing by H. L. Todd from No. 27285, U.S.N.M., collected by Dr. Jordan in Puget Sound.	
668. <i>Scorpaena cristulata</i> Goode and Bean	1841
Drawing by H. L. Todd from the type, No. 39326, U.S.N.M., collected by the <i>Albatross</i> at Station 2415, in N. lat. 30° 44', W. long. 79° 26', off Georgia, in 440 fathoms.	

PLATE CCLXXVII.

669. <i>Scorpaena brasiliensis</i> Cuvier and Valenciennes	1842
Drawing by H. L. Todd from No. 30169, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
670. <i>Scorpaena mystes</i> Jordan and Starks	1849
Drawing by Anna L. Brown from the type, No. 2919, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCLXXVIII.

671. <i>Scorpaena grandicornis</i> Cuvier and Valenciennes	1850
Drawing by H. L. Todd from No. 35101, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
672. <i>Pontinus macrolepis</i> Goode and Bean	1855
Drawing by A. H. Baldwin from a specimen collected by the <i>Blake</i> off Barbados.	

PLATE CCLXXIX.

673. <i>Setarches parmatum</i> Goode	1860
Drawing by H. L. Todd from a specimen collected by the <i>Albatross</i> at Station 2397.	

	Text page.
674. <i>Anoplopoma fimbria</i> (Pallas).....	1862
Drawing by H. L. Todd.	
675. <i>Pleurogrammus monopterygius</i> (Pallas)	1864
Drawing by A. H. Baldwin from a specimen collected by Dr. Evermann at Atka Island, Alaska.	

PLATE CCLXXX.

676. <i>Hexagrammos decagrammus</i> (Pallas).....	1867
Drawing by W. S. Haines from No. 27710, U.S.N.M., collected at Old Sitka by L. A. Beardslee.	
676a. <i>Skeleton of Hexagrammos decagrammus</i>	1867
A mail-cheeked fish from northern waters, showing vertebrae increased in number and diminished in size. Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	
677. <i>Hexagrammos octogrammus</i> (Pallas)	1869
Drawing by W. S. Haines from No. 27975, U.S.N.M., collected at Unalaska by Dall and Bean.	

PLATE CCLXXXI.

678. <i>Hexagrammos stelleri</i> Tilesius	1871
Drawing by H. L. Todd from No. 21530, U.S.N.M., collected at St. Michaels, Alaska, by L. M. Turner.	
679. <i>Hexagrammos superciliosus</i> (Pallas)	1872
Drawing by M. M. Smith from No. 27934, U.S.N.M., collected at Chernofsky, Unalaska Island, by T. H. Bean.	
680. <i>Hexagrammos otakii</i> Jordan and Starks	1867
Drawing by Anna L. Brown from the type, No. 3704, L. S. Jr. Univ. Mus., collected by Keinosuke Otaki at Tokio, Japan.	

PLATE CCLXXXII.

681. <i>Ophidion elongatus</i> Girard	1875
Drawing by H. L. Todd from No. 27657, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	
682. <i>Oxylebius pictus</i> Gill	1878
Drawing by Anna L. Brown from No. 2381, L. S. Jr. Univ. Mus., collected by the California Fish Commission at San Francisco, California.	
683. <i>Jordania zonocephala</i> Starks	1884
Drawing by Anna L. Brown from the type, No. 3124, L. S. Jr. Univ. Mus., collected by Miss Maude Parker and Adam Hubbert at Point Orchard, Puget Sound, Washington.	

PLATE CCLXXXIII.

684. <i>Alcida thoburni</i> (Gilbert)	1887
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> at Station 3350.	
685. <i>Skull of Scorpaenichthys marmoratus</i> (Ayres).....	1889

	Text page.
686. <i>Chitonotus pugetensis</i> (Steindachner).....	1890
Drawing by A. H. Baldwin from No. 27238, U.S.N.M., collected by Dr. Jordan in the Straits of Juan de Fuca, Washington.	

PLATE CCLXXXIV.

687. <i>Icelinus borealis</i> Gilbert	1896
Drawing by A. H. Baldwin from the type collected by the <i>Albatross</i> at Station 3223.	
688. <i>Astrolytes notospilotus</i> (Girard).....	1899
Drawing by A. H. Baldwin from No. 27146, U.S.N.M., collected by Dr. Jordan in Puget Sound.	
688a. <i>Astrolytes notospilotus</i> (Girard)	1899
Drawing from No. 23936, U.S.N.M., a young example, collected by W. H. Dall in the Shumagin Islands.	

PLATE CCLXXXV.

689. <i>Arteidiellus atlanticus</i> Jordan and Evermann.....	1906
Drawing by H. L. Todd from the type, No. 21069, U.S.N.M., collected in Massachusetts Bay in 90 fathoms.	
690. <i>Ruscarius meanyi</i> Jordan and Starks	1908
Drawing by Anna L. Brown from the type, No. 3127, L. S. Jr. Univ. Mus., collected by E. C. Starks at Point Orchard, Puget Sound, Washington.	

PLATE CCLXXXVI.

691. <i>Rastrinus scutiger</i> (Bean).....	1909
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	
692. <i>Icelus spiniger</i> Gilbert	1914
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3278.	
693. <i>Icelus canaliculatus</i> Gilbert	1917
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3329, off Unalaska.	

PLATE CCLXXXVII.

694. <i>Radulinus boleoides</i> Gilbert	1919
Drawing by A. H. Baldwin from the type, No. 48795, U.S.N.M., collected by the <i>Albatross</i> at Station 3664, off Santa Catalina Island, California, in 59 fathoms.	
695. <i>Radulinus asprellus</i> Gilbert	1920
Drawing by Anna L. Brown from No. 3781, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound, near Seattle, Washington.	
696. <i>Triglops pingeli</i> Reinhardt	1923
Drawing by H. L. Todd from a specimen taken in trawl 8 miles off Chebucto in 521 fathoms.	

PLATE CCLXXXVIII.

	Text page.
697. <i>Triglops beani</i> Gilbert.....	1924
Drawing by H. L. Todd from the type, collected by the <i>Albatross</i> at Station 3220.	
698. <i>Triglops scepticus</i> Gilbert	1925
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3339.	
699. <i>Sternias xenostethus</i> (Gilbert).....	1927
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3220, north of Unalaska, in 34 fathoms.	
699a. <i>Sternias xenostethus</i> (Gilbert)	1927
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3220, north of Unalaska, in 34 fathoms.	

PLATE CCLXXXIX.

700. <i>Prionistius macellus</i> Bean	1928
Drawing by H. L. Todd from the type, No. 31958, U.S.N.M., collected by Capt. H. E. Nichols in Carter Bay, British Columbia.	
701. <i>Elanura forficata</i> Gilbert	1930
Drawing by Anna L. Brown from the type, collected by the <i>Albatross</i> at Station 3214, in the Aleutian Islands.	
702. <i>Melletes papilio</i> Bean	1932
Drawing by H. L. Todd from the type, No. 23751, U.S.N.M., collected by H. W. Elliott at St. Paul Island, Pribilof Group, Bering Sea.	

PLATE CCXC.

703. <i>Hemilepidotus jordani</i> Bean	1934
Drawing by H. L. Todd from the type, No. 27598, U.S.N.M., collected by Sylvanus Bailey at Unalaska.	
704, 704a, 704b. <i>Hemilepidotus hemilepidotus</i> (Tilesius)	1935
Drawings by S. F. Denton from No. 27609, U.S.N.M., collected at Sitka by T. H. Bean.	

PLATE CCXCI.

705. <i>Enophrys bison</i> (Girard)	1738
Drawing by H. L. Todd from a specimen collected by Dr. Jordan in Puget Sound.	
706. <i>Ceratocottus diceraus</i> (Pallas).....	1940
Drawing by W. S. Haines, from No. 32007, U.S.N.M., collected by Capt. H. E. Nichols in Tolstoi Bay, Alaska.	

PLATE CCXCH.

707. <i>Cottus evermanni</i> Gilbert	1945
Drawing by Chloe Lesley Starks from the type, No. 48228, U.S.N.M., collected by Gilbert, Cramer, and Otaki in Lost River, near Lostine, Oregon.	
Bull. No. 47, pt. 4—xvii	

	Text page.
708. <i>Cottus punctulatus</i> (Gill)	1948
Drawing by S. F. Denton from a specimen collected in Yellowstone Park by Dr. Jordan.	

PLATE CCXCIII.

709. <i>Cottus perplexus</i> Gilbert and Evermann	1955
Drawing by A. H. Baldwin from the type, No. 45387, U.S.N.M., collected by Drs. Gilbert and Jenkins in the Skookumchuck River, near Chehalis, Washington.	
710. <i>Cottus klamathensis</i> Gilbert	1955
Drawing by Anna L. Brown from the type, No. 48226, U.S.N.M., collected by Gilbert, Cramer, and Otaki, in Upper Klamath Lake, Oregon.	
711. <i>Cottus aleuticus</i> Gilbert	1957
Drawing from No. 26922, U.S.N.M., the type of <i>Uranidea microstoma</i> Lockington, collected by W. J. Fischer at St. Paul, Kadiak Island, Alaska.	

PLATE CCXCIV.

712. <i>Cottus leiopomus</i> Gilbert and Evermann	1962
Drawing by A. H. Baldwin from the type, No. 45389, U.S.N.M., collected by H. H. Kinsey in Little Wood River, near Shoshone, Idaho.	
713. <i>Cottus princeps</i> Gilbert	1962
Drawing by Anna L. Brown from the type, No. 48227, U.S.N.M., collected by Gilbert, Cramer, and Otaki in Upper Klamath Lake, Oregon.	
714. <i>Uranidea tenuis</i> Evermann and Meek	1966
Drawing by A. H. Baldwin from the type, No. 48229, U.S.N.M., collected by Meek and Alexander in Upper Klamath Lake, Oregon.	

PLATE CCXCV.

715, 715a. <i>Myoxocephalus æneus</i> (Mitchill)	1972
Drawings by H. L. Todd from No. 15093, U.S.N.M., collected by Mr. Copley at Tompkinsville, New York.	
716. <i>Myoxocephalus scorpius</i> (Linnaeus)	1974
Drawing by H. L. Todd from No. 21989, U.S.N.M., collected by L. Kumlein in Cumberland Gulf.	

PLATE CCXCVI.

717. <i>Myoxocephalus octodecimspinosus</i> (Mitchill)	1976
Drawing by H. L. Todd from No. 4552, U.S.N.M., collected by Professor Baird at Beesley Point, New Jersey.	
718. <i>Myoxocephalus polyacanthocephalus</i> Pallas	1976
Drawing by H. L. Todd from No. 23499, U.S.N.M., collected by W. H. Dall at Unalaska, Alaska.	
719. <i>Myoxocephalus jaok</i> (Cuvier and Valenciennes)	1977
Drawing by H. L. Todd from No. 21522, U.S.N.M., collected by L. M. Turner at St. Michaels, Alaska.	

PLATE CCXCVII.

	Text page.
720, 720a. <i>Myoxocephalus verrucosus</i> (Bean).....	1979
Drawing by H. L. Todd from No. 27847, U.S.N.M., collected by Dall and Bean in Plover Bay, Alaska.	
721. <i>Myoxocephalus axillaris</i> (Gill)	1980
Drawing by H. L. Todd from No. 32442, U.S.N.M., collected by U. S. Signal Service Point Barrow Expedition at Bering Straits, Alaska.	

PLATE CCXCVIII.

722, 722a, 722b. <i>Myoxocephalus stelleri</i> Tilesius	1981
Drawings by H. L. Todd from No. 32442, U.S.N.M., collected by U. S. Signal Service at Bering Straits, Alaska.	
723. <i>Myoxocephalus niger</i> (Bean)	1985
Drawing by H. L. Todd from the type, No. 27971, U.S.N.M., collected by Dr. Bean at St. Paul Island, Bering Sea.	

PLATE CCXCIX.

724, 724a. <i>Megalocottus platycephalus</i> (Pallas)	1987
Drawings by A. H. Baldwin from No. 21522, U.S.N.M., collected at St. Michaels, Alaska, by L. M. Turner.	
725, 725a. <i>Megalocottus laticeps</i> (Gilbert)	1988
Drawings by A. H. Baldwin from the type, collected by the <i>Albatross</i> in the Nushagak River, Alaska.	

PLATE CCC.

726. <i>Zesticelus profundorum</i> (Gilbert)	1990
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3329 in Bering Sea, north of Unalaska.	
727. <i>Dasycottus setiger</i> Bean	1991
Drawing by Anna L. Brown from No. 3761, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound, near Seattle, Washington.	
728. <i>Oncocottus quadricornis</i> (Linnaeus)	2001
Drawing by W. S. Haines from No. 32962, U.S.N.M., collected by E. W. Nelson at St. Michaels, Alaska.	

PLATE CCCI.

729, 729a, 729b. <i>Gymnocanthus pistilliger</i> (Pallas)	2006
Drawings by H. L. Todd from No. 21743, U.S.N.M., collected at Niantilik Harbor, Cumberland Gulf, by Ludwig Kumlien.	
730. <i>Gymnocanthus galeatus</i> Bean	2010
Drawing by W. S. Haines from the type, No. 28097, U.S.N.M., collected by Dr. Bean at Unalaska, Alaska.	

PLATE CCCII.

	Text page.
731. <i>Leiocottus hirundo</i> Girard	2011
Drawing by A. H. Baldwin from No. 313, U.S.N.M., collected by W. P. Trowbridge at San Miguel, California.	
732. <i>Leptocottus armatus</i> Girard	2012
Drawing by H. L. Todd from No. 27968, U.S.N.M., collected at Sitka, Alaska, by Dr. Bean.	
733. <i>Oligocottus maculosus</i> Girard	2013
Drawing by H. L. Todd from No. 27514, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	

PLATE CCCIII.

734. <i>Blennicottus embryum</i> (Jordan and Starks)	2016; 2864
Drawing by Anna L. Brown from the type, No. 3128, L. S. Jr. Univ. Mus., collected by E. C. Starks, Neah Bay, Wash- ington.	
735. <i>Histiocottus bilobus</i> (Cuvier and Valenciennes)	2018
Drawing by W. S. Haines from No. 30307, U.S.N.M., collected by W. J. Fischer at St. Paul, Kadiak Island, Alaska.	

PLATE CCCIV.

736. <i>Blepsias cirrhosus</i> (Pallas)	2018
Drawing by A. H. Baldwin from No. 27118, U.S.N.M., collected by Dr. Jordan in the Straits of Fuca.	
736a, 736b. <i>Blepsias cirrhosus</i> (Pallas)	2018
Drawings by H. L. Todd from No. 30307, U.S.N.M., col- lected by W. J. Fischer at St. Paul, Kadiak Island, Alaska.	

PLATE CCCV.

738. <i>Hemitripterus americanus</i> (Gmelin)	2023
Drawing by H. L. Todd from No. 23199, U.S.N.M., collected by the U. S. Fish Commission at Halifax, Nova Scotia, in 16 fathoms.	
739. <i>Ascelichthys rhodorus</i> Jordan and Gilbert	2025
Drawing by A. H. Baldwin from No. 28488, U.S.N.M., collected by J. G. Swan at Neah Bay, Washington.	

PLATE CCCVI.

740. <i>Psychrolutes paradoxus</i> Günther.	2026
Drawing by Anna L. Brown from No. 3371, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Point Orchard, Washington.	
741. <i>Gilbertidia sigolutes</i> (Jordan and Starks)	2028
Drawing by Anna L. Brown from the type, No. 3129, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Point Orchard, Washington.	

PLATE CCCVII.

	Text page.
742, 742a. <i>Rhamphocottus richardsoni</i> Günther	2030
Drawings by H. L. Todd from a specimen collected by W. N. Lockington, in California.	
742b, 742c. <i>Rhamphocottus richardsoni</i> Günther	2030
Drawings by Anna L. Brown from No. 3385, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Point Orchard, Washington.	

PLATE CCCVIII.

743. <i>Occa dodecaedron</i> (Tilesius)	2044
Drawing by Anna L. Brown from No. 14936, U.S.N.M., col- lected by Gordon Prince in Kamchatka.	
744. <i>Pallasina barbata</i> (Steindachner)	2049
Drawing by H. L. Todd from No. 28052, U.S.N.M., collected at Port Mulgrave, Alaska, by Dr. Bean.	
745, 745a. <i>Podothecus accipiter</i> Jordan and Starks	2055
Drawing by Anna L. Brown from the type, No. 3835, L. S. Jr. Univ. Mus., collected by Capt. J. C. Blair at Robben Island.	

PLATE CCCIX.

746. <i>Podothecus acipenserinus</i> (Tilesius)	2061
Drawing by M. M. Smith from No. 32481, U.S.N.M., collected by W. J. Fischer at Kadiak Island, Alaska.	
747, 747a. <i>Podothecus veternus</i> Jordan and Starks	2063
Drawing by Anna L. Brown from the type, No. 4823, L. S. Jr. Univ. Mus., collected by Capt. J. C. Blair at Robben Island.	
748, 748a. <i>Stelgis vulsus</i> (Jordan and Gilbert)	2067
Drawing by Anna L. Brown from the type in the U.S.N.M., collected by Jordan and Gilbert at Point Reyes, California.	
749, 749a. <i>Averruncus emmelane</i> Jordan and Starks	2069
Drawing by Anna L. Brown from the type, No. 3135, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Point Orchard, Washington.	

