1. Appendix F.--No. XVII.
List of the Marine Fauna collected at the Tarbert Laboratory during 1885.
Appendices to 4th Ann. Rpt. Fish. Bd. Scotland, Pt. I, pp. 231-242.
2. Description of a New Copepod.
Appendices to 6th Ann. Rpt. Fish. Bd. Scotland, Pt. 1a pp. 233-234, pl. VIII, figs. 7-12. 1888
3. Notes on the Contents of the Stomachs of Herring and Haddocks.
Appendices to 6th Ann. Rpt. Fish. Bd. Scotland, pp. 225-231. 1888
4. A Revised List of the Crustacea of the Firth of Forth.
Appendices to 6th Ann. Rpt. Fish. Bd. Scotland, pp. 235-262. 1888.
5. Notes on Interesting Fishes, &c., Sent to the University of Edinburgh.
Ann. Rpt. Fish. Bd. Scotland, pp. 264, 265. 1888.
6. VII.--Additions to the Fauna of the Firth of Forth.
8th Ann. Rpt. Fish. Bd. Scotland, Pt. 3, pp. 312-333, pls. XII, XIII. 1890.
7. No. VIII.--The Invertebrate Fauna of Inland Waters.
1.--Report on Loch Coulter and the Coulter Burn, Stirling-shire.
8th Ann. Rpt. Fish. Bd. Scotland, Pt. 3, pp. 334-347. 1890
8. III.--The Invertebrate Fauna of the Inland Waters of Scotland.
9th Ann. Rpt. Fish. Bd. Scotland, Pt. 3, pp. 269-296, pls. V, VI. 1891
9. V.--Additions to the Fauna of the Firth of Forth.
9th Ann. Rpt. Fish. Bd. Scotland, Pt. 3, pp. 300-310. 1891
10. III.--Additions to the Fauna of the Firth of Forth. Pt. IV.
10th Ann. Rpt. Fish. Bd. Scotland, pp. 244-272, pls. VII-XIII. 1892
11. II.--Additions to the Fauna of the Firth of Forth. Pt. V.
11th Ann. Rpt. Fish. Bd. Scotland, pp. 197-219, pls. II-V. 1893
12. III.--The Invertebrate Fauna of the Inland Waters of Scotland.
11th Ann. Rpt. Fish. Bd. Scotland, Pt. 3, pp. 220-238, pls. VI, VII. 1893.

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SCOTLAND.

1886 - 1894.

CRUSTACEA, ETC.

VOL. 1.

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APPENDIX F.—No. XVII.

LIST of the MARINE FAUNA collected at the Tarbert Laboratory during 1885. Part 1. By GEORGE BROOK and THOMAS SCOTT.

THE present list does not pretend to include a complete list of the forms known to inhabit Lochfyne and the adjacent waters, but simply includes those species which have been collected and identified in connection with the enquiries at present in progress in Lochfyne under the direction of the Fishery Board.

The large group of Amphipods have not been included in the present list of Crustacea, as many species have not yet been identified. Other groups, such as the Cœlenterates, Sponges, Annelids, Tunicates, &c., have not received special attention, and will be worked up later.

Our thanks are due to the Rev. A. M. Norman for the very valuable assistance he has rendered us in the identification of the Crustacea, who contributes a paper on some of the more interesting forms.

In order to add to the value of the present list, an asterisk has been placed in front of each species which is known to form a part of the food of fishes.

PISCES.

TELEOSTEI.

- Cottus scorpius* (Bloch) (father lasher), common.
 „ „ var. *grœnlandicus*, frequent.
 „ *bubalis* (Euphr.) (long-spined cottus), common.
Trigla lineata (Gmel.) (streaked gurnard), not common.
 „ *gurnardus*, L. (gray gurnard), common in East Loch Tarbert.
Agonus cataphractus, L. (pogge), occasionally.
Scomber scomber, L. (mackerel), abundant in the summer, particularly along the west shore of Lochfyne; captured in large quantities during the herring fishing in the seine nets.
Zeus faber, L. (John Dory), usually enter Tarbert Harbour in September to feed on the herring offal. Are present in the Sound of Kilbrannan considerably earlier, and are frequently taken off Carradale Pier.
Gobius ruthensparri (Euphr.) (two spotted goby), common amongst the *Zostera* beds in East Loch Tarbert.
 „ *minutus* (Gmel.) (one spotted goby), frequent in sandy spots in East Loch Tarbert but not so numerous as the preceding species. In confinement this species frequently buries itself in the sand.
Callionymus lyra, L. (dragonet), both males and females (= *Callionymus dracunculus*) are frequent but small.
Cyclopterus lumpus, L. (lump-sucker), we have frequently met with immature forms, some not over one inch long, but have not as yet dredged any large specimens.
Liparis vulgaris, L. (sea-snail), between tide marks.
 „ *montagui* (Donov.) (Montague's sucker), between tide marks.
Lepadogaster sp., Sunidale Bay, 10 fathoms.
Carelophus ascanii (Walb.), one taken amongst boulders at low water, East Loch Tarbert, also occurs in Rothesay Bay.
Centronotus gunnellus, L. (butter-fish), plentiful between tide marks.
Atherina presbyter (Jenyns) (atherine), frequent in a *Zostera* bed in East Loch Tarbert in the spring, but not met with later.
Gasterosteus spinachia, L. (fifteen-spined stickleback), abundant in *Zostera* beds in East Loch Tarbert.
Labrus maculatus (Bl.) (ballan wrasse), frequent in the autumn.
 „ *mixtus*, L. (striped wrasse), occasionally at the mouth of East Loch Tarbert.
Ctenolabrus rupestris, L., common, particularly near Skate Island, in 10 to 12 fathoms. Does not appear to frequent shallower water.
Centrolabrus exoletus, occasionally in Lochfyne.
Gadus morhua, L. (cod), not very abundant in Lochfyne, nor are the fish in good condition. The rock variety is found nearer shore. The principal cod fishing industry in this district is in the Sound of Gigha during the winter months.
 „ *œglifinus*, L., haddock, not abundant.
 „ *luscus* (Will.) (bib), occasionally in Tarbert Harbour.
 „ *minutus*, L. (power-cod), frequent in Tarbert Harbour.
 „ *merlangus*, L. (whiting), not abundant. Neither the whiting nor the haddock afford any systematic fishery in Lochfyne. A few are caught on hand lines in or near the harbours.

- Gadus virens*, L. (coal fish or saith), very abundant.
- „ *pollachius*, L. (pollack or lythe), frequents rocky parts and is fairly abundant but usually small.
- Molva vulgaris* (Flem.) (ling), frequently brought in by the fishermen.
- Motella mustela*, L. (five-bearded rockling), rare, between tide marks, East Loch Tarbert.
- Ammodytes lanceolatus* (Lesaw.) (larger sand eel), occasionally. There is not, however, much suitable ground for this species in the neighbourhood.
- Hippoglossus vulgaris* (Flem.) (holibut), occasionally in Lochfyne. Larger specimens are captured in the Sound of Bute and Sound of Kilbrannan.
- Hippoglossoides limandoides* (Bloch) (long rough dab), taken during the winter fishing and from the Sound of Gigha.
- Rhombus maximus*, L. (turbot), occasionally.
- Zeugopterus unimaculatus* (Risso), we have secured a few specimens of this rare species from near Barmore.
- Pleuronectes platessa*, L. (plaice), fairly plentiful in suitable parts of Lochfyne.
- „ *microcephalus*, frequent in suitable localities. There is a regular fishery for this species around the Island of Bute.
- „ *limanda*, L. (common dab), Skipness and Barmore.
- „ *flesus*, L. (flounder), common in Tarbert Harbour.
- Solea vulgaris* (Quen.) (sole), Barmore Bay, small.
- Salmo salar*, L. (salmon), occasionally taken in herring nets between Tarbert and Barmore.
- „ *trutta*, L. (sea-trout), regularly taken in small quantities just outside East Loch Tarbert.
- Clupea harengus*, L. (herring), enters Lochfyne in May, and the fishing usually lasts until November.
- „ *sprattus*, L.? (sprat), the sprat is not usually regarded as being present in the Firth of Clyde, but specimens sent from Girvan have been identified by Mr Matthews as sprats.
- Anguilla vulgaris* (Turt.) (common eel), affords a small but regular fishery in Tarbert Harbour.
- Conger vulgaris* (Cuv.) (conger-eel), frequent but small.
- Siphonostoma typhle*, L. (broad-nosed pipe fish), Zostera bed, East Loch Tarbert.
- Sygnathus acus*, L. (greater pipe fish), common.
- Nerophis æquoreus*, L. (ocean pipe fish), Zostera bed, East Loch Tarbert.
- „ *lumbriciformis*, L. (worm pipe fish), Zostera bed, East Loch Tarbert.

GANOIDEI.

- Acipenser sturio*, L. (sturgeon), fine specimens are often noticed in Lochfyne during the herring fishery, but these are seldom captured.