PLATE CCCX.

750, 750a. <i>Averruncus sterletus</i> Gilbert	2071
Drawings by Anna L. Brown from the type in the U.S.N.M., collected by the <i>Albatross</i> at Station 3662, off Avalon, Coronado Island, California, in 47 fathoms.	
751. <i>Sarritor frenatus</i> (Gilbert)	2073
Drawing by A. H. Baldwin from the type collected by the <i>Albatross</i> at Station 3229.	

	Text page.
752, 752a. <i>Xystes axinophrys</i> Jordan and Starks	2076
Drawings by Anna L. Brown from the type, No. 3130, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Seattle, Washington.	

PLATE CCCXI.

753. <i>Bathygonus nigripinnis</i> Gilbert	2078
Drawing by A. H. Baldwin from No. 46614, U.S.N.M., col- lected by the <i>Albatross</i> in the Aleutian Islands.	
754, 754a. <i>Xenochirus triacanthus</i> Gilbert	2084
Drawings by Anna L. Brown from No. 3760, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound near Seattle, Washington.	

PLATE CCCXII.

755, 755a, 755b. <i>Aspidophoroides guntheri</i> Bean	2090
Drawings by W. S. Haines from No. 37032, U.S.N.M., collected by G. M. Stoney in Alaska.	
756, 756a. <i>Aspidophoroides monopterygius</i> (Bloch)	2091
Drawings by H. L. Todd from No. 21761, U.S.N.M., collected by the U. S. Fish Commission at Sandwich Point, Halifax, Nova Scotia, in 18 fathoms.	

PLATE CCCXIII.

757. <i>Cyclopterus lumpus</i> Linnaeus	2096
Drawing by H. L. Todd from No. 14795, U.S.N.M., collected by the U. S. Fish Commission at Eastport, Maine.	
758. <i>Lethotremus muticus</i> Gilbert	2101
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3223, in Unimak Pass, Alaska.	

PLATE CCCXIV.

759. <i>Lethotremus vinolentus</i> Jordan and Starks	2101
Drawing by Anna L. Brown from the type, No. 3131, L. S. Jr. Univ. Mus., collected by E. C. Starks in Puget Sound, near Seattle, Washington.	
760, 760a. <i>Neoliparis callyodon</i> (Pallas)	2110
Drawings by M. M. Smith from No. 30317, U.S.N.M., col- lected by W. J. Fischer at St. Paul, Kodiak Island, Alaska.	

PLATE CCCXV.

761, 761a. <i>Neoliparis mucosus</i> (Ayres)	2111
Drawings by Anna L. Brown from No. 360, Cal. Acad. Sci., collected by H. D. Dunn off San Francisco, Cali- fornia.	

Text page.

762. *Neoliparis floræ* Jordan and Starks..... 2111
 Drawing by Anna L. Brown from the type, No. 3126, L. S. Jr.
 Univ. Mus., collected by E. C. Starks at Waadda Island,
 Neah Bay, Washington.

PLATE CCCXVI.

- 763, 763a. *Neoliparis greeni* Jordan and Starks..... 2112
 Drawings by Anna L. Brown from the type, No. 3019,
 L. S. Jr. Univ. Mus., collected by A. N. Green in Vic-
 toria Harbor, Victoria, British Columbia.
- 764, 764a. *Liparis cyclopus* Günther 2118
 Drawings by H. L. Todd from No. 24007, U.S.N.M., col-
 lected at Port Muller, Alaska, by W. H. Dall.

PLATE CCCXVII.

765. *Liparis agassizii* Putnam 2121
 Drawing by H. L. Todd from one of the types of *L. gibbus*
 Bean, No. 24047, U.S.N.M., collected at St. Paul Island, Ber-
 ing Sea, by H. W. Elliott.
- 766, 766a. *Liparis dennyi* Jordan and Starks..... 2124
 Drawings by Anna L. Brown from the type, No. 3703,
 L. S. Jr. Univ. Mus., collected by E. C. Starks in Ad-
 miralty Inlet, near Seattle, Washington.

PLATE CCCXVIII.

767. *Bathyphasma ovigerum* Gilbert..... 2128
 Drawing by A. H. Baldwin from the type, No. 48622, U.S.N.M.,
 collected by the *Albatross* at Station 3342, off Queen Char-
 lotte Island, in 1,588 fathoms.
768. *Prionotus carolinus* (Linnaeus)..... 2156
 Drawing by H. L. Todd from No. 774, U.S.N.M., collected by
 Professor Baird at Beesleys Point, New Jersey.

PLATE CCCXIX.

769. *Prionotus scitulus* Jordan 2157
 Drawing by H. L. Todd from a specimen collected by G.
 Würdemann in Florida.
770. *Prionotus alatus* Goode and Bean 2159
 Drawing from the type, collected in deep water off Charles-
 ton, South Carolina.

PLATE CCCXX.

771. *Prionotus stearnsi* Jordan and Swain 2166
 Drawing from a specimen obtained on the Pensacola Snapper
 Banks.
772. *Prionotus evolans* (Linnaeus)..... 2168
 Drawing by H. L. Todd from No. 5556, U.S.N.M., collected by
 Professor Baird at Woods Hole, Massachusetts.

PLATE CCCXXI.

	Text page.
773. <i>Bellator egretta</i> (Goode and Bean).....	2174
Drawing by M. M. Smith from the type in the M. C. Z., collected by the <i>Blake</i> at Station LXIV, off Barbados.	
774. <i>Peristedion miniatum</i> Goode	2178
Drawing by H. L. Todd from the type, No. 26023, U.S.N.M., collected by the <i>Fish Hawk</i> at Station 869, in N. lat. $40^{\circ} 02' 18''$, W. long. $70^{\circ} 23' 06''$, in 192 fathoms.	
775. <i>Peristedion longispathum</i> Goode and Bean	2178
Drawing by H. L. Todd from the type, collected by the <i>Blake</i> at Station LVIII, off Havana, in 242 fathoms.	

PLATE CCCXXII.

776. <i>Peristedion gracile</i> Goode and Bean	2179
Drawing by H. L. Todd from the type, collected by the <i>Albatross</i> at Station 2401, in N. lat. $28^{\circ} 38' 30''$, W. long. $85^{\circ} 52' 30''$, in 142 fathoms.	
777, 777a. <i>Peristedion platycephalum</i> Goode and Bean.....	2180
Drawings by H. L. Todd from the type, collected by the <i>Blake</i> at Station LX, off Barbados, in 123 fathoms.	

PLATE CCCXXIII.

778. <i>Cephalacanthus volitans</i> (Linnaeus)	2183
Drawing by W. S. Haines.	
779. <i>Callionymus agassizii</i> Goode and Bean.....	2186
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> at Station XXX, off Barbados, in 209 fathoms.	
780. <i>Ioglossus calliurus</i> Bean.....	2193
Drawing from No. 30797, U.S.N.M., collected by Silas Stearns at the Pensacola Snapper Banks.	

PLATE CCCXXIV.

781. <i>Philypnus dormitor</i> (Lacépède)	2194
Drawing by A. H. Baldwin from a specimen collected by Dr. Evermann at Palo Seco, Puerto Rico.	
782. <i>Dormitator maculatus</i> (Bloch).....	2196
Drawing by A. H. Baldwin from a specimen collected by Dr. Evermann at Hucares, Puerto Rico.	

PLATE CCCXXV.

783. <i>Eleotris pisonis</i> (Gmelin)	2200
Drawing by A. H. Baldwin from No. 5757, U.S.N.M., collected by Dr. Whitehurst at Garden Key, Florida.	
784. <i>Alexurus armiger</i> Jordan and Richardson.....	2203
Drawing by Anna L. Brown from the type, No. 3455, L. S. Jr. Univ. Mus., collected by J. A. Richardson in La Paz Harbor, Lower California.	
785. <i>Erotelis smaragdus</i> (Cuvier and Valenciennes).....	2204
Drawing by A. H. Baldwin.	

PLATE CCCXXVI.

	Text page.
786. <i>Lophogobius cyprinoides</i> (Pallas)	2209
Drawing by A. H. Baldwin from No. 37509, U.S.N.M., collected by Professor Poey in Cuba.	
787. <i>Gobius stigmaticus</i> (Poey)	2224
Drawing by W. S. Haines from No. 30469, U.S.N.M., collected by Silas Stearns in south Florida.	
788. <i>Gobius hastatus</i> Girard	2229
Drawing by H. L. Todd from No. 35155, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	

PLATE CCCXXVII.

789. <i>Gobius oceanicus</i> Pallas	2230
Drawing by A. H. Baldwin from No. 35155, U.S.N.M., collected by Dr. Jordan at Key West, Florida.	
789a. <i>Gobius oceanicus</i> Pallas	2230
Drawing by A. H. Baldwin from a specimen collected by Dr. Evermann at Palo Seco, Puerto Rico.	
790. <i>Garmannia paradoxa</i> (Günther)	2232
Drawing by Anna L. Brown from No. 3765, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	

PLATE CCCXXVIII.

791. <i>Bollmannia chlamydes</i> Jordan	2238
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus., collected by the <i>Albatross</i> off the coast of Colombia.	
792. <i>Aboma etheostoma</i> Jordan and Starks	2240
Drawing by Anna L. Brown from the type, No. 3459, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition in the Astillero at Mazatlan, Mexico.	
793. <i>Clevelandia ios</i> (Jordan and Gilbert)	2254
Drawing by Anna L. Brown from No. 3666, L. S. Jr. Univ. Mus., collected by E. C. Starks in Elliot Bay, near Seattle, Washington.	

PLATE CCCXXIX.

794. <i>Evermannia zosterura</i> (Jordan and Gilbert)	2256
Drawing by Anna L. Brown from No. 2927, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
795. <i>Typhlogobius californiensis</i> Steindachner	2262
Drawing by A. H. Baldwin from No. 34747, U.S.N.M., collected by Rosa Smith at San Diego, California.	
796. <i>Echeneis naucrates</i> Linnaeus	2269
Drawing by H. L. Todd.	

PLATE CCCXXX.

	Text page.
797, 797a. <i>Remora brachyptera</i> (Lowe).....	2272
Drawing by H. L. Todd from No. 23374, U.S.N.M., collected by Daniel McEachran in N. lat. 42° 40', W. long. 63° 6', in 250 fathoms.	
798. <i>Rhombochirus osteochir</i> (Cuvier).....	2273
Drawing by H. L. Todd from No. 19022, U.S.N.M., collected by the U. S. Fish Commission at Woods Hole, Massachusetts.	
799. <i>Caulolatilus microps</i> Goode and Bean.....	2277
Drawing by H. L. Todd from No. 20971, U.S.N.M., collected by Silas Stearns at the Pensacola Snapper Banks.	

PLATE CCCXXXI.

800. <i>Opisthognathus macrognathum</i> Poey	2281
Drawing by H. L. Todd from No. 5936, U.S.N.M., the type of <i>O. scaphiurus</i> Goode and Bean, collected by Dr. Whitehurst at Garden Key, Florida.	
800a. <i>Opisthognathus macrognathum</i> Poey.....	2281
Drawing by A. H. Baldwin from No. 5936, U.S.N.M., the type of <i>O. scaphiurus</i> Goode and Bean, collected by Dr. Whitehurst at Garden Key, Florida.	
801. <i>Gnathypops maxillosa</i> Poey	2284
Drawing by H. L. Todd from No. 5866, U.S.N.M., collected at Garden Key, Florida.	

PLATE CCCXXXII.

802. <i>Bathymaster signatus</i> Cope	2288
Drawing by H. L. Todd from No. 27646, U.S.N.M., collected by Capt. E. P. Herendeen at the Shumagin Islands, Alaska.	
803. <i>Ronquilus jordani</i> (Gilbert).....	2289
Drawing by Anna L. Brown from No. 3410, L. S. Jr. Univ. Mus., collected by the Young Naturalist Society of Seattle in Elliot Bay, near Seattle, Washington.	
804. <i>Chiasmodon niger</i> Johnson	2291
Drawing by H. L. Todd from No. 25633, U.S.N.M., collected by Capt. Thomas F. Hodgdon at the surface on Le Have Bank.	

PLATE CCCXXXIII.

805. <i>Hypsicometes gobioides</i> Goode	2294
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> at Station 2377.	
806. <i>Trichodon trichodon</i> (Tilesius).....	2295
Drawing by M. M. Smith from No. 27980, U.S.N.M., collected by Marcus Baker at the Shumagin Islands.	
807. <i>Arctoscopus japonicus</i> (Steindachner).....	2297
Drawing by W. S. Atkinson from No. 5656, L. S. Jr. Univ. Mus., collected by the <i>Albatross</i> at Station 3652.	

PLATE CCCXXXIV.

	Text page.
808. <i>Astroscopus y-græcum</i> (Cuvier and Valenciennes)	2307
Drawing by M. M. Smith from No. 18029, U.S.N.M., collected by J. C. Willets at Matanzas River Inlet, Florida.	
809, 809a. <i>Kathetostoma albigutta</i> Bean	2312
Drawings by M. M. Smith from No. 2403, U.S.N.M., col- lected by the <i>Albatross</i> .	

PLATE CCCXXXV.

810. <i>Opsanus pardus</i> (Goode and Bean)	2316
Drawing by H. L. Todd from the type, No. 22237, U.S.N.M., collected by Silas Stearns at the Pensacola Snapper Banks, Florida.	
811. <i>Porichthys porosissimus</i> (Cuvier and Valenciennes)	2319
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> at Station 2121.	
812. <i>Caularchus mæandricus</i> (Girard)	2328
Drawing by H. L. Todd.	
813. <i>Rimicola muscarum</i> (Meek and Pierson)	2338
Drawing by A. H. Baldwin from the type in L. S. Jr. Univ. Mus., collected by Meek and Pierson in Monterey Bay, California.	

PLATE CCCXXXVI.

814. <i>Enneanectes carminalis</i> (Jordan and Gilbert)	2350
Drawing by Anna L. Brown from No. 3854, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
815. <i>Gibbonsia elegans evides</i> (Jordan and Gilbert)	2352
Drawing by A. H. Baldwin from No. 34784, U.S.N.M., collected by Rosa Smith at San Diego, California.	
816. <i>Neoclinus satiricus</i> Girard	2355
Drawing by W. S. Atkinson from No. 2288, L. S. Jr. Univ. Mus., collected by Dr. Gilbert at Pacific Grove, California.	

PLATE CCCXXXVII.

817. <i>Cryptotrema corallinum</i> Gilbert	2266
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	
818. <i>Exerpes asper</i> (Jenkins and Evermann)	2367
Drawing by A. H. Baldwin from the type, No. 39643, U.S.N.M., collected by Jenkins and Evermann at Guaymas, Mexico.	
819. <i>Auchenopterus nox</i> (Jordan and Gilbert)	2373
Drawing by Anna L. Brown from the type collected by Dr. Jordan at Key West, Florida.	

PLATE CCCXXXVIII.

	Text page.
820. <i>Blennius favosus</i> Goode and Bean	2380
Drawing from the type, No. 2629, U.S.N.M., collected by G. Würdemann at Garden Key, Florida.	
821. <i>Blennius cristatus</i> Linnaeus	2382
822. <i>Hypsoblennius ionthas</i> (Jordan and Gilbert)	2388

PLATE CCCXXXIX.

823. <i>Hypsoblennius hentz</i> (Le Sueur)	2390
Drawing by M. M. Smith from No. 26308, U.S.N.M., collected at Charleston, South Carolina, by C. C. Leslie.	
824. <i>Chasmodes saburræ</i> Jordan and Gilbert	2392
Drawing by H. L. Todd from the type, No. 30824, U.S.N.M., collected by Jordan and Stearns at Pensacola, Florida.	
825. <i>Rupiscartes atlanticus</i> (Cuvier and Valenciennes)	2397
Drawing by A. H. Baldwin from No. 36946, U.S.N.M., collected by C. H. Townsend at San Cristobal, Lower California.	

PLATE CCCXL.

826. <i>Emblemaria atlantica</i> Jordan and Evermann	2402
Drawing by A. H. Baldwin from the type, No. 33915, U.S.N.M., collected by Silas Stearns at the Pensacola Snapper Banks, Florida.	
827. <i>Stathmonotus hemphillii</i> Bean	2407
Drawing by H. L. Todd from the type, No. 37193, U.S.N.M., collected by Henry Hemphill at Key West, Florida.	

PLATE CCCXLI.

828. <i>Bryostema polyactocephalum</i> (Pallas)	2408
Drawing by H. L. Todd from No. 36889, U.S.N.M., collected by J. G. Swan in Puget Sound, Washington.	
829. <i>Bryostema nugar</i> Jordan and Williams	2410
Drawing by Anna L. Brown from the type, No. 3134, L. S. Jr. Univ. Mus., collected by the Young Nat. Soc. of Seattle in Elliot Bay, near Seattle, Washington.	
830. <i>Apodichthys flavidus</i> Girard	2411
Drawing by W. S. Haines from No. 36965, U.S.N.M., collected by J. G. Swan at Port Townsend, Washington.	

PLATE CCCXLII.

831. <i>Pholis dolichogaster</i> (Pallas)	2416
Drawing by H. L. Todd from No. 33834, U.S.N.M., collected by Dr. L. Stejneger at Bering Island.	
832. <i>Pholis gunnellus</i> (Linnaeus)	2419
Drawing by H. L. Todd from No. 23198, U.S.N.M., collected by R. E. Earll at Gloucester, Massachusetts.	

	Text page.
833. <i>Pholis ornatus</i> (Girard)	2419
Drawing by M. M. Smith from No. 27996, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	

PLATE CCCXLIII.

834. <i>Asternopteryx gunnelliiformis</i> Rüppell.....	2420
Drawing by A. H. Baldwin from No. 48453, U.S.N.M., collected by Schuchert and White in Omanak Fjord, Karsak, Nour- sook Peninsula, Greenland.	
835. <i>Anoplarchus atropurpureus</i> (Kittlitz)	2422
Drawing by H. L. Todd from No. 29820, U.S.N.M., collected by L. M. Turner at Atka Island, Alaska.	
836. <i>Xiphistes ulvæ</i> Jordan and Starks.....	2423
Drawing by Anna L. Brown from the type, No. 3132 L. S. Jr. Univ. Mus., collected by E. C. Starks at Waadda Island, Neah Bay, Washington.	

PLATE CCCXLIV.

837. <i>Xiphistes chirus</i> (Jordan and Gilbert).....	2424
Drawing by H. L. Todd from No. 23964, U.S.N.M., collected by W. H. Dall at Amchitka Island, Alaska.	
838. <i>Xiphidion rupestre</i> (Jordan and Gilbert).....	2426
Drawing by H. L. Todd from a specimen collected by Sylvanus Bailey at Sitka, Alaska.	
839. <i>Lumpenus mackayi</i> Gilbert.....	2436
Drawing by A. H. Baldwin from the type collected in the Nushagak River, Alaska, by the <i>Albatross</i> .	
840. <i>Lumpenus lampetræformis</i> (Walbaum)	2438
Drawing by H. L. Todd from No. 13852, U.S.N.M.	

PLATE CCCXLV.

841. <i>Stichæus punctatus</i> (Fabricius)	2439
Drawing by H. L. Todd from No. 21718, U.S.N.M., collected by L. M. Turner at St. Michaels, Alaska.	
842. <i>Ulvaria subbifurcata</i> (Storer)	2440
Drawing by H. L. Todd from a specimen from the Academy of Natural Sciences of Montreal.	
843. <i>Cryptacanthodes maculatus</i> Storer.....	2443
Drawing by H. L. Todd from No. 22309, U.S.N.M., obtained from E. G. Blackford.	

PLATE CCCXLVI.

844. <i>Lyconectes aleutensis</i> Gilbert.....	2444
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3312, north of Unalaska, in 45 fathoms.	
845. <i>Anarhichas latifrons</i> Steenstrup and Hallgrímsson.....	2446
Drawing by H. L. Todd from No. 21373, U.S.N.M., collected by Capt. J. W. Collins in N. lat. 43° 56', W. long. 59° 04'.	

PLATE CCCXLVII.

	Text page.
846. <i>Anarhichas lupus</i> Linnaeus.....	2446
Drawing by H. L. Todd from No. 21846, U.S.N.M., collected by Capt. John Gourville at Georges Bank.	
847. <i>Anarhichas lepturus</i> Bean.....	2447
Drawing from the type, collected by L. M. Turner at St. Michaels, Alaska.	
848. <i>Ptilichthys goodei</i> Bean.....	2452
Drawing by H. L. Todd from the type, No. 26619, U.S.N.M., collected at Iliuliuk (Unalaska), Alaska.	

PLATE CCCXLVIII.

849, 849a, 849b. <i>Scytalina cerdale</i> , Jordan and Gilbert	2454
Drawings by Anna L. Brown from No. 3389, L. S. Jr. Univ. Mus., collected by E. C. Starks at Waadda Island, Neah Bay, Washington.	
850. <i>Zoarces anguillaris</i> (Peck).....	2457
Drawing by H. L. Todd from No. 10438, U.S.N.M., collected by the U. S. Fish Commission at Eastport, Maine.	
851. <i>Embryx crotalinus</i> (Gilbert)	2458
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 2980, off Santa Barbara Islands.	

PLATE CCCXLIX.

852. <i>Aprodon cortezianus</i> Gilbert	2461
Drawing by A. H. Baldwin from the type, No. 46457, U.S.N.M., collected by the <i>Albatross</i> on Cortez Banks, off San Diego, California.	
853. <i>Lycodes zoarchus</i> Goode and Bean.....	2464
Drawing by H. L. Todd from the type, No. 39298, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $44^{\circ} 46' 30''$, W. long. $59^{\circ} 55' 45''$, off Nova Scotia, in 130 fathoms.	
854. <i>Lycodes reticulatus</i> Reinhardt	2465
Drawing by H. L. Todd from a specimen collected by Capt. R. Markusen at S. W. Banquereau, in 300 fathoms.	

PLATE CCCL.

855. <i>Lycodes perspicillum</i> Kröyer.....	2465
Drawing by H. L. Todd from No. 39336, U.S.N.M., collected by the <i>Albatross</i> at Station 2456, in N. lat. $47^{\circ} 29'$, W. long. $52^{\circ} 18'$, in 86 fathoms.	
856. <i>Lycodes frigidus</i> Collett.....	2465
Drawing by H. L. Todd from No. 32995, U.S.N.M., collected by the <i>Albatross</i> at Station 2018, in N. lat. $37^{\circ} 12' 22''$, W. long. $74^{\circ} 20' 01''$, in 788 fathoms.	

	Text page.
857. <i>Lycodalepis polaris</i> (Sabine).....	2468
Drawing by H. L. Todd from No. 27748, U.S.N.M., the type of <i>Lycodes roccineus</i> Bean, collected by Dr. Bean at Big Dio- mede Island, Bering Strait.	
858. <i>Lycodalepis turneri</i> (Bean).....	2469
Drawing by H. L. Todd from the type, No. 21529, U.S.N.M., collected by L. M. Turner at St. Michaels, Alaska.	

PLATE CCCLI.

859. <i>Lycenchelys verrillii</i> (Goode and Bean)	2470
Drawing by H. L. Todd from No. 21015, U.S.N.M., an old male, collected by the U. S. Fish Commission, 27 miles southwest of Chebueto, Nova Scotia.	
860, 860a, 860b, 860c, 860d. <i>Lycenchelys paxillus</i> (Goode and Bean) ..	2471
Drawings by H. L. Todd from the type, No. 22177, U.S.N.M., collected by Capt. J. W. Collins in N. lat. 42° 48', W. long. 63° 07'.	
861. <i>Furcimanus diapterus</i> (Gilbert).....	2472
Drawing by W. S. Atkinson from a specimen in L. S. Jr. Univ. Mus.	

PLATE CCCLII.

862. <i>Lycodon mirabilis</i> (Goode and Bean)	2474
Drawing by S. F. Denton from No. 39207, U.S.N.M., collected by the <i>Albatross</i> at Station 2742, in N. lat. 37° 46' 30'', W. long. 73° 56' 30''.	
863. <i>Lycionema barbatum</i> Gilbert.....	2474
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3129, in 204 fathoms.	
864, 864a, 864b, 864c. <i>Gymnelis viridis</i> (Fabricius).....	2479
Drawing by H. L. Todd from No. 21999a, U.S.N.M., col- lected at Niantilik Harbor, Cumberland Gulf, by W. A. Mintzer.	
865. <i>Melanostigma pammelas</i> Gilbert.....	2479
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3202, on coast of California.	

PLATE CCCLIII.

866. <i>Lepophidium marmoratum</i> (Goode and Bean)	2482
Drawing by M. M. Hildebrandt from the type, No. 37237, U.S.N.M., collected by the <i>Albatross</i> in N. lat. 23° 10' 39'', W. long. 82° 20' 21'', in 213 fathoms.	
867. <i>Lepophidium profundorum</i> (Gill)	2484
Drawing by A. H. Baldwin from a specimen collected by the <i>Albatross</i> at Station 2042.	
868. <i>Rissola marginata</i> (De Kay)	2489

PLATE CCCLIV.

	Text page.
869. <i>Otophidium omostigmum</i> (Jordan and Gilbert).....	2490
Drawing by H. L. Todd from the type, No. 29670, U.S.N.M., collected by Jordan and Stearns at the Pensacola Snapper Banks.	
870. <i>Lycodapus dermatinus</i> Gilbert	2492
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> at Station 3162, off Lower California.	
871. <i>Brotula barbata</i> (Bloch and Schneider)	2500
Drawing by A. H. Baldwin from No. 5337, U.S.N.M., collected by Professor Poey in Cuba.	

PLATE CCCLV.

872. <i>Ogilbia ventralis</i> (Gill).....	2503
Drawing by Anna L. Brown from No. 2903, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazatlan, Mexico.	
873. <i>Ogilbia cayorum</i> Evermann and Kendall.....	2503
Drawing by A. H. Baldwin from the type, No. 48792, U.S.N.M., collected by Evermann and Kendall at Key West, Florida.	
874. <i>Dicromita agassizii</i> Goode and Bean.....	2506
Drawing by H. L. Todd from the type, collected by the <i>Blake</i> off Grenada.	

PLATE CCCLVI.

875. <i>Bassozetus normalis</i> Gill.....	2507
Drawing by H. L. Todd from No. 39416, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $28^{\circ} 02' 30''$, W. long. $87^{\circ} 43' 45''$.	
876. <i>Bassozetus catena</i> Goode and Bean.....	2509
Drawn by A. H. Baldwin from the type, No. 37341, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $28^{\circ} 00' 15''$, W. long. $87^{\circ} 42'$, in 1,467 fathoms.	
876a. <i>Bassozetus catena</i> Goode and Bean	2509
Drawn by H. L. Todd from same specimen.	

PLATE CCCLVII.

877. <i>Neobythites gillii</i> Goode and Bean.....	2512
Drawing by A. H. Baldwin from the type, No. 37340, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $28^{\circ} 33'$, W. long. $85^{\circ} 33'$, in 111 fathoms.	
878. <i>Neobythites marginatus</i> Goode and Bean.....	2513
Drawing by H. L. Todd from the type collected by the <i>Blake</i> off Barbados, in 209 fathoms.	
879. <i>Bassogigas gillii</i> Goode and Bean	2515
Drawing by A. H. Baldwin from the type, No. 39417, U.S.N.M., collected by the <i>Albatross</i> off Cape Henlopen, Delaware, in N. lat. $39^{\circ} 35'$, W. long. $70^{\circ} 51'$, in 1,106 fathoms.	
880. <i>Barathrodemus manatinus</i> Goode and Bean	2517
Drawing by H. L. Todd from the type in M. C. Z., collected by the <i>Blake</i> in N. lat. $33^{\circ} 35' 20''$, W. long. 76° , in 617 fathoms.	

PLATE CCCLVIII.

	Text page.
881. <i>Porogadus miles</i> Goode and Bean	2520
Drawing by A. H. Baldwin from the type, No. 35625, U.S.N.M., collected by the <i>Albatross</i> at Station 2230, in N. lat. 38° 27', W. long. 73° 02', in 1,168 fathoms.	
882. <i>Dicrolene intronigra</i> Goode and Bean	2522
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> in the Gulf Stream.	
883. <i>Barathronus bicolor</i> Goode and Bean	2524
Drawing by M. M. Smith from the type collected by the <i>Blake</i> at Station LXXI, off Guadeloupe, in 769 fathoms.	

PLATE CCCLIX.

884. <i>Merluccius productus</i> (Ayres)	2531
Drawing by H. L. Todd from No. 26638, U.S.N.M., collected by W. F. Prosser at Seattle, Washington.	
885. <i>Borogadus saida</i> (Lepechin)	2533
Drawing by H. L. Todd from No. 24031, U.S.N.M., collected by L. M. Turner at St. Michaels, Alaska.	
886. <i>Pollachius virens</i> (Linnaeus)	2534
Drawing by H. L. Todd from No. 10443, U.S.N.M., collected by Professor Baird at Eastport, Maine.	

PLATE CCCLX.

887. <i>Theragra chalcogramma</i> (Pallas)	2535
Drawing by H. L. Todd from No. 27637, U.S.N.M., collected by W. H. Dall in Pirate Cove, Shumagin Island, Alaska.	
888. <i>Eleginus navaga</i> (Kölreuter)	2537
Drawing by H. L. Todd from No. 9286, U.S.N.M., collected by H. Bannister at St. Michaels, Alaska.	
889. <i>Microgadus proximus</i> (Girard)	2539
Drawing by H. L. Todd from No. 27982, U.S.N.M., collected at Yakutat Bay, Alaska, by Dr. T. H. Bean.	
890. <i>Microgadus tomcod</i> (Walbaum)	2540
Drawing by H. L. Todd from No. 17733, U.S.N.M., collected by V. N. Edwards at Woods Hole, Massachusetts.	

PLATE CCCLXI.

891. <i>Gadus callarias</i> Linnaeus	2541
Drawing by H. L. Todd from No. 10444, U.S.N.M., collected by Professor Baird at Eastport, Maine.	
892. <i>Melanogrammus æglefinus</i> Linnaeus	2542
Drawing by H. L. Todd from No. 10440, U.S.N.M., collected by Professor Baird at Eastport, Maine.	
892a. <i>Melanogrammus æglefinus</i> Linnaeus	2542
Drawing of skull by H. L. Todd.	

PLATE CCCLXII.

	Text page.
893, 893a. <i>Antimora viola</i> (Goode and Bean)	2544
Drawings by H. L. Todd from the type, No. 21837, U.S.N.M., collected by Capt. J. W. Collins on Le Have Bank, in 400 to 500 fathoms.	
894. <i>Uraleptus malardi</i> (Risso)	2545
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> at Station LXXXI. off Neris.	

PLATE CCCLXIII.

895. <i>Lotella maxillaris</i> Bean	2546
Drawing by H. L. Todd from the type, No. 29832, U.S.N.M., collected by the <i>Fish Hawk</i> in N. lat. 39° 55', W. long. 70° 28', in 396 fathoms.	
896. <i>Physiculus fulvus</i> Bean	2547
Drawing by H. L. Todd from the type, No. 28466, U.S.N.M., collected by the <i>Fish Hawk</i> in N. lat. 40° 01', W. long. 69° 56', in 79 fathoms.	

PLATE CCCLXIV.

897. <i>Lota maculosa</i> (Le Sueur)	2550
Drawing by H. L. Todd.	
898. <i>Urophycis regius</i> (Walbaum)	2553
Drawing by H. L. Todd from No. 20923, U.S.N.M., obtained by E. G. Blackford from the New York Aquarium.	
899. <i>Urophycis cirratus</i> (Goode and Bean)	2553
Drawing by H. L. Todd from the type, No. 39059, U.S.N.M., collected by the <i>Albatross</i> at Station 2376, in N. lat. 29° 03' 15", W. long. 88° 16'.	

PLATE CCCLXV.

900. <i>Urophycis earlli</i> (Bean)	2554
Drawing by H. L. Todd from the type, No. 25207, U.S.N.M., collected by R. E. Earll at Charleston, South Carolina.	
901. <i>Urophycis tenuis</i> (Mitchill)	2555
Drawing by H. L. Todd from No. 21029, U.S.N.M., collected by the <i>Speedwell</i> in Halifax Harbor.	
902. <i>Urophycis chuss</i> (Walbaum)	2555
Drawing by H. L. Todd from No. 28707, U.S.N.M., collected by the <i>Fish Hawk</i> at Station 918, in N. lat. 40° 20' 21", W. long. 70° 41' 30", in 245 fathoms.	

PLATE CCCLXVI.

903. <i>Urophycis chesteri</i> Goode and Bean	2556
Drawing by H. L. Todd from No. 21840, U.S.N.M., collected by the <i>Speedwell</i> at Station 174, off Cape Ann, in 140 fathoms.	

	Text page.
904. <i>Lemonema barbatulum</i> Goode and Bean.....	2556
Drawing by W. S. Haines from No. 38331, U.S.N.M., collected by the <i>Albatross</i> at Station 2397 in N. lat. $28^{\circ} 42'$, W. long. $86^{\circ} 36'$, in 280 fathoms.	
905. <i>Lemonema melanurum</i> Goode and Bean	2557
Drawing by W. S. Haines from the type, No. 38270, U.S.N.M., collected by the <i>Albatross</i> at Station 2415 in N. lat. $30^{\circ} 44'$, W. long. $79^{\circ} 26'$, in 440 fathoms.	

PLATE CCCLXVII.

906. <i>Gairdropsarus argentatus</i> (Rheinhardt).....	2559
Drawing by H. L. Todd from No. 7212, U.S.N.M., collected at Nahant, Massachusetts, by F. W. Putnam.	
907. <i>Euchelyopus cimbricus</i> (Linnaeus)	2560
Drawing by H. L. Todd from No. 21721, U.S.N.M., collected by Edward Brown in Bay Chaleur.	
908. <i>Bathygadus favosus</i> Goode and Bean	2565
Drawing by H. L. Todd from the type collected by the <i>Blake</i> off Martinique, in 472 fathoms.	

PLATE CCCLXVIII.