ELASMOBRANCHII.

- Pristiurus melanostomus* (Bonah.) (black mouthed dog fish), occasionally brought in amongst the Acanthii in the winter fishing. Taken also in Rothesay Bay.
- Acanthias vulgaris* (Risso) (picked dog fish), very abundant and a perfect nuisance to the fishermen while prosecuting the herring fishery.

Raia batis, L. (common skate), fished principally in the winter and from the West Loch and Sound of Gigha.

„ *clavata*, L. (thornback ray), frequent during the winter fishing.

The above are all the species of fishes that have come under our notice at Tarbert during the past year; there are doubtless many more still to be recorded. The list of Elasmobranchs is very imperfect, no special attention having been given to this group.

BRACHIOPODA.

Terebratulula caput-serpentis, L., fairly common off Battle Island in 40 fathoms, and in other localities.

Crania anomala (Müll.), abundant and large, near Maol-Dubh Point, 12 to 15 fathoms. Frequent also in other parts of the loch, usually at a depth of less than 20 fathoms.

MOLLUSCA.

LAMELLIBRANCHIATA.

ASIPHONIDA, Flem. (1828).

* *Anomia ephippium*, L., common.

Ostrea edulis, L., generally distributed but small and scarce. *var. parvica*

Pecten pusio (L.), a few off Skate Island, 14 fathoms, and East Loch Tarbert.

* „ *varius*, L., East Loch Tarbert.

„ *opercularis* (L.), common. The lower (convex) valve is frequently covered with a soft pink sponge, amongst which are specimens of *Tubularia*, &c.

„ *septemradiatus*, Müll., common and of fair size, but local. Exceedingly plentiful in the deep water (104 fathoms) off Skate Island.

* „ *tigrinus*, Müll., not uncommon off Battle Island (40 fathoms) and in other localities.

„ „ *var. costata*, Jeff. in 40 fathoms, off Battle Island.

„ *striatus*, Müll., Furlong Bay and Maol-Dubh Point. Not common.

„ *maximus* (L.), off Skate Island in 14 fathoms and in other localities, but not very plentiful. *P. similis*

Lima subauriculata (Mont.), dead shells off Battle Island in 40 fathoms.

„ *hians* (Gmel.), off Battle Island in 40 fathoms. *L. hians*

* *Mytilus edulis*, L., Fairly plentiful in East and West Loch Tarbert generally. In the latter it is larger and more abundant.

„ *modiolus*, L., common. *Myt. phaeolinus*

Modiolaria marmorata (Forb.), imbedded in the mantle of *Ascidia mentula*, which is abundant on the long bank (10 to 16 fathoms) off the mouth of East Loch Tarbert. *Ascidia*

„ *discors*, L., attached to roots of *Laminaria*, &c., East Loch Tarbert and other localities. *N. nucleus*

* *Nucula nitida* (G. B. Sow), Battle Island, not common.

* „ *tenuis* (Mont.), occasional, off Battle Island.

* *Leda minuta* (Müll.), off Battle Island.

Pectunculus glycymeris, L., single valve of a dead shell in coralline bed, 19 fathoms, Sunidale Bay.

SIPHONIDA, Flem. (1828).