909. <i>Steindachneria argentea</i> Goode and Bean	2568
Drawing by H. L. Todd from the type, No. 37350, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $39^{\circ} 14' 30''$, W. long. $88^{\circ} 9' 30''$, in 68 fathoms.	
910. <i>Chalinura simula</i> Goode and Bean.....	2578
Drawing by H. L. Todd from No. 39152, U.S.N.M., collected by the <i>Albatross</i> at Station 2095 in N. lat. $39^{\circ} 29'$, W. long. $70^{\circ} 58' 40''$, in 1,342 fathoms.	
911. <i>Coryphænoides carapinus</i> Goode and Bean.....	2579
Drawing by H. L. Todd from a specimen collected by the <i>Blake</i> in N. lat. $39^{\circ} 43'$, W. long. $70^{\circ} 55' 25''$.	

PLATE CCCLXIX.

912. <i>Hymenocephalus cavernosus</i> (Goode and Bean)	2580
Drawing by S. F. Denton from the type, No. 37337, U.S.N.M., collected by the <i>Albatross</i> at Station 2398 in N. lat. $28^{\circ} 45'$ W. long. $86^{\circ} 26'$, in 227 fathoms.	
913. <i>Ccelorhynchus occa</i> (Goode and Bean)	2588
Drawing by H. L. Todd from the type No. 37334, U.S.N.M., collected by the <i>Albatross</i> at Station 2396 in N. lat. $28^{\circ} 34'$, W. long. $86^{\circ} 48'$, in 335 fathoms.	
914. <i>Ccelorhynchus carminatus</i> (Goode)	2588
Drawing by H. L. Todd from No. 26187, U.S.N.M., collected by the <i>Fish Hawk</i> at Station 893, off Marthas Vineyard, in 372 fathoms.	

PLATE CCCLXX.

	Text page.
915. <i>Cœlorhynchus caribbæus</i> (Goode and Bean).....	2589
Drawing by H. L. Todd from the type, No. 37333, U.S.N.M., collected by the <i>Albatross</i> at Station 2377, in the northern part of the Gulf of Mexico, in N. lat. 29° 7' 30", W. long. 88° 8', in 210 fathoms.	
916. <i>Regalecus glesne</i> (Ascanius).....	2596
Drawing from Day, Fishes of Great Britain and Ireland, pl. 64.	

PLATE CCCLXXI.

917. <i>Atheresthes stomias</i> (Jordan and Gilbert).....	2609
Drawing by A. H. Baldwin from No. 27186, U.S.N.M., col- lected by Dr. Jordan at Point Reyes, California.	
918. <i>Hippoglossus hippoglossus</i> (Linnaeus).....	2611
Drawing by H. L. Todd from No. 27605, U.S.N.M., collected at Marmot Island, Alaska, by Dr. Bean.	

PLATE CCCLXXII.

919. <i>Hippoglossoides platessoides</i> (Fabricius).....	2614
Drawing by H. L. Todd from No. 21002, U.S.N.M., collected at Le Have Bank.	
920. <i>Hippoglossoides elassodon</i> Jordan and Gilbert.....	2615

PLATE CCCLXXIII.

921. <i>Psettichthys melanostictus</i> Girard.....	2618
Drawing by H. L. Todd from No. 24167, U.S.N.M., collected at San Francisco, California, by Dr. Jordan.	
922. <i>Paralichthys dentatus</i> (Linnaeus).....	2629
Drawing by A. H. Baldwin from a specimen collected by Dr. H. M. Smith at St. George Island, Maryland.	

PLATE CCCLXXIV.

923. <i>Paralichthys squamilentus</i> Jordan and Gilbert.....	2631
Drawing by H. L. Todd from No. 30862, U.S.N.M., collected at Pensacola, Florida, by Jordan and Stearns.	
924. <i>Paralichthys oblongus</i> (Mitchill).....	2632
Drawing by H. L. Todd.	

PLATE CCCLXXV.

925. <i>Ancylopsetta quadrocellata</i> Gill.....	2634
926. <i>Pleuronichthys decurrens</i> Jordan and Gilbert.....	2637
Drawing by A. H. Baldwin from No. 27115, U.S.N.M., col- lected by Dr. Jordan at San Francisco, California.	

PLATE CCCLXXVI.

	Text page.
927. <i>Inopsetta ischyra</i> (Jordan and Gilbert).....	2641
Drawing by H. L. Todd from No. 32913, U.S.N.M., collected at Unalaska by E. W. Nelson.	
928. <i>Lepidopsetta bilineata</i> (Ayres).....	2643
Drawing from No. 27602, U.S.N.M., collected by Dr. Bean at St. Paul, Kadiak Island, Alaska.	

PLATE CCCLXXVII.

929. <i>Limanda ferruginea</i> (Storer).....	2644
Drawing by H. L. Todd from No. 21903, U.S.N.M., collected at Gloucester, Massachusetts, by the U. S. Fish Commission.	
930. <i>Limanda aspera</i> (Pallas).....	2645
Drawing from No. 27944, U.S.N.M., collected by Dr. Bean at Sitka, Alaska.	

PLATE CCCLXXVIII.

931. <i>Limanda proboscidea</i> Gilbert.....	2645
Drawing by A. H. Baldwin from the type, collected by the <i>Albatross</i> in Bristol Bay, Alaska.	
932. <i>Limanda beanii</i> Goode.....	2646
Drawing by H. L. Todd from the type, No. 26102, U.S.N.M., collected by the <i>Fish Hawk</i> at Station 875, off the south coast of New England.	

PLATE CCCLXXIX.

933. <i>Pseudopleuronectes americanus</i> (Walbaum).....	2647
Drawing by H. L. Todd from a specimen in the U.S.N.M.	
934. <i>Pleuronectes quadrituberculatus</i> Pallas.....	2648
Drawing by H. L. Todd from No. 28025, U.S.N.M., collected at St. Paul, Kadiak, by W. J. Fischer.	

PLATE CCCLXXX.

935. <i>Liopsetta glacialis</i> (Pallas).....	2649
Drawing by H. L. Todd from No. 27947, U.S.N.M., collected in Kotzebue Sound by Dall and Bean.	
936. <i>Liopsetta putnami</i> (Gill).....	2650
Drawing by H. L. Todd from No. 5368, U.S.N.M., collected at Salem, Massachusetts, by F. W. Putnam.	

PLATE CCCLXXXI.

937, 937a. <i>Platichthys stellatus</i> (Pallas).....	2652
Drawing by H. L. Todd from No. 27640, U.S.N.M., collected by Dr. Bean in Alaska.	

PLATE CCCLXXXII.

	Text page.
938. <i>Lophopsetta maculata</i> (Mitchill).....	2660
Drawing by H. L. Todd.	
939. <i>Platophrys ocellatus</i> (Agassiz).....	2663
Drawing by H. L. Todd from No. 34972, U.S.N.M., type of <i>P. nebularis</i> Jordan and Gilbert, collected by Dr. Jordan at Key West, Florida.	

PLATE CCCLXXXIII.

940. <i>Trichopsetta ventralis</i> (Goode and Bean).....	2669
Drawing by H. L. Todd from No. 37372, U.S.N.M., collected by the <i>Albatross</i> at Station 2378, in N. lat. 29° 14' 30", W. long. 88° 09' 30", in 68 fathoms.	
941. <i>Syacium papillosum</i> (Linnaeus).....	2671
Drawing by H. L. Todd from the type of <i>Hemirhombus patulus</i> Bean, No. 30180, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	

PLATE CCCLXXXIV.

942. <i>Azevia panamensis</i> (Steindachner).....	2677
Drawing by A. H. Baldwin from No. 15, Mus. Comp. Zool.	
943. <i>Citharichthys sordidus</i> (Girard).....	2679
Drawing by H. L. Todd from No. 31991, U.S.N.M., collected by Capt. H. E. Nichols in Johnstons Straits, British Columbia.	

PLATE CCCLXXXV.

944. <i>Citharichthys macrops</i> Dresel.....	2681
Drawing by H. L. Todd from the type, No. 21500, U.S.N.M., collected by Silas Stearns at Pensacola, Florida.	
945. <i>Etropus rimosus</i> Goode and Bean.....	2688
Drawing by H. L. Todd from the type, collected by the <i>Albatross</i> at Station 2408, in N. lat. 28° 28', W. long. 84° 25', in 21 fathoms.	

PLATE CCCLXXXVI.

946. <i>Etropus crossotus</i> Jordan and Gilbert.....	2689
Drawing by H. L. Todd from No. 26571, U.S.N.M., collected by Silas Stearns at Cedar Keys, Florida.	
947. <i>Achirus lineatus</i> (Linnaeus).....	2697
Drawing by H. L. Todd.	

PLATE CCCLXXXVII.

948. <i>Achirus fasciatus</i> Lacépède.....	2700
Drawing by H. L. Todd.	
949. <i>Symphurus marginatus</i> (Goode and Bean).....	2706
Drawing by H. L. Todd from a specimen collected by the <i>Albatross</i> at Station 2376, in N. lat 29° 03' 15", W. long. 88° 16', in 324 fathoms.	

PLATE CCCLXXXVIII.

	Text page.
950. Symphurus plagiusa (Linnaeus).....	2710
Drawing by H. L. Todd from No. 15017, U.S.N.M., collected by Dr. H. C. Yarrow at Beaufort, North Carolina.	
951. Symphurus williamsi Jordan and Culver.....	2711
Drawing by Anna L. Brown from the type, No. 2943, L. S. Jr. Univ. Mus., collected by the Hopkins Expedition at Mazat- lan, Mexico.	
952. Iophius piscatorius Linnaeus	2713
Drawing by H. L. Todd from a specimen in the U.S.N.M.	

PLATE CCCLXXXIX.

953. Chaunax pictus Lowe.....	2726
Drawing by H. L. Todd from No. 26021, U.S.N.M., collected by the <i>Albatross</i> at Station 869.	
954. Ceratias holbolli Kröyer	2729
Drawing by A. H. Baldwin from Gaimard, Voy. Skand., Poissons, pl. IX.	

PLATE CCCXC.

955. Mancalias shufeldti (Gill)	2730
Drawing by H. L. Todd from the type, No. 33552, U.S.N.M., collected by the <i>Albatross</i> at Station 2099, in N. lat. $37^{\circ} 12'$ 20'', W. long. $69^{\circ} 39'$, in 2,949 fathoms.	
956. Cryptopsaras couesii Gill.....	2731
Drawing by H. L. Todd from No. 33558, U.S.N.M., collected by the <i>Albatross</i> at Station 2101, in N. lat. $38^{\circ} 13' 30''$, W. long. $68^{\circ} 24'$, in 1,686 fathoms.	

PLATE CCCXCI.

957. Caulophryne jordani Goode and Bean	2735
Drawing by S. F. Denton from the type, No. 39265, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $39^{\circ} 27'$, W. long. 71° $15'$, in 1,276 fathoms.	

PLATE CCCXCII.

958, 958a, 958b. Ogcocephalus vespertilio (Linnaeus)	2737
Drawing by H. L. Todd from No. 2316, U.S.N.M., collected by the <i>Albatross</i> in N. lat. $24^{\circ} 25' 30''$, W. long. $81^{\circ} 47' 45''$.

1

2

3

4

1. BRANCHIOSTOMA CARIBAEUM. (P. 3.)
2. TAIL OF POLYPTERUS BICHR.
3. PETROMYZON MARINUS. (P. 10.)
4. ENTOSPHEUS TRIDENTATUS. (P. 12.)

5

6

7

8

5. *LAMPETRA AUREA*. (P. 13.)
6. *LAMPETRA SPADICEA*. (P. 13.)
7. *NOTORHYNCHUS MACULATUS*. (P. 17.)
8. *HEXANCHUS GRISEUS*. (P. 19.)

9

10

11

12

9. *GYROPLEURODUS FRANCISCI*. (P. 20.)
 10. *HETEROCERCAL TAIL OF HETERODONTUS PHILIPPI*.
 11. *SCYLLIORHINUS PROFUNDUM*. (P. 22.)
 12. *CATULUS UTER*. (P. 25.)

13

14

15

16

13. *GINGLYMOSTOMA CIRRATUM*. (P. 26.)
 14. *PSEUDOTRIAKIS MICRODON*. (P. 27.)
 15. *GALEORHINUS ZYOPTERUS*. (P. 32.)
 16. *PRIONACE GLAUCA*. (P. 33.)

16a

17

18

19

- 16a. PRIONACE GLAUCA. (P. 33.)
 17. CARCHARHINUS LAMIA. (P. 38.)
 18. HYPOPRION BREVIROSTRIS. (P. 41.)
 19. SPHYRNA TIBURO. (P. 44.)

20

21

22

20. *ALOPIAS VULPES*. (P. 45.)
21. *ISURUS DEKAYI*. (P. 48.)
22. *LAMNA CORNUBICA*. (P. 49.)

23

24

24a

23. CETORHINUS MAXIMUS. (P. 51.)
24, 24a. SQUALUS ACANTHIAS. (P. 54.)

25

26

27

28

25. *CENTROSCYMNUS CŒLOLEPIS*. (P. 55.)
 26. *CENTROSCYLLIUM FABRICII*. (P. 56.)
 27. *PRISTIS PECTINATUS*. (P. 60.)
 28. *RHINOBATUS LENTIGINOSUS*. (P. 62.)

28a

28b

29

28a, 28b. RHINOBATUS LENTIGINOSUS. (P. 62.)
29. RAJA ERINACEA. (P. 68.)

30

31

30. *RAJA OCELLATA*. (P. 68.)
31. *RAJA ACKLEYI*. (P. 70.)

32

33

32. *RAJA STELLULATA*. (P. 75.)

33. *TETRONARCE OCCIDENTALIS*. (P. 77.)

34

34a

34, 34a. *TETRONARCE CALIFORNICA*. (P. 77.)

35

35a

35, 35a. *NARCINE BRASILIENSIS*. (P. 78.)

36

36a

36, 36a. *DASYATIS SABINA*. (P. 84.)

37

37. AETOBATUS NARINARI. (P. 88.)

37a

37a. AETOBATUS NARINARI. (P. 88.)

38. RHINOPTERA STEINDACHNERI. (P. 91.)
38a, PAVED TEETH OF RHINOPTERA STEINDACHNERI. (P. 91.)

39. *MANTA BIROSTRIS*. (P. 92.)

40

41

42

40. CHIMERA AFFINIS. (P. 95.)
41. HYDROLAGUS COLLIEI. (P. 95.)
42. HARRIOTTA RALEIGHANA. (P. 96.)

43

43a

44

45

43, 43a. *POLYODON SPATHULA*. (P. 101.)

44. HETEROCERCAL TAIL OF *ACIPENSER TRANSMONTANUS*. (P. 104.)

45. *ACIPENSER STURIO OXYRHYNCHUS*. (P. 105.)

46

47

48

46. ACIPENSER RUBICUNDUS. (P. 106.)
 47. ACIPENSER BREVIROSTRUM. (P. 106.)
 48. SCAPHIRHYNCHUS PLATORYNCHUS. (P. 107.)

49

50

51

51a

49. *LEPISOSTEUS PLATOSTOMUS*. (P. 110.)

50. *LEPISOSTEUS TRISTECHUS*. (P. 111.)

51. *AMIA CALVA*; female. (P. 113.)

51a. HETEROCERCAL TAIL OF *AMIA CALVA*. (P. 113.)

52

53

52. *FELICHTHYS MARINUS*. (P. 118.)
53. *GALEICHTHYS FELIS*. (P. 128.)

54. *GALEICHTHYS GILBERTI*. (P. 2773.)
55. *GALEICHTHYS AZUREUS*. (P. 2775.)

56

57

58

56. ICTALURUS FURCATUS. (P. 134.)
57. ICTALURUS ANGUILLA. (P. 2788.)
58. ICTALURUS PUNCTATUS. (P. 134.)

59

59a

59b

60

59, 59a, 59b. AMEIURUS DUGESI. (P. 138.)
60. AMEIURUS MELAS. (P. 141.)

61

62

63

64

61. AMEIURUS PLATYCEPHALUS. (P. 142.)
 62. LEPTOPS OLIVARIS. (P. 143.)
 63. NOTURUS FLAVUS. (P. 144.)
 64. SCHILBEODES NOCTURNUS. (P. 146.)

65

66

67

67a

67b

65. SCHILBEODES EXILIS. (P. 147.)

66. SCHILBEODES INSIGNIS. (P. 147.)

67, 67a, 67b. SCHILBEODES GILBERTI. (P. 148.)

68

69

69a

69b

68. *SCHILBEODES MIURUS*. (P. 148.)
69, 69a, 69b. *SCHILBEODES FURIOSUS*. (P. 149.)

70

71

72

70. *ICTIOBUS CYPRINELLA*. (P. 163.)
71. *CARPIODES CYPRINUS*. (P. 168.)
72. *CYCLEPTUS ELONGATUS*. (P. 168.)

73

74

75

73. *PANTOSTEUS JORDANI*. (P. 171.)
74. *CATOSTOMUS LATIPINNIS*. (P. 174.)
75. *CATOSTOMUS GRISEUS*. (P. 175.)

76

77

78

76. CATOSTOMUS POCATELLO. (P. 175.)
77. CATOSTOMUS CATOSTOMUS. (P. 176.)
78. CATOSTOMUS TAHOENSIS. (P. 177.)

79

80

81

82

79. *CATOSTOMUS OCCIDENTALIS*. (P. 178.)
 80. *CATOSTOMUS TSILCOOSENSIS*. (P. 2793.)
 81. PHARYNGEAL TEETH OF *CATOSTOMUS MACROCHEILUS*. (P. 178.)
 82. PHARYNGEAL TEETH OF *PLACOPHARYNX DUQUESNII*. (P. 198.)

83

84

85

83. CATOSTOMUS COMMERSONII. (P. 178.)

84. CATOSTOMUS ARDENS. (P. 179.)

85. CHASMISTES LIORUS. (P. 183.)

86

87

88

86. CHASMISTES STOMIAS. (P. 2794.)
87. CHASMISTES COPEI. (P. 2795.)
88. XYRAUCHEN CYPHO. (P. 184.)

89. *ERIMYZON SUCETTA*. (P. 185.)
90. *MINYTREMA MELANOPS*. (P. 187.)
91. *MOXOSTOMA CONGESTUM*. (P. 192.)

92

93

92. *MOXOSTOMA AUSTRINUM*. (P. 192.)

93. *MOXOSTOMA RUPISCARTES*. (P. 196.)

94

94a

94, 94a. LAGOCHILA LACERA. (P. 199.)

95

96

97

95. CAMPOSTOMA ANOMALUM. (P. 205.)

96. ORTHODON MICROLEPIDOTUS. (P. 207.)

97. ACROCHEILUS ALUTACEUS. (P. 208.)

98

99

100

98. *ALGANSEA DUGESI*. (P. 211.)
 99. *MYLOCHEILUS CAURINUS*. (P. 219.)
 100. *SEMOTILUS ATROMACULATUS*. (P. 222.)

101

102

103

101. *PTYCHOCHEILUS OREGONENSIS*. (P. 224.)
 102. *LEUCISCUS BICOLOR*. (P. 232.)
 103. *LEUCISCUS LINEATUS*. (P. 232.)

104

105

105a

104. LEUCISCUS HYDROPHLOX. (P. 238.)

105. LEUCISCUS BALTEATUS. (P. 238.)

105a. LEUCISCUS BALTEATUS, FROM TYPE OF LEUCISCUS GILLII. (P. 238.)

106

107

106. *LEUCISCUS SIUSLAWI*. (P. 2797.)
107. *RUTILUS BICOLOR*. (P. 244.)

108

109

110

108. OPSOPEODUS OSCULUS. (P. 248.)

109. OPSOPEODUS EMILLE. (P. 248.)

110. OPSOPEODUS BOLLMANI. (P. 249.)

111

112

113

111. *ABRAMIS CRYSOLEUCAS*. (P. 250.)

112. *NOTROPIS AZTECUS*. (P. 258.)

113. *NOTROPIS WELAKA*. (P. 2799.)

114

115

116

114. NOTROPIS CAYUGA ATROCAUDALIS. (P. 260.)

115. NOTROPIS KANAWHA. (P. 264.)

116. NOTROPIS CHIHUAHUA. (P. 265.)

117

118

119

117. NOTROPIS NUX. (P. 267.)
118. NOTROPIS NOCOMIS. (P. 268.)
119. NOTROPIS HUDSONIUS. (P. 269.)

120

121

122

120. NOTROPIS HUDSONIUS SALUDANUS. (P. 270.)
 121. NOTROPIS WHIPPLII. (P. 278.)
 122. NOTROPIS GALACTURUS. (P. 279.)

123

124

125

123. NOTROPIS MACDONALDI. (P. 284.)
124. NOTROPIS COOCOGENIS. (P. 284.)
125. NOTROPIS SWAINI. (P. 290.)

126

127

128

126. NOTROPIS TELESCOPUS. (P. 292.)
127. NOTROPIS NOTEMIGONOIDES. (P. 292.)
128. NOTROPIS METALLICUS. (P. 297.)

129

130

131

129. ERICYMBA BUCCATA. (P. 302.)
130. PHENACOBIOUS URANOPS. (P. 304.)
131. EVARRA EIGENMANNI. (P. 304.)

132

133

134

132. RHINICHTHYS DULCIS. (P. 306.)
 133. AGOSIA KLAMATHENSIS. (P. —.)
 134. AGOSIA UMATILLA. (P. 313.)

135

136

137

135. *AGOSIA FALCATA*. (P. 313.)
 136. *HYBOPSIS ÆSTIVALIS MARCONIS*. (P. 316.)
 137. *HYBOPSIS WATAUGA*. (P. 319.)

138

139

140

138. *HYBOPSIS* *ALTUS*. (P. 321.)
 139. *PLATYGOBIO* *GRACILIS*. (P. 326.)
 140. *EXOGLOSSUM* *MAXILLINGUA*. (P. 327.)

141

142

143

141. *BRYCON DENTEX*. (P. 337.)
 142. *DERICHTHYS SERPENTINUS*. (P. 343.)
 143. *ANGUILLA CHRYSYPA*. (P. 348.)

144

145

146

144. SIMENCHELYS PARASITICUS. (P. 349.)

145. ILYOPHIS BRUNNEUS. (P. 350.)

146. SYNAPHOBRANCHUS PINNATUS. (P. 351.)

147

148

149

147. HISTIOBRANCHUS INFERNALIS. (P. 352.)
148. LEPTOCEPHALUS CONGER. (P. 354.)
149. LEPTOCEPHALUS CAUDILIMBATUS. (P. 355.)

150

151

152

153

150. CONGRELLUS FLAVUS. (P. 357.)
 151. HOPLUNNIS SCHMIDTII. (P. 361.)
 152. VENEFICA PROCERA. (P. 365.)
 153. SERRIVOMER BEANII. (P. 367.)

154

154a

154b

155

156

154. AVOCETTINA GILLI. (Pp. 367, 2801.)
154a, 144b. AVOCETTINA GILLI. (P. 2801.)
155. LABICHTHYS CARINATUS. (P. 368.)
156. LABICHTHYS ELONGATUS. (P. 369.)

157

157a

157b

158

159a

159

157, 157a, 157b. *NEMICHTHYS AVOCETTA*. (P. 369.)

158. *AHLIA EGMONTIS*. (P. 370.)

159, 159a. *VERMA KENDALLI*. (P. 375.)

160

161

160. LETHARCHUS VELIFER. (P. 375.)
161. MYRICHTHYS TIGRINUS. (P. 376.)

162

163

162. MYRICHTHYS PANTOSTIGMIUS. (P. 2802.)
163. PISOODONOPHIS CRUENTIFER. (P. 377.)

164

165

166a

166

164. *CALECHELYS MURENA*. (P. 378.)
165. *BASCANICHTHYS SCUTICARIS*. (P. 378.)
166, 166a. *BASCANICHTHYS PENINSULÆ*. (P. 379.)

167

168

169

167. *CASSIREMUM EVIONTHAS*. (P. 380.)
 168. *OPHICHTHUS GUTTIFER*. (P. 383.)
 169. *OPHICHTHUS OCELLATUS*. (P. 383.)

170

171

172

170. MYSTRIOPHIS INTERTINCTUS. (P. 386.)
171. LYCODONTIS MORINGA. (P. 395.)
172. MURÆNA INSULARUM. (P. 400.)

173

174

175

173. MURENA RETIFERA. (P. 401.)
174. CHANNOMURENA VITTATA. (P. 404.)
175. SACCOPHARYNX AMPULLACEUS. (P. 406.)

176

177

178

176. *GASTROSTOMUS BAIRDII*. (P. 406.)
177. *TARPON ATLANTICUS*. (P. 409.)
178. *ELOPS SAURUS*. (P. 410.)

179

180

181

179. *ALBULA VULPES*. (P. 411.)
180. *HIODON TERGISUS*. (P. 413.)
181. *HIODON SELENOPS*. (P. 414.)

182

183

184

- * 182. CHANOS CHANOS. (P. 414.)
183. DOROSOMA CEPEDIANUM. (P. 416.)
184. SIGNALOSA ATCHAFALAYE. (P. 2809.)

185

186

187

185. *CLUPEA HARENGUS*. (P. 421.)

186. *CLUPEA PALLASII*. (P. 422.)

187. *POMOLOBUS CHRYSOCHLORIS*. (P. 425.)

188

189

190

188. *POMOLOBUS MEDIOCRIS*. (P. 425.)
 189. *POMOLOBUS PSEUDOHARENGUS*. (P. 426.)
 190. *POMOLOBUS FESTIVALIS*. (P. 426.)

191

192

192a

191. *ALOSA SAPIDISSIMA*. (P. 427.)
 192. *ALOSA ALABAMÆ*; male. (P. 2810.)
 192a. *ALOSA ALABAMÆ*; female. (P. 2810.)

193

194

195

193. *SARDINELLA SARDINA*. (P. 430.)
194. *SARDINELLA STOLIFERA*. (P. 431.)
195. *BREVOORTIA TYRANNUS*. (P. 433.)

196

197

198

196. *STOLEPHORUS PERTHECATUS*. (P. 442.)
197. *ALEPOCEPHALUS AGASSIZII*. (P. 453.)
198. *TALISMANIA ANTILLARUM*. (P. 455.)

199

200

200a

199. ALEPOSOMUS COPEL. (P. 459.)
 200. COREGONUS WILLIAMSONI. (P. 463.)
 200a. COREGONUS WILLIAMSONI; young. (P. 463.)

201

202

203

201. COREGONUS COULTERII. (P. 462.)
202. COREGONUS CLUPEIFORMIS. (P. 465.)
203. ARGYROSOMUS NIGRIPINNIS. (P. 472.)

204

205

206

204. STENODUS MACKENZII. (P. 474.)
205. ONCORHYNCHUS GORBUSCHA. (P. 478.)
206. ONCORHYNCHUS TSCHAWYTSCHA. (P. 479.)

207

207a

207b

207. *ONCORHYNCHUS NERKA*; adult male, large form. (P. 481.)

207a. *ONCORHYNCHUS NERKA*; adult female, small form. (P. 481.)

207b. *ONCORHYNCHUS NERKA*; adult mutilated male, small form. (P. 481.)

208. *SALMO CLARKII HENSHAWI*. (Pp. 493, 2819.)
 209. *SALMO CLARKII VIRGINALIS*. (Pp. 495, 2819.)
 210. *SALMO CLARKII SPILURUS*. (Pp. 495, 2819.)

211

212

213

211. SALMO CLARKII PLEURITICUS. (Pp. 496, 2819.)
212. SALMO CLARKII BOUVIERI. (Pp. 496, 2819.)
213. SALMO CLARKII STOMIAS. (Pp. 497, 2819.)

214

215

216

214. *SALMO CLARKII* MACDONALDI. (Pp. 497, 2819.)

215. *SALMO GAIRDNERI*. (P. 497.)

216. *SALMO IRIDEUS*. (P. 500.)

217

218

219

217. CRISTIVOMER NAMAYCUSH. (P. 504.)
218. SALVELINUS FONTINALIS. (P. 506.)
219. SALVELINUS MALMA. (P. 507.)

220

221

222

220. SALVELINUS ALPINUS AUREOLUS. (P. 511.)

221. SALVELINUS OQUASSA. (P. 514.)

222. THYMALLUS SIGNIFER. (P. 517.)

223

224

224a

223. THYMALLUS TRICOLOR. (Pp. 518, 2871.)

224. THYMALLUS TRICOLOR MONTANUS. (Pp. 519, 2871.)

224a. THYMALLUS TRICOLOR MONTANUS; young. (Pp. 519, 2871.)

225

226

227

225. MALLOTUS VILLOSUS. (P. 520.)
 226. THALEICHTHYS PACIFICUS. (P. 521.)
 227. OSMERUS THALEICHTHYS. (P. 522.)

228. *OSMERUS MORDAX*. (P. 523.)
229. *OSMERUS DENTEX*. (P. 524.)
230. *HYPOMESUS PRETIOSUS*. (P. 525.)

231

232

233

231. *HYPOMESUS OLIDUS*. (P. 525.)

232. *ARGENTINA SILUS*. (P. 526.)

233. *LEUROGLOSSUS STILBIUS*. (P. 527.)

234

235

236

234. BATHYLAGUS BENEDICTI. (P. 529.)
235. TRACHINOCEPHALUS MYOPS. (P. 533.)
236. SYNODUS FOETENS. (P. 538.)

237

238

239

237. BENTHOSAURUS GRALLATOR. (P. 543.)
238. BATHYPTEROIS QUADRIFILIS. (P. 545.)
239. IPNOPS MURRAYI. (P. 547.)

240

241

242

240. RONDELETIA BICOLOR. (P. 548.)

241. CETOMIMUS GILLII. (P. 549.)

242. CERATOSCOPELUS MADEIRENSIS. (P. 557.)

243

244

245

243. LAMPANYCTUS CROCODILUS. (P. 558.)

244. LAMPADENA SPECULIGERA. (P. 561.)

245. NANNOBRACHIUM MACDONALDI. (P. 563.)

246

247

248

246. *ÆTHOPRORA LUCIDA*. (P. 565.)
247. *MYCTOPHUM OPALINUM*. (P. 571.)
248. *TARLETONBEANIA TENUA*. (P. 575.)

249

250

251

249. YARRELLA BLACKFORDI. (P. 584.)
250. CHAULIODUS SLOANEI. (P. 585.)
251. ASTRONESTHES GEMMIFER. (P. 586.)

252

253

254

252. *ASTRONESTHES RICHARDSONI*. (P. 587.)
253. *STOMIAS FERON*. (P. 588.)
254. *GRAMMATOSTOMIAS DENTATUS*. (P. 590.)

255

256

257

255. *PHOTONECTES GRACILIS*. (P. 591.)
 256. *MALACOSTEUS NIGER*. (P. 593.)
 257. *ALEPISAURUS FEROX*. (P. 595.)

258

259

260

258. ALEPISAURUS ÆSCULAPIUS. (P. 595.)
 259. ARCTOZENUS CORUSCANS. (P. 601.)
 260. PARALEPIS COREGONOIDES. (P. 602.)

261

261a

261, 261a. ARGYROPELECUS OLFERSI. (P. 604.)

262

263

264

265

262. ALDROVANDIA MACROCHIR. (P. 609.)
 263. ALDROVANDIA GRACILIS. (P. 610.)
 264. NOTACANTHUS ANALIS. (P. 615.)
 265. NOTACANTHUS PHASGANORUS. (P. 616.)

266

267

268

266. *LIPOGENYS GILLII*. (P. 619.)
 267. *DALIA PECTORALIS*. (P. 621.)
 268. *UMBRA PUMÆA*. (P. 624.)

269

269a

270

269, 269a. *LUCIUS LUCIUS*. (P. 628.)
270. *LUCIUS MASQUINONGY*. (P. 629.)

271

271a

271b

271. *FUNDULUS MAJALIS*; female. (P. 639.)
271a. *FUNDULUS MAJALIS*; male. (P. 639.)
271b. *FUNDULUS MAJALIS*; young. (P. 639.)

272

273

274

272. *FUNDULUS PALLIDUS*. (P. 638.)
 273. *FUNDULUS HETEROCLITUS*; male. (P. 640.)
 274. *FUNDULUS OCELLARIS*. (P. 642.)

275

275a

276

275. *FUNDULUS DIAPHANUS*; male. (P. 645.)
 275a. *FUNDULUS DIAPHANUS*; female. (P. 645.)
 276. *FUNDULUS ZEBRINUS*. (P. 646.)

277

278

278a

277. *FUNDULUS SEMINOLIS*. (P. 647.)

278. *FUNDULUS CATENATUS*; male. (P. 648.)

278a. *FUNDULUS CATENATUS*; female? (P. 648.)

279

280

281

279. *FUNDULUS STELLIFER*. (P. 648.)

280. *FUNDULUS RATHBUNI*. (P. 649.)

281. *FUNDULUS ALBOLINEATUS*. (P. 649.)

282

283

284

282. *FUNDULUS FUNDULOIDES*. (P. 650.)
283. *FUNDULUS MACDONALDI*. (P. 651.)
284. *FUNDULUS JENKINSI*. (P. 651.)

285

286

287

285. *FUNDULUS PULVEREUS*. (P. 652.)
 286. *FUNDULUS LUCIE*. (P. 654.)
 287. *FUNDULUS CHRYSOTUS*. (P. 655.)

288

289

290

288. *FUNDULUS NOTTII*. (P. 656.)
289. *FUNDULUS NOTATUS*. (P. 659.)
290. *ADINIA DUGESII*. (P. 661.)

291

292

293

291. *FUNDULUS GOODEI*. (Pp. 664, 2831.)

292. *LUCANIA PARVA*. (P. 665.)

293. *CHARACODON BILINEATUS*. (P. 668.)

291, 294a, 294b, 294c, 294d. EMPETRICHTHYS MERRIAMI. (P. 667.)

295

295a

296

295. CHARACODON VARIATUS. (P. 669.)

295a. TEETH OF CHARACODON VARIATUS. (P. 669.)

296. CYPRINODON VARIEGATUS. (P. 671.)

296a

297

298

- 296a. *CYPRINODON VARIEGATUS*; young. (P. 671.)
 297. *CYPRINODON CARPIO*. (P. 675.)
 298. *JORDANELLA FLORIDAE*. (P. 677.)