- Lepton nitidum*, Turt., Sunidale Bay. —
- X *Montacuta bidentata* (Mont.), East Loch Tarbert. *M. striata*
- * *Lascea rubra* (Mont.), var. *pallida* (Jeff.), East Loch Tarbert.
- Lucina borealis*, L., dead shells frequent on the shore.
- Axinus flexuosus* (Mont.), East Loch Tarbert.
- „ *ferruginosus* (Forb.), off Tarbert, 16 to 18 fathoms.
- Cyamium minutum* (Fabr.), White Shore, East Loch Tarbert.
- * *Cardium echinatum*, L., generally distributed. *Cardium mini*
- „ *exiguum*, Gmel., East Loch Tarbert.
- * „ *fasciatum*, Mont.
- „ *edule*, L., more common in West than in East Loch Tarbert.
- „ *norvegicum*, Spenz., single valves in East Loch Tarbert and in Lochfyne. *Isocardia Cor (v*
- Cyprina islandica*, L., dead shells, but fresh near Laggan; 30 fathoms.
- Astarte sulcata* (Da C.), Laggan Bay and East Loch Tarbert.
- „ „ var. *elliptica* (Bro.), Laggan Bay. *A. compressa, p. 11*
- * *Circe minima* (Mont.), single valves and fresh dead shells.
- Venus exoleta*, L., dead shells, Sunidale Bay.
- „ *fasciata* (Da C.), common.
- „ *casina*, L., single valve, Sunidale Bay.
- „ *ovata*, Penn., off Battle Island, muddy bottom, and in East Loch Tarbert.
- * „ *gallina*, L., White Shore, East Loch Tarbert.
- Tapes virgineus* (L.), dead shell, Sunidale Bay.
- „ *pullastra* (Mont.), common, White Shore, East Loch Tarbert.
- Tellina crassa* (Penn.), single valve, Sunidale Bay.
- „ *balthica*, head of West Loch Tarbert.
- „ *tenuis*, Da C., common. *Tellina fabula*
- Psammobia tellinella*, Lamk., Sunidale Bay. *Psam ferrugineis* „ *donacina*
- Mactra subtruncata*, Da C., frequent, East Loch Tarbert.
- * *Scorbicularia alba* (Wood), off Battle Island, in muddy sand.
- * *Solen siliqua*, L., var. *arcuata*, Jeff., East Loch Tarbert. *solenostoma antiqua*
- Lyonsia norvegica* (Chem.), Lochfyne, not common.
- Thracia papyracea* (Poli.), var. *villosiuscula* (Macg.), Sunidale Bay, recent, dead. *Thracia ductor*
- X *Nacera abbreviata*, Forb., in the deeper portions of Lochfyne, rare.
- „ *costellata* (Desh.), off Battle Island, 40 fathoms, rare.
- „ *cuspidata* (Olivi), off Battle Island, rare.
- Corbula gibba* (Olivi), Lochfyne and East Loch Tarbert, not common.
- Mya arenaria*, L., West Loch Tarbert.
- „ *truncata*, L., dead shells, East Loch Tarbert.
- X *Saxicava rugosa*, L., shores of East Loch Tarbert.
- Xylophaga dorsalis* (Turt.), about two hundred living specimens taken out of a small piece of wood dredged in East Loch Tarbert, also in similar situation off Skate Island.

SCAPHOPODA, Bronn (1862).

- Dentalium entalis*, L., common off Barmore and in other localities. Some of the dead shells are inhabited by Sipunculids.

GASTEROPODA, Cuvier (1798).

CYCLOBRANCHIATA (Cuvier).

- Chiton fascicularis*, L., rare, East Loch Tarbert.
 „ *marginatus*, Penn., White Shore, East Loch Tarbert.
 „ *ruber*, Lowe, under stones between tide marks.
 „ *marmoreus*, Fabr., East Loch Tarbert, Sunidale Bay.
 „ *sp.*, Sunidale Bay.

PECTINIBRANCHIATA, (Cuvier).

- Patella vulgata*, L., common and of large size.
Helcion pellucidum (L.), var. *lævis* (Penn.), White Shore, East Loch Tarbert.
Tectura testudinalis (Müll.), White Shore, East Loch Tarbert.
 „ *virginea* (Müll.), Sunidale Bay. *Tectura italica*
Puncturella Noachina (L.), Laggan Bay.
Emarginula fissura (L.), off Battle Island and in other localities, dead shells.
 „ *crassa*, J. Sow., off Battle Island, dead.
Capulus hungaricus (L.), Furlong Bay, 15 fathoms. *Cissurella crisp*
Trochus helacinus, Fabr., East Loch Tarbert. (living)
 „ *magus*, L., White Shore and Lochfyne.
 * „ *tumidus*, Mont., East Loch Tarbert.
 „ *cinerarius*, L., common.
 „ *umbilicatus* (Mont.), common near low-water mark.
 „ *millegranus*, Phil., off Battle Island.
 „ *zizyphinus*, L., Laggan Bay, and in other localities.
Lacuna divaricata (Fabr.), off Battle Island, and in East Loch Tarbert.
 „ „ var. *canalis* (Mont.), East Loch Tarbert. Both variety and type occur amongst *Zostera*.
 „ *pallidula* (Dac.), on *Laminaria*.
 „ „ var. *albescens*, Jeff., E. Loch Tarbert.
Littorina obtusata (L.), common.
 „ „ var. *ornata*, Jeff., White Shore, East Loch Tarbert.
 „ *rudis*, Maton., common.
 „ *littorea*, L., common.
Rissoa reticulata (Mont.), off Battle Island.
 „ *abyssicola* (Mont.), deep water, 50 fathoms.
 „ *parva* (Da C.).
 „ *membranacea* (Ad.), var. *elata*, Phil., East Loch Tarbert.
 „ *violacea*, Desm., East Loch Tarbert.
 „ *striata* (Ad.), common.
 „ *cingillus* (Mont.), common.
Hydrobia ulvæ (Penn.)? West Loch Tarbert, in quantity. *H. albella*
Skenea planorbis (Fabr.), common.
Homalogyra atomus (Phil.), scarce, East Loch Tarbert.
Cæcum glabrum (Mont.), Lochfyne and East Loch Tarbert, not common.
 * *Turritella terebra* (L.), dead shells, East Loch Tarbert.
Odostomia conspicua, Ald. *O. interstincta* L.f.
 „ *unidentata* (Mont.). *aclis supernitida*
 „ *spiralis* (Mont.).
Eulima distorta (Desh.), Sunidale Bay and East Loch Tarbert. *E. polita*