299

299a

300

299. *GAMBUSIA AFFINIS*; male. (P. 680.)
 299a. *GAMBUSIA AFFINIS*; female. (P. 680.)
 300. *ANABLEPS DOVI*. (P. 685.)

301

302

303

301. *GOODEA ATRIPINNIS*. (P. 685.)
302. *HETERANDRIA FORMOSA*. (P. 687.)
303. *PÆCILIA PRESIDIONIS*; female. (P. 697.)

304

305

306

307

304. XIPHOPHORUS HELLERI. (P. 701.)
 305. CHOLOGASTER CORNUTUS. (P. 703.)
 306. TYPHLICHTHYS SUBTERRANEUS. (P. 704.)
 307. AMBLYOPSIS SPELEUS. (P. 706.)

308

309

310

311

308. TYLOSURUS RAPHDOMA. (P. 715.)

309. TYLOSURUS ACUS. (P. 716.)

310. CHRIDORUS ATHERINOIDES. (P. 719.)

311. HYPORHAMPHUS UNIFASCIATUS. (P. 720.)

312

313

314

315

312. *HYPORHAMPHUS ROBERTI*. (P. 721.)
 313. *HEMIRAMPHUS BRASILIENSIS*. (P. 722.)
 314. *SCOMBRESOX SAURUS*. (P. 725.)
 315. *FODIATOR ACUTUS*. (P. 728.)

316

317

318

316. *EXONASTES EXSILIENS*. (Pp. 732, 2830.)
317. *EXONASTES RONDELETII*. (Pp. 733, 2830.)
318. *EXOCETUS VOLITANS*. (P. 734.)

319

320

321

319. *CYPSILURUS CALIFORNICUS*. (Pp. 740, 2830.)
320. *GASTEROSTEUS ACULEATUS*. (P. 747.)
321. *GASTEROSTEUS CATAPHRACTUS*. (P. 749.)

322

323

324

325

326

322. *APELTES QUADRACUS*. (P. 752.)
 323. *AULORHYNCHUS FLAVIDUS*. (P. 754.)
 324. *AULOSTOMUS MACULATUS*. (P. 754.)
 325. *SIPHOSTOMA STARKSI*. (P. 771.)
 326. *CORYTHOICHTHYS CAYORUM*. (P. 2838.)

327

328

329

327. HIPPOCAMPUS HUDSONIUS. (P. 777.)
 328. HIPPOCAMPUS ZOSTERE. (P. 778.)
 329. PERCOPSIS GUTTATUS. (P. 784.)

330

331

332

330. COLUMBIA TRANSMONTANA. (P. 784.)

331. APHREDODERUS SAYANUS. (P. 786.)

332. ATHERINA STIPES. (P. 790.)

333

334

335

333. *ATHERINA ARÆA*. (P. 790.)
 334. *CHIROSTOMA HUMBOLDTIANUM*. (P. 793.)
 335. *ESLOPSARUM JORDANI*. (Pp. 793, 2840.)

336

337

338

336. KIRTLANDIA VAGRANS. (P. 794.)

337. MENIDIA PENINSULÆ. (P. 797.)

338. MENIDIA GRACILIS BERYLLINA. (P. 797.)

339

340

341

339. EURYSTOLE ERIARCHA. (P. 803.)
340. THYRINA EVERMANNI. (P. 804.)
341. ATHERINOPSIS CALIFORNIENSIS. (P. 806.)

342

343

344

342. *ATHERINOPS AFFINIS*. (P. 807.)
343. *MUGIL CEPHALUS*. (P. 811.)
344. *MUGIL CUREMA*. (P. 813.)

345

346

347

345. *MUGIL HOSPES*. (P. 814.)
346. *CHENOMUGIL PROBOSCIDEUS*. (P. 816.)
347. *AGONOSTOMUS MONTICOLA*. (P. 819.)

348

349

350

348. JOTURUS PICHARDI. (P. 821.)
 349. SPHYRÆNA BARRACUDA. (Pp. 823, 2841.)
 350. POLYDACTYLUS OCTONEMUS. (P. 830.)

351

352

353

351. AMMODYTES AMERICANUS. (P. 833.)
352. BATHYCLUPEA ARGENTEA. (P. 835.)
353. STEPHANOBERYX MONÆ. (P. 836.)

354

355

356

354. *Hoplostethus mediterraneus*. (P. 837.)
355. *Plectromus suborbitalis*. (P. 841.)
356. *Plectromus crassiceps*. (P. 843.)

357

358

359

357. BERYX SPLENDENS. (P. 844.)
358. HOLOCENTRUS ASCENSIONIS. (P. 848.)
359. FLAMMEO MARIANUS. (Pp. 852, 2871.)

360

361

362

360. MULLUS AURATUS. (P. 856.)
361. MULLOIDES RATHBUNI. (P. 857.)
362. UPENEUS MACULATUS. (P. 858.)

363

364

365

363. *SCOMBER SCOMBRUS*. (P. 865.)

364. *SCOMBER COLIAS*. (P. 866.)

365. *AUXIS THAZARD*. (P. 867.)

366

367

368

366. *GYMNOSARDA ALLETERATA*. (P. 869.)

367. *GERMO ALALUNGA*. (P. 871.)

368. *SCOMBEROMORUS MACULATUS*. (P. 874.)

369

370

371

369. *SCOMBEROMORUS REGALIS*. (P. 875.)
370. *ESCOLAR VIOLACEUS*. (Pp. 878, 2843.)
371. *EPINNULA MAGISTRALIS*. (P. 880.)

372

373

374

372. *EVOXYMETOPON TENIATUS*. (P. 886.)
373. *LEPIDOPUS CAUDATUS*. (P. 886.)
374. *BENTHODESMUS ATLANTICUS*. (P. 887.)

375

376

375. *TRICHIURUS LEPTURUS*. (P. 889.)

376. *ISTIOPHORUS NIGRICANS*. (P. 891.)

377

378

377. NEMATISTIUS PECTORALIS. (P. 895.)
378. OLIGOPLITES SAURUS. (P. 898.)

379

380

381

379. NAUCRATES DUCTOR. (P. 900.)
380. SERIOLA DORSALIS. (P. 902.)
381. SERIOLA ZONATA. (P. 902.)

382

383

384

382. *SERIOLA LALANDI*. (P. 903.)
 383. *DECAPTERUS MACARELLUS*. (P. 909.)
 384. *TRACHURUS TRACHURUS*. (P. 910.)

385

386

387

385. *TRACHUROPS CRUMENOPHTHALMUS*. (P. 911.)
 386. *HEMICARAX AMBLYRHYNCHUS*. (P. 912.)
 387. *CARANX HIPPOS*. (P. 920.)

388. *CARANX CRYSOS*. (P. 921.)

389. *CARANX LATUS*. (P. 923.)

390

391

390. *CARANX MEDUSICOLA*. (P. 924.)
391. *HYNNIS HOPKINSI*. (P. 933.)

392

393

392. *VOMER SETIPINNIS*. (P. 934.)
393. *SELENE VOMER*; young. (P. 936.)

393a

394

- 393a. *SELENE VOMER*; adult. (P. 936.)
394. *CHLOROSCOMBRUS CHRYSURUS*. (P. 938.)

395

396

395. TRACHINOTUS GLAUCUS. (P. 940.)
396. TRACHINOTUS FALCATUS. (P. 941.)

397

398

397. *TRACHINOTUS CULVERI*. (P. 942.)
398. *TRACHINOTUS CAROLINUS*. (P. 944.)

399

400

401

399. ZALOCYS STILBE. (P. 2848.)

400. POMATOMUS SALTATRIX. (P. 946.)

401. RACHYCENTRON CANADUS. (P. 948.)

402

403

402. *CORYPHÆNA HIPPURUS*. (P. 952.)

403. *CENTROLOPHUS NIGER*. (P. 963.)

404

405

404. RHOMBUS PARU. (P. 965.)

405. PORONOTUS TRIACANTHUS. (Pp. 967, 2849.)

406

407

408

406. *ICHTHYS LOCKINGTONI*. (P. 969.)
407. *SCHEDOPHILUS MEDUSOPHAGUS*. (P. 970.)
408. *ACROTUS WILLOUGHBYI*. (P. 973.)

409

410

411

409. *ZAPRORA SILENUS*. (P. 2850.)
410. *GRAMMICOLEPIS BRACHIUSCULUS*. (P. 974.)
411. *TETRAGONURUS CUVIERI*. (P. 976.)

412

413

414

412. PEMPHERIS MULLERI. (P. 978.)
413. PEMPHERIS POEYI. (P. 979.)
414. ELASSOMA EVERGLADEI. (P. 982.)

415

416

415. POMOXIS ANNULARIS. (P. 987.)

416. POMOXIS SPAROIDES. (P. 987.)

417

418

417. *CENTRARCHUS MACROPTERUS*. (P. 988.)

418. *ACANTHARCHUS POMOTIS*. (P. 989.)

419

419. AMBLOPLITES RUPESTRIS. (P. 990.)

A, B, C. SKULL OF AMBLOPLITES RUPESTRIS. (P. 990.)

420

421

420. *ARCHOPLITES INTERRUPTUS*. (P. 991.)
421. *CHLENOBRYTTUS GULOSUS*. (P. 992.)

422

423

422. ENNEACANTHUS GLORIOSUS. (P. 993.)
423. MESOGONISTIUS CHETODON. (P. 995.)

424

425

425a

424. *APOMOTIS SYMMETRICUS*. (P. 998.)
 425. *LEPOMIS AURITUS*. (P. 1001.)
 425a. SKULL OF *LEPOMIS AURITUS*. (P. 1001.)

426

427

426. *LEPOMIS MEGALOTIS*. (P. 1002.)
427. *LEPOMIS PALLIDUS*. (P. 1005.)

428

429

428. *EUPOMOTIS EURYORUS*. (P. 1008.)
429. *EUPOMOTIS GIBBOSUS*. (P. 1009.)

430

430a

430. MICROPTERUS DOLOMIEU. (P. 1011.)

430a. VERTEBRÆ OF MICROPTERUS DOLOMIEU. (P. 1011.)

431

432

431. MICROPTERUS SALMOIDES. (P. 1012.)
432. SKULL OF KUHLLIA RUPESTRIS.

433

433a

434

433. STIZOSTEDION VITREUM. (P. 1021.)
 433a. TAIL OF STIZOSTEDION VITREUM. (P. 1021.)
 434. STIZOSTEDION CANADENSE. (P. 1022.)

435

436

436a

435. PERCA FLAVESCENS. (P. 1023.)

436. PERCINA CAPRODES. (P. 1026.)

436a. SKULL OF PERCINA CAPRODES. (P. 1026.)

437

438

437. *HADROPTERUS MACROCEPHALUS*. (P. 1031.)
438. *HADROPTERUS ASPRO*. (P. 1032.)

439

440

441

439. HADROPTERUS GUNTHERI. (P. 1033.)
 440. HADROPTERUS EVIDES. (P. 1036.)
 441. HADROPTERUS SCIERUS. (P. 1037.)

442

443

444

442. *HYPOHOMUS AURANTIACUS*. (P. 1040.)
 443. *HYPOHOMUS SPILOTUS*. (P. 1043.)
 444. *COTTOGASTER SHUMARDI*. (P. 1046.)

445

446

447

445. COTTOGASTER CHENEYI. (P. 2851.)
 446. ULOCENTRA GILBERTI. (P. 1049.)
 447. ULOCENTRA MEADLEYI. (P. 2852.)

448.

449

450

448. *ULOCENTRA SIMOTERA*. (P. 1051.)
449. *DIPLESION BLENNOIDES*. (P. 1053.)
450. *BOLEOSOMA NIGRUM*. (P. 1056.)

451

452

453

451. *BOLEOSOMA NIGRUM* OLMSTEDI. (P. 1057.)
 452. *BOLEOSOMA CAMURUM*. (P. 1060.)
 453. *CRYSTALLARIA ASPRELLA*. (P. 1061.)

454

455

456

454. *AMMOCRYPTA PELLUCIDA CLARA*. (P. 1063.)
 455. *AMMOCRYPTA BEANII*. (P. 1064.)
 456. *ETHEOSTOMA CAMURUM*. (P. 1076.)

457

458

459

457. *ETHEOSTOMA CINEREUM*. (P. 1078.
 458. *ETHEOSTOMA JORDANI*. (P. 1079.)
 459. *ETHEOSTOMA POTTSIL*. (P. 1082.)

460

461

462

460. *ETHEOSTOMA* IOWAE. (P. 1083.)
461. *ETHEOSTOMA* JESSIE. (P. 1084.)
462. *ETHEOSTOMA* LEPIDOGENYS. (P. 1087.)

463

464

465

463. *ETHEOSTOMA OBEYENSE*. (P. 1092.)

464. *ETHEOSTOMA PAGEI*. (P. 1092.)

465. *ETHEOSTOMA VIRGATUM*. (P. 1093.)

466

467

468

466. *ETHEOSTOMA JULIE*. (P. 1093.)
 467. *PSYCHROMASTER TUSCUMBIA*. (P. 1100.)
 468. *COPELANDELLUS QUIESCENS*. (P. 1100.)

469

470

471

469. *BOLEICHTHYS FUSIFORMIS*. (P. 1101.)
 470. *MICROPERCA FONTICOLA*. (P. 1104.)
 471. *APOGON RETROSELLA*. (P. 1108.)

472

473

472. APOGON PIGMENTARIUS. (P. 1109.)
473. APOGONICHTHYS ALUTUS. (P. 1110.)

474

475

476

474. CHEILODIPTERUS AFFINIS. (P. 1113.)
475. HYPOCLYDONIA BELLA. (P. 1115.)
476. CENTROPOMUS UNDECIMALIS. (P. 1118.)

477

478

477. *ROCCUS CHRYSOPS*. (P. 1132.)
478. *ROCCUS LINEATUS*. (P. 1132.)

479

480

480a

479. MORONE AMERICANA. (P. 1134.)

480, 480a. SKULL OF POLYPRION AMERICANUS. (P. 1139.)

481

482

481. *BODIANUS FULVUS PUNCTATUS*. (P. 1146.)
482. *EPINEPHELUS ADSCENSIONIS*. (P. 1152.)

483

484

483. *EPINEPHELUS STRIATUS*. (P. 1157.)

484. *EPINEPHELUS DRUMMOND-HAYI*. (P. 1159.)

485

486

485. EPINEPHELUS MORIO. (P. 1160.)

486. GARRUPA NIGRITA. (P. 1161.)

487

487a

487b

487, 487a, 487b. PROMICROPS GUTTATUS. (P. 1162.)

488

488a

489

488. *ALPHESTES AFER*. (P. 1164.)

488a. SKULL OF *ALPHESTES AFER*. (P. 1164.)

489. *DERMATOLEPIS ZANCLUS*. (P. 2854.)

490

491

492

490. *MYCTEROPERCA BOULENGERI*. (P. 1171.)
491. *MYCTEROPERCA VENENOSA*. (P. 1172.)
492. SKULL OF *MYCTEROPERCA BONACI*. (P. 1174.)

493

494

495

493. MYCTEROPERCA JORDANI. (P. 1176.)
494. MYCTEROPERCA MICROLEPIS. (P. 1177.)
495. MYCTEROPERCA FALCATA PHENAX. (P. 1185.)

496

497

496. *HYPOPLECTRUS UNICOLOR NIGRICANS.* (P. 1193.)

497. *HYPOPLECTRUS GEMMA.* (P. 1193.)

498

499

500

498. *PARALABRAX MACULATOFASCIATUS*. (P. 1196.)
 499. *PARALABRAX HUMERALIS*. (P. 1196.)
 500. *CENTROPRISTES STRIATUS*. (P. 1199.)

501

502

503

501. *CENTROPRISTES PHILADELPHICUS*. (P. 1201.)
502. *DIPLECTRUM FORMOSUM*. (P. 1207.)
503. *PRIONODES BULLERI*. (P. 1213.)

504

505

506

504. *PARANTHIAS FURCIFER*. (P. 1221.)
 505. *HEMIANTHIAS VIVANUS*. (P. 1223.)
 506. *PRNOTOGRAMMUS MULTIFASCIATUS*. (P. 1226.)

507

508

507. *ANTHIAS ASPERILINGUIS*. (P. 1227.)
508. *GRAMMA LORETO*. (P. 1229.)

509

510

509. *RYPTICUS BISTRISPINUS*. (P. 1233.)
510. *LOBOTES SURINAMENSIS*. (P. 1235.)

511

512

511. PRIACANTHUS ARENATUS. (P. 1237.)
512. PSEUDOPRIACANTHUS ALTUS. (P. 1239.)

513

514

513. *HOPLOPAGRUS GUNTHERI*. (P. 1244.)

514. *EUPLATES VIRIDIS*. (P. 1246.)

515

516

515. NEOMENIS APODUS. (P. 1258.)

516. NEOMENIS AYA. (P. 1264.)

517

518

517. NEOMENIS ANALIS. (P. 1265.)
518. NEOMENIS SYNAGRIS. (P. 1270.)

519

520

519. *RABIRUBIA INERMIS*. (P. 1274.)
520. *OCYURUS CHRYSURUS*. (P. 1275.)

521

522

521. RHOMBOPLITES AURORUBENS. (P. 1277.)

522. APSILUS DENTATUS. (P. 1278.)

523

524

523. *APRION MACROPHTHALMUS*. (P. 1280.)

524. *ETELIS OCULATUS*. (P. 1282.)

525

526

525. VERILUS SORDIDUS. (P. 1284.)
526. XENOCYS JESSLE. (P. 1285.)

527

528

527. *XENICHTHYS AGASSIZII*. (P. 1287.)
528. *HÆMULON ALBUM*. (P. 1295.)

529

530

529. *HEMULON MACROSTOMUM*. (P. 1296.)
530. *HEMULON PARRA*. (P. 1297.)

531.

532

531. *HÆMULON SCIURUS*. (P. 1303.)
532. *HÆMULON PLUMIERI*. (P. 1304.)

533

534

533. *BRACHYGENYS CHRYSARGYREUS*. (P. 1307.)
534. *BATHYSTOMA RIMATOR*. (P. 1308.)

535

536

535. *BATHYSTOMA AUROLINEATUM*. (P. 1310.)
536. *LYTHRULON OPALESCENS*. (P. 1312.)

537

538

537. *ANISOTREMUS SURINAMENSIS*. (P. 1318.)
538. *ANISOTREMUS BILINEATUS*. (P. 1319.)

539

540

539. *ANISOTREMUS VIRGINICUS*. (P. 1322.)

540. *ORTHOPRISTIS REDDINGI*. (P. 1336.)

541

542

541. *ORTHOPRISTIS CHRYSOPTERUS*. (P. 1338.)

542. *MICROLEPIDOTUS INORNATUS*. (P. 1341.)

543

544

543. *OTRYNTER CAPRINUS*. (P. 1345.)

544. *STENOTOMUS CHRYSOPS*. (P. 1346.)

545

546

545. STENOTOMUS ACULEATUS. (P. 1346.)
546. CALAMUS CALAMUS. (P. 1349.)

547

548

547. CALAMUS PRORIDENS. (P. 1350.)
548. CALAMUS BAJONADO. (P. 1352.)

549

550

549. CALAMUS PENNA. (P. 1354.)

550. CALAMUS ARCTIFRONS. (P. 1355.)

551

552

551. *PAGRUS PAGRUS*. (P. 1356.)

552. *LAGODON RHOMBOIDES*. (P. 1358.)

553

554

553. *ARCHOSARGUS UNIMACULATUS*. (P. 1359.)
554. *ARCHOSARGUS PROBATOCEPHALUS*. (P. 1361.)

555

555a

555. *DIPODUS HOLBROOKII*. (P. 1362.)

555a. *DIPODUS HOLBROOKII*; young. (P. 1362.)

556

557

556. *XYSTEMA CINEREUM*. (P. 1372.)

557. *GERRES OLISTHOSTOMUS*. (P. 1376.)

558

559

558. HERMOSILLA AZUREA. (P. 1383.)
559. KYPHOSUS SECTATRIX. (P. 1387.)

560

561

562

560. *MEDIALUNA CALIFORNIENSIS*. (P. 1391.)
561. *CYNOSCION NOTHUS*. (P. 1406.)
562. *CYNOSCION REGALIS*. (P. 1407.)

563

564

565

563. *CYNOSCION NEBULOSUS*. (P. 1109.)
564. *SAGENICHTHYS ANCYLODON*. (P. 1416.)
565. *LARIMUS ARGENTEUS*. (P. 1421.)

566

567

566. BAIRDIELLA CHRYSURA. (P. 1433.)
567. SCLENOPS OCELLATUS. (P. 1453.)

568

569

568. RONCADOR STEARNSI. (P. 1457.)
569. LEIOSTOMUS XANTHURUS. (P. 1458.)

570

571

570. *MICROPOGON UNDULATUS*. (P. 1461.)

571. *UMBRINA SINALOÆ*. (P. 1468.)

572

573

572. MENTICIRRIUS AMERICANUS. (P. 1474.)
573. POGONIAS CHROMIS. (P. 1482.)

574

575

574. *APLODINOTUS GRUNNIENS*. (P. 1484.)
575. *EQUES LANCEOLATUS*. (P. 1489.)

576

577

576. CIRRHITES RIVULATUS. (P. 1491.)
577. HYSTEROCARPUS TRASKI. (P. 1496.)

578

579

579a

578. *ABEONA MINIMA*. (P. 1497.)

579. *CYMATOGASTER AGGREGATUS*. (P. 1498.)

579a. *CYMATOGASTER AGGREGATUS*; female. (P. 1498.)

580

581

580. *BRACHYISTIUS FRENATUS*. (P. 1499.)
581. *ZALEMBIUS ROSACEUS*. (P. 1500.)

582

583

582. *HYPOCRITICHTHYS ANALIS*. (P. 1500.)

583. *PHANERODON FURCATUS*. (P. 1506.)

584

585

584. RHACOCHILUS TOXOTES. (P. 1507.)
585. HYP SURUS CARYI. (P. 1508.)

586

587

586. *DAMALICHTHYS ARGYROSOMUS*. (P. 1509.)
587. *CICHLASOMA BARTONI*. (P. 1515.)

588

589

588. *AZURINA HIRUNDO*. (P. 1544.)
589. *EUPOMACENTRUS FLAVILATUS*. (P. 1557.)

590

591

590. *ABUDEFDUF SAXATILIS*. (P. 1561.)
591. *HYPSPOPS RUBICUNDUS*. (P. 1564.)

592

593

592. *MICROSPATHODON BAIRDII*. (P. 1566.)
593. *MICROSPATHODON CHRYSURUS*. (P. 1567.)

594

595

594. MICROSPATHODON DORSALIS. (P. 1568.)

595. TAUTOGLABRUS ADSPERSUS. (P. 1577.)

596

597

596. *TAUTOGA ONITIS*. (P. 1578.)

597. *LACHNOLAIMUS MAXIMUS*. (P. 1579.)

598

599

598. *PIMELOMETOPON PULCHER*. (P. 1585.)
599. *CLEPTICUS PARRE*. (P. 1586.)

600

601

600. IRIDIO RADIATUS. (P. 1590.)
601. IRIDIO BIVITTATUS. (P. 1595.)

602

603

602. IRIDIO DISPILUS. (P. 1597.)

603. EMMEEKIA VENUSTA. (P. 1602.)

604

605

606

604. *CHLORICHTHYS GRAMMATICUS*. (P. 1610.)

605. *NOVACULICHTHYS VENTRALIS*. (P. 1615.)

606. *NOVACULICHTHYS INFIRMUS*. (P. 1616.)

607

608

607. *Xyrichthys psittacus*. (P. 1618.)
608. *Cryptotomus beryllinus*. (P. 1625.)

609

609a

610

609, 609a. *CALOTOMUS XENODON*. (P. 1626.)
610. *SPARISOMA AUROFRENATUM*. (P. 1634.)

611

612

613

611. SPARISOMA HOPLOMYSTAX. (P. 1632.)

612. SCARUS CUZAMILAE. (P. 1648.)

613. JAWS OF SCARUS CERULEUS. (P. 1652.)

614

615

615a

616

616a

614. *SCARUS EMBLEMATICUS*. (P. 1654.)

615, 615a. LOWER AND UPPER PHARYNGEAL BONES OF *SCARUS STRONGYLOCEPHALUS*.

616, 616a. LOWER AND UPPER PHARYNGEAL BONES OF *SPARISOMA CRETENSE*.

617

618

617. *PSEUDOSCARUS GUACAMAIA*. (P. 1657.)
618. *ZENOPSIS OCELLATUS*. (P. 1660.)

619

619. *CHÆTODIPTERUS FABER.* (P. 1668.)

620. *CHÆTODON NIGRIROSTRIS*. (P. 1673.)

621

621. CHÆTODON OCELLATUS. (P. 1674.)

622

622. CHÆTODON CAPISTRATUS. (P. 1677.)

623. POMACANTHUS ARCUATUS. (P. 1679.)

624

624. POMACANTHUS ZONIPLECTUS; YOUNG. (P. 1681.)

625

625. *HOLACANTHUS TRICOLOR*. (P. 1684.)

626

626a

626, 626a. *ANGELICHTHYS CILIARIS*. (P. 1684.)

627

627. ZANCLUS CORNUTUS. (P. 1687.)

628

629

628. *TEUTHIS CRESTONIS*. (P. 1692.)
629. *TEUTHIS BAHIANUS*. (P. 1693.)

630

631

630. TAIL OF *TEUTHIS BAHIANUS*. (P. 1693.)
631. *XESURUS PUNCTATUS*. (P. 1694.)

632

633

632. *BALISTES CAROLINENSIS*. (P. 1701.)
633. *CANTHERINES CAROLE*. (P. 1713.)

634

635

634. *MONOCANTHUS CILIATUS*. (P. 1714.)
635. *MONOCANTHUS HISPIDUS*. (P. 1715.)

636

637

636. *ALUTERA SCHœPFI*. (P. 1718.)
637. *ALUTERA SCRIPTA*. (P. 1719.)

638

639

638. LACTOPHRYS TRIQUETER. (P. 1722.)
639. LACTOPHRYS TRICORNIS. (P. 1724.)

640

640a

640b

640, 640a, 640b. *LACTOPHRYS BICAUDALIS*. (P. 1723.)

641

641a

642

641, 641a. *LACTOPHRYS TRIGONUS*. (P. 1723.)
642. *LAGOCEPHALUS LEVIGATUS*. (P. 1728.)

643

644

645

643. SPHEROIDES NEPHELUS. (P. 1732.)
644. SPHEROIDES SPENGLERI. (P. 1732.)
645. SPHEROIDES MACULATUS. (P. 1733.)

646

646a

647

646, 646a. SPHEROIDES TESTUDINEUS. (P. 1734.)
647. OVOIDES SETOSUS. (P. 1739.)

648

649

648. DIODON HYSTRIX. (P. 1745.)

649. CHILOMYCTERUS SCHEPFI. (P. 1748.)

650

650a

651

650. *LYOSPHERA GLOBOSA*. (P. 1751.)
650a. *LYOSPHERA GLOBOSA*; young. (P. 1751.)
651. *MOLA MOLA*. (P. 1753.)

652

653

652. *RANZANIA TRUNCATA*. (P. 1755.)

653. *SEBASTES MARINUS*. (P. 1760.)

654

655

654. SEBASTOLOBUS ALTIVELIS. (P. 1763.)
655. SEBASTODES MELANOPS. (P. 1782.)

656

657

656. SEBASTODES CILIATUS. (P. 1783.)
657. SEBASTODES MYSTINUS. (P. 1784.)

658

659

658. SEBASTODES BREVISPINIS. (P. 1787.)
659. SEBASTODES EIGENMANNI. (P. 1789.)

660

661

660. SEBASTODES HOPKINSI. (P. 1789.)
661. SEBASTODES ALUTUS. (P. 1790.)

662

663

662. SEBASTODES PINNIGER. (P. 1793.)
663. SEBASTODES MINIATUS. (P. 1794.)

664

665

664. SEBASTODES CAURINUS. (P. 1820.)
665. SEBASTODES MALIGER. (P. 1822.)

666

667

666. SEBASTODES GILBERTI. (P. 1823.)
667. SEBASTODES SERRICEPS. (P. 1827.)

668

669

668. SEBASTODES NIGROCINCTUS. (P. 1827.)

669. SCORPÆNA CRISTULATA. (P. 1841.)

670

671

670. *SCORPÆNA BRASILIENSIS*. (P. 1842.)
671. *SCORPÆNA MYSTES*. (P. 1849.)

672

673

672. *SCORPÆNA GRANDICORNIS*. (P. 1850.)
673. *PONTINUS MACROLEPIS*. (P. 1855.)

674

675

676

674. SETARCHES PARMATUS. (P. 1860.)
 675. ANOPILOPOMA FIMBRIA. (P. 1862.)
 676. PLEUROGRAMMUS MONOPTERYGIUS. (P. 1864.)

677

677a

678

677, 677a. HEXAGRAMMOS DECAGRAMMUS. (P. 1867.)

678. HEXAGRAMMOS OCTOGRAMMUS. (P. 1869.)

679

680

681

679. *HEXAGRAMMOS STELLERI*. (P. 1871.)
680. *HEXAGRAMMOS SUPERCILIOSUS*. (P. 1872.)
681. *HEXAGRAMMOS OTAKII*. (P. 1867.)

682

683

684

682. *OPHIDION ELONGATUS*. (P. 1875.)
683. *ONYLEBIUS PICTUS*. (P. 1878.)
684. *JORDANIA ZONOPE*. (P. 1884.)

685

686

687

685. *ALCIDEA THOBURNI*. (P. 1887.)

686. SKULL OF *SCORPENICHTHYS MARMORATUS*. (P. 1889.)

687. *CHITONOTUS PUGETENSIS*. (P. 1890.)

688

689

689a

688. *ICELINUS BOREALIS*. (P. 1896.)

689. *ASTROLYTES NOTOSPILOTUS*. (P. 1899.)

689a. *ASTROLYTES NOTOSPILOTUS*; young? (P. 1899.)

690

691

690. *ARTEDIELLUS ATLANTICUS*. (P. 1906.)
691. *RUSCARIUS MEANYI*. (P. 1908.)

692

693

694

692. *RASTRINUS SCUTIGER*. (P. 1909.)

693. *ICELUS SPINIGER*. (P. 1914.)

694. *ICELUS CANALICULATUS*. (P. 1917.)

695

696

697

695. *RADULINUS BOLEOIDES*. (P. 1919.)
696. *RADULINUS ASPRELLUS*. (P. 1920.)
697. *TRIGLOPS PINGELI*. (P. 1923.)

698

699

700

700a

698. *TRIGLOPS BEANI*. (P. 1924.)
 699. *TRIGLOPS SCEPTICUS*. (P. 1925.)
 700, 700a. *STERNIAS XENOSTETHUS*. (P. 1927.)

701

702

703

701. PRIONISTIUS MACELLUS. (P. 1928.)

702. ELANURA FORFICATA. (P. 1930.)

703. MELLETES PAPILIO. (P. 1932.)

704

705

705a

705b

704. *HEMILEPIDOTUS JORDANI*. (P. 1934.)

705, 705a, 705b. *HEMILEPIDOTUS HEMILEPIDOTUS*. (P. 1935.)

706.

707

706. *ENOPHRYS BISON*. (P. 1938.)
707. *CERATOCOTTUS DICERAUS*. (P. 1940.)

708

709

708. *COTTUS EVERMANNI*. (P. 1945.)
709. *COTTUS PUNCTULATUS*. (P. 1948.)

710

711

712

710. *COTTUS PERPLEXUS*. (P. 1955.)
711. *COTTUS KLAMATHENSIS*. (P. 1955.)
712. *COTTUS ALEUTICUS*. (P. 1957.)

713

714

715

713. *COTTUS LEIOPOMUS*. (P. 1962.)

714. *COTTUS PRINCEPS*. (P. 1962.)

715. *URANIDEA TENUIS*. (P. 1966.)

716

716a

717

716, 716a. MYOXOCEPHALUS LENEUS. (P. 1972.)
717. MYOXOCEPHALUS SCORPIUS. (P. 1974.)

718

719

720

718. MYOXOCEPHALUS OCTODECIMSPINOSUS. (P. 1976.)
719. MYOXOCEPHALUS POLYACANTHOCEPHALUS. (P. 1976.)
720. MYOXOCEPHALUS JAOK. (P. 1977.)

721

721a

722

721, 721a. *MYOXOCEPHALUS VERRUCOSUS*. (P. 1979.)
722. *MYOXOCEPHALUS AXILLARIS*. (P. 1980.)

723

723a

723b

724

723, 723a, 723b. MYOXOCEPHALUS STELLERI. (P. 1981.)
724. MYOXOCEPHALUS NIGER. (P. 1985.)

725

725a

726a

726

725, 725a. *MEGALOCOTTUS PLATYCEPHALUS*. (P. 1987.)
 726, 726a. *MEGALOCOTTUS LATICEPS*. (P. 1988.)

727. *ZESTICELUS PROFUNDORUM*. (P. 1990.)

728. *DASYCOTTUS SETIGER*. (P. 1991.)

729. *ONCOCOTTUS QUADRICORNIS*. (P. 2001.)

730

730a

730b

731

730, 730a, 730b. GYMNOCANTHUS PISTILLIGER. (P. 2006.)
731. GYMNOCANTHUS GALEATUS. (P. 2010.)

732

733

734

732. *LEIOCOTTUS HIRUNDO*. (P. 2011.)
733. *LEPTOCOTTUS ARMATUS*. (P. 2012.)
734. *OLIGOCOTTUS MACULOSUS*. (P. 2013.)

735

736

735. *BLENNICOTTUS EMBRYUM*. (Pp. 2016, 2864.)
736. *HISTIOCOTTUS BILOBUS*. (P. 2018.)

737

737a

737b

737, 737a, 737b. BLEPSIAS CIRRHOSUS. (P. 2018.)

738

739

738. *HEMITRIPTERUS AMERICANUS*. (P. 2023.)
739. *ASCELICHTHYS RHODORUS*. (P. 2025.)

740

741

740. *PSYCHROLUTES PARADOXUS*. (P. 2026.)

741. *GILBERTIDIA SIGOLUTES*. (P. 2028.)

742

742a

742b

742c

742, 742a, 742b, 742c. RHAMPHOCOTTUS RICHARDSONI. (P. 2030.)

743

744

745

745a

743. *OCCA DODECAEDRON*. (P. 2044.)
 744. *PALLASINA BARBATA*. (P. 2049.)
 745, 745a. *PODOTHECUS ACCIPITER*. (P. 2055.)

746

747

748

749

747a

748a

749a

746. *PODOTHECUS ACIPENSERINUS*. (P. 2061.)
 747, 747a. *PODOTHECUS VETERNUS*. (P. 2063.)
 748, 748a. *STELGIS VULSUS*. (P. 2067.)
 749, 749a. *AVERRUNCUS EMMELANE*. (P. 2069.)

750

751

752

750a

752a

750, 750a. *AVERRUNCUS STERLETUS*. (P. 2071.)
751. *SARRITOR FRENATUS*. (P. 2073.)
752, 752a. *XYSTES AXINOPHRYS*. (P. 2076.)

753

754

754a

753. *BATHYAGONUS NIGRIPINNIS*. (P. 2078.)
754, 754a. *XENOCHIRUS TRIACANTHUS*. (P. 2084.)

755

755a

755b

756

756a

755, 755a, 755b, ASPIDOPHOROIDES GUNTHERI. (P. 2090.)
756, 756a, ASPIDOPHOROIDES MONOPTERYGIUS. (P. 2091.)

757

758

757. *CYCLOPTERUS LUMPUS*. (P. 2096.)
758. *LETHOTREMUS MUTICUS*. (P. 2101.)

759

760

760a

759. *LETHOTREMUS VINOLENTUS*. (P. 2101.)
760, 760a. *NEOLIPARIS CALLIODON*. (P. 2110.)

761

761a

762

761, 761a. NEOLIPARIS MUCOSUS. (P. 2111.)
762. NEOLIPARIS FLORE. (P. 2111.)

764

763

763a

764a

763, 763a. NEOLIPARIS GREENI. (P. 2112.)
764, 764a. LIPARIS CYCLOPUS. (P. 2118.)

765. *LIPARIS AGASSIZII*. (P. 2121.)
766, 766a. *LIPARIS DENNYI*. (P. 2124.)

767

768

767. BATHYPHASMA OVIGERUM. (P. 2128.)
768. PRIONOTUS CAROLINUS. (P. 2156.)

769

770

769. PRIONOTUS SCITULUS. (P. 2157.)
770. PRIONOTUS ALATUS. (P. 2159.)

771

772

771. PRIONOTUS STEARNSI. (P. 2166.)
772. PRIONOTUS EVOLANS. (P. 2168.)

773

774

775

773. *BELLATOR EGRETTA*. (P. 2174.)
774. *PERISTEDION MINIATUM*. (P. 2178.)
775. *PERISTEDION LONGISPATUM*. (P. 2178.)

776. *PERISTEDION GRACILE*. (P. 2179.)

777, 777a. *PERISTEDION PLATYCEPHALUM*. (P. 2180.)

778

779

780

778. *CEPHALACANTHUS VOLITANS*. (P. 2183.)
 779. *CALLIONYMUS AGASSIZII*. (P. 2186.)
 780. *IOGLOSSUS CALLIURUS*. (P. 2193.)

781

782

781. *PHILYPNUS DORMITOR*. (P. 2194.)
782. *DORMITATOR MACULATUS*. (P. 2196.)

783

784

785

783. *ELEOTRIS PISONIS*. (P. 2200.)
784. *ALEXURUS ARMIGER*. (P. 2203.)
785. *EROTELIS SMARAGDUS*. (P. 2204.)

786

787

788

786. *LOPHOGOBIOUS CYPRINOIDES*. (P. 2209.)
 787. *GOBIOUS STIGMATICUS*. (P. 2224.)
 788. *GOBIOUS HASTATUS*. (P. 2229.)

789

2 cm

789a

790

789 789a. *Gobioides oceanicus*. (P. 2230.)
790 *Garmannia paradoxa*. (P. 2232.)

791

792

793

791. *BOLLMANNIA CHILAMYDES*. (P. 2238.)
792. *ABOMA ETHEOSTOMA*. (P. 2240.)
793. *CLEVELANDIA IOS*. (P. 2254.)

794

795

$\frac{1}{2}$ in.

796

794. EVERMANNIA ZOSTERURA. (P. 2256.)
 795. TYPHLOGOBIUS CALIFORNIENSIS. (P. 2262.)
 796. ECHENEIS NAUCRATES. (P. 2269.)

797

797a

798

799

- 797, 797a. REMORA BRACHYPTERA. (P. 2272.)
 798. RHOMBOCHIRUS OSTEOCHIR. (P. 2273.)
 799. CAULOLATILUS MICROPS. (P. 2277.)

800

800a

801

800, 800a. *OPISTHOGNATHUS MACROGNATHUM*. (P. 2281.)
801. *GNATHYPOPS MAXILLOSA*. (P. 2284.)

802

803

804

802. BATHYMASTER SIGNATUS. (P. 2288.)
 803. RONQUILUS JORDANI. (P. 2289.)
 804. CHIASMODON NIGER. (P. 2291.)

805

806

807

805. *HYPSICOMETES GOBIOIDES*. (P. 2294.)

806. *TRICHODON TRICHODON*. (P. 2295.)

807. *ARCTOSCOPUS JAPONICUS*. (P. 2297.)

808

809

809a

808. *ASTROSCOPUS Y-GRÆCUM*. (P. 2307.)
809, 809a. *KATHETOSTOMA ALBIGUTTA*. (P. 2312.)

810

811

812

813

810. OPSANUS PARDUS. (P. 2316.)
 811. PORICHTHYS POROSISSIMUS. (P. 2319.)
 812. CAULARCHUS MEANDRICUS. (P. 2328.)
 813. RIMICOLA MUSCARUM. (P. 2338.)

814

815

816

814. ENNEANECTES CARMINALIS. (P. 2350.)
815. GIBBONSIA ELEGANS EVIDES. (P. 2352.)
816. NEOCLINUS SATIRICUS. (P. 2355.)

817

818

819

817. *CRYPTOTREMA CORALLINUM*. (P. 2366.)

818. *EXERPES ASPER*. (P. 2367.)

819. *AUCHENOPTERUS NOX*. (P. 2373.)

820

821

822

820. *BLENNIVS FAVOSUS*. (P. 2380.)
 821. *BLENNIVS CRISTATUS*. (P. 2382.)
 822. *HYPSONBLENNIVS IONTHAS*. (P. 2388.)

823

824

825

823. *HYPSOBLENNIUS HENTZI*. (P. 2390.)
824. *CHASMODES SABURREEI*. (P. 2392.)
825. *RUPISCARTES ATLANTICUS*. (P. 2397.)

826. *EMBLEMARIA ATLANTICA*. (P. 2402.)
827. *STATHMONOTUS HEMPHILLII*. (P. 2407.)

828

829

830

828. BRYOSTEMA POLYACTOCEPHALUM. (P. 2408.)
829. BRYOSTEMA NUGATOR. (P. 2410.)
830. APODICTHYS FLAVIDUS. (P. 2411.)

831

832

833

831. PHOLIS DOLICHOGASTER. (P. 2416.)
832. PHOLIS GUNNELLUS. (P. 2419.)
833. PHOLIS ORNATUS. (P. 2419.)

834

835

836

834. *ASTERNOPTERYX GUNNELLIFORMIS*. (P. 2420.)
835. *ANOPLARCHUS ATROPURPUREUS*. (P. 2422.)
836. *XIPHISTES ULVE*. (P. 2423.)

837

838

839

840

837. XIPHISTES CHIRUS. (P. 2424.)
 838. XIPHIDION RUPESTRE. (P. 2426.)
 839. LUMPENUS MACKAYI. (P. 2436.)
 840. LUMPENUS LAMPETREIFORMIS. (P. 2438.)

841

842

843

841. *STICHEUS PUNCTATUS*. (P. 2439.)
842. *ULVARIA SUBBIFURCATA*. (P. 2440.)
843. *CRYPTACANTHODES MACULATUS*. (P. 2443.)

844

845

844. *LYCONNECTES ALEUTENSIS*. (P. 2444.)

845. *ANARHICHAS LATIFRONS*. (P. 2446.)

846

847

848

846. ANARRHICHAS LUPUS. (P. 2446.)
 847. ANARRHICHAS LEPTURUS. (P. 2447.)
 848. PTILICHTHYS GOODEI. (P. 2452.)

849

849a

849b

850

851

- 849, 849a, 849b. *SCYTALINA CERDALE*. (P. 2451.)
 850. *ZOARCES ANGUILLARIS*. (P. 2457.)
 851. *EMBRYX CROTALINUS*. (P. 2458.)

852

853

854

852. *APRODON CORTEZIANUS*. (P. 2461.)
853. *LYCODES ZOARCHUS*. (P. 2464.)
854. *LYCODES RETICULATUS*. (P. 2465.)

855

856

857

858

855. *LYCODES PERSPICILLUM*. (P. 2465.)
856. *LYCODES FRIGIDUS*. (P. 2465.)
857. *LYCODALEPIS POLARIS*. (P. 2468.)
858. *LYCODALEPIS TURNERI*. (P. 2468.)

859

860

860a

860c

860d

860b

861

859. *LYCENCHELYS VERRILLI*. (P. 2470.)
 860, 860a, 860b, 860c, 860d. *LYCENCHELYS PANILLUS*. (P. 2471.)
 861. *FURCIMANUS DIAPTERUS*. (P. 2472.)

862

863

864

864a

864b

864c

865

862. *LYCODONUS MIRABILIS*. (P. 2474.)
 863. *LYCONEMA BARBATUM*. (P. 2474.)
 864, 864a, 864b, 864c. *GYMNELIS VIRIDIS*. (P. 2477.)
 865. *MELANOSTIGMA PAMMELAS*. (P. 2479.)

866

867

868

866. *LEPOPHIDIUM MARMORATUM*. (P. 2482.)
 867. *LEPOPHIDIUM PROFUNDORUM*. (P. 2484.)
 868. *RISSOLA MARGINATA*. (P. 2489.)

869

870

871

869. *OTOPHIDIUM OMOSTIGMUM*. (P. 2490.)
870. *LYCODAPUS DERMATINUS*. (P. 2492.)
871. *BROTULA BARBATA*. (P. 2500.)

872. OGILBIA VENTRALIS. (P. 2503.)
873. OGILBIA CAYORUM. (P. 2503.)
874. DICROMITA AGASSIZII. (P. 2506.)

875

876

876a

875. *BASSOZETUS NORMALIS*. (P. 2507.)
876, 876a. *BASSOZETUS CATENA*. (P. 2509.)

877

878

879

880

877. *NEOBYTHITES* GILLII. (P. 2512.)
 878. *NEOBYTHITES* MARGINATUS. (P. 2513.)
 879. *BASSOGIGAS* GILLII. (P. 2515.)
 880. *BARATHRODEMUS* MANATINUS. (P. 2517.)

881

882

883

881. POROGADUS MILES. (P. 2520.)
 882. DICROLENE INTRONIGRA. (P. 2522.)
 883. BARATHRONUS BICOLOR. (P. 2524.)

884

885

886

884. MERLUCCIUS PRODUCTUS. (P. 2531.)

885. BOROGADUS SAIDA. (P. 2533.)

886. POLLACHIUS VIRENS. (P. 2534.)

887

888

889

890

887. *THERAGRA CHALCOGRAMMA*. (P. 2535.)
888. *ELEGINUS NAVAGA*. (P. 2537.)
889. *MICROGADUS PROXIMUS*. (P. 2539.)
890. *MICROGADUS TOMCOD*. (P. 2540.)

891

892

892a

891. *GADUS COLLARIAS*. (P. 2541.)

892. *MELANOGRAMMUS AEGLEFINUS*. (P. 2542.)

892a. *MELANOGRAMMUS AEGLEFINUS*; SKULL. (P. 2542.)

893

893a

894

893, 893a. *ANTIMORA VIOLA*. (P. 2544.)
894. *URALEPTUS MALARDI*. (P. 2545.)

895

896

895. *LOTELLA MAXILLARIS*. (P. 2546.)
896. *PHYSICULUS FULVUS*. (P. 2547.)

897

898

899

897. *LOTA MACULOSA*. (P. 2550.)
 898. *UROPHYCIS REGIUS*. (P. 2553.)
 899. *UROPHYCIS CIRRATUS*. (P. 2553.)

900. *UROPHYCIS EARLLI*. (P. 2554.)
901. *UROPHYCIS TENUIS*. (P. 2555.)
902. *UROPHYCIS CHUSS*. (P. 2555.)

903. *UROPHYCIS CHESTERI*. (P. 2556.)
904. *LEMONEMA BARBATULUM*. (P. 2556.)
905. *LEMONEMA MELANURUM*. (P. 2557.)

906

907

908

906. GAIRDROPSARUS ARGENTATUS. (P. 2559.)
907. ENCHELYOPUS CIMBRIUS. (P. 2560.)
908. BATHYGADUS FAVOSUS. (P. 2565.)

909

910

911

909. STEINDACHNERIA ARGENTEA. (P. 2568.)

910. CHALINURA SIMULA. (P. 2578.)

911. CORYPHLENOIDES CARPINUS. (P. 2579.)

912

913

914

912. HYMENOCEPHALUS CAVERNOSUS. (P. 2580.)
913. CÆLORHYNCHUS OCCA. (P. 2588.)
914. CÆLORHYNCHUS CARMINATUS. (P. 2588.)

915

916

915. *Cœlorhynchus caribbeus*. (P. 2589.)
916. *Regalecus glesne*. (P. 2596.)

917

918

917. *ATHERESTHES STOMIAS*. (P. 2609.)

918. *HIPPOGLOSSUS HIPPOGLOSSUS*. (P. 2611.)

919

920

919. HIPPOGLOSSOIDES PLATESSOIDES. (P. 2614.)
920. HIPPOGLOSSOIDES ELASSODON. (P. 2615.)

921

922

921. *PSETTICHTHYS MELANOSTICTUS*. (P. 2618.)
922. *PARALICHTHYS DENTATUS*. (P. 2629.)

923

924

923. *PARALICHTHYS* *SQUAMILENTUS*. (P. 2631.)
924. *PARALICHTHYS* *OBLONGUS*. (P. 2632.)

925

926

925. *ANCYLOSETTA QUADROCELLATA*. (P. 2634.)
926. *PLEURONICHTHYS DECURRENS*. (P. 2637.)

927

928

927. *INOPSETTA ISCHYRA*. (P. 2641.)
928. *LEPIDOPSETTA BILINEATA*. (P. 2643.)

929

930

929. LIMANDA FERRUGINEA. (P. 2644.)
930. LIMANDA ASPERA. (P. 2645.)

931

932

931. LIMANDA PROBOSCIDEA. (P. 2645.)
932. LIMANDA BEANII. (P. 2646.)

933

934

933. *PSEUDOPLEURONECTES AMERICANUS*. (P. 2647.)

934. *PLEURONECTES QUADRITUBERCULATUS*. (P. 2648.)

935

936

935. *LIOPSETTA GLACIALIS*. (P. 2649.)
936. *LIOPSETTA PUTNAMI*. (P. 2650.)

937

937a

937, 937a. *PLATICHTHYS STELLATUS*. (P. 2652.)

938

939

938. *LOPHOPSETTA MACULATA*. (P. 2660.)
939. *PLATOPHRYS OCELLATUS*. (P. 2663.)

940

941

940. *TRICHOPSETTA VENTRALIS*. (P. 2669.)
941. *SYACIUM PAPILLOSUM*. (P. 2671.)

942

943

942. *AZEVIA PANAMENSIS*. (P. 2677.)
943. *CITHARICHTHYS SORDIDUS* (P. 2679.)

944

945

944. CITHARICHTHYS MACROPS. (P. 2684.)
945. ETROPUS RIMOSUS. (P. 2688.)

946

947

946. *ETROPUS CROSSOTUS*. (P. 2689.)

947. *ACHIRUS LINEATUS*. (P. 2697.)

948

949

948. *ACHIRUS FASCIATUS*. (P. 2700.)
949. *SYMPHURUS MARGINATUS*. (P. 2706.)

950

951

952

950. SYMPHURUS PLAGIUSA. (P. 2710.)
 951. SYMPHURUS WILLIAMSI. (P. 2711.)
 952. LOPHIUS PISCATORIUS. (P. 2713.)

953

954

953. CHAUNAX PICTUS. (P. 2726.)
954. CERATIAS HOLBOLLI. (P. 2729.)

955

956

955. *MANCALIAS SHUFELDTI*. (P. 2730.)
956. *CRYPTOPSARAS COUESII*. (P. 2731.)

957

957. CAULOPHYRNE JORDANI. (P. 2735.)

958

958a

958b

958, 958a, 958b. *OGCOCEPHALUS VESPERTILIO*. (P. 2737.)

QL Jordan, David Starr &
 625 Evermann, Barton Warren
 J82 The Fishes of North and
 v.4 Middle America
 c.1.

CA

UN

QL 625 J82 v.4 c.1	
Author	Jordan, David Starr
Title	The Fishes of North
DATE	NAME OF BORROWER

UTL AT DOWNSVIEW

D RANGE BAY SHLF POS ITEM C
39 11 09 11 14 014 5