- **Natica Alderi*, Forb., East Loch Tarbert and off Battle Island.
 „ *Montacuti*, Forb., off Battle Island.
Lamellaria perspicua (L.), on stones between tide marks, East Loch Tarbert, frequent.
 **Velutina lavigata* (Penn.), East Loch Tarbert.
 **Trichotropis borealis*, Brod. and S., Furlong Bay.
 **Aporrhais pes-pelecani* (L.), Furlong Bay, off Battle Island, &c.

SIPHOBANCHIATA.

- Cerithiopsis tubercularis* (Mont.), East Loch Tarbert and Sunidale Bay.
Purpura lapillus (L.), common.
 **Buccinum undatum*, L., East Loch Tarbert.
 **Fusus gracilis* (Da C.), Lochfyne.
Nassa incrassata (Str.), East Loch Tarbert.
 „ *reticulata*, L., East Loch Tarbert.
Defrancia linearis (Mont.); dead shells, off Battle Island and in East Loch Tarbert.
 **Pleurotoma turricula* (Mont.), East Loch Tarbert (living), off Battle Island (dead shells).
Cypraea europea (Mont.), on rocks at extreme low water, Lochfyne.

PLEUROBRANCHIATA.

- Utriculus truncatulus* (Brug.), East Loch Tarbert.
 „ *hyalinus* (Turt.), East Loch Tarbert.
Actæon tornatilis (L.), Laggan Bay,
Scaphander lignarius (L.), Furlong Bay and off Maol-Dubh Point in 15 fathoms.
 **Aplysia punctata*, Cuv., White Shore, East Loch Tarbert.
Pleurobranchus plumula (Mont.), between tide marks, and dredged, East Loch Tarbert.

NUDIBRANCHIATA.

PELLIBRANCHIATA.

- Elysia viridis*, Mont., common in *Zostera* bed, East Loch Tarbert.
 Varies from pale green or brown to a dark sage green.

POLYBRANCHIATA.

- Hermæa bifida* (Mont.), East Loch Tarbert.
Eolis papillosa (L.), between tide marks, frequent.
Eolis Drummondi, Thomp., more common than preceding species. Immature forms are abundant amongst *Zostera*.
 „ *alba*, A. and H., frequent in *Zostera* bed, East Loch Tarbert.
 „ *Farrani*, A. and H., one specimen under stones, East Loch Tarbert.
Dendronotus arborescens (Müll.), frequent in Lochfyne, 10 to 20 fathoms.

ACANTHOBANCHIATA.

- Ægirus punctilucens* (d'Orb.), under stones, East Loch Tarbert.
Triopa claviger, Müll., between tide marks, East Loch Tarbert.
Polycera quadrilineata (Müll.), East Loch Tarbert.
 „ „ *black* var. East Loch Tarbert.

Goniodoris nodosa (Mont.), East Loch Tarbert.

Doris tuberculata, L., East Loch Tarbert, frequent.

„ *Johnstoni*, A. and H., East Loch Tarbert, frequent.

„ *repanda*, A. and H., rare, East Loch Tarbert.

„ *pilosa*, Müll., occasionally, East Loch Tarbert.

Aldona modesta f.

PULMONIBRANCHIATA.

Melampus bidentatus (Mont.), common, East Loch Tarbert.

CEPHALOPODA.

**Sepiola Rondeletii*, Leach, Laggan Bay, eggs frequent, attached to Ascidians, &c.

Rossia macrosoma (Del. Ch.), Laggan Bay.

Octopus vulgaris, Lmk., in herring nets in the summer, Laggan Bay.

**Eledone cirrosa* (Lmk.), young, taken in herring nets in Laggan Bay in December.

CRUSTACEA.

PODOPHTHALMATA.

BRACHYURA.

Stenorhynchus tenuirostris, not common in Lochfyne.

**Inachus dorsettensis*, frequent in 10 to 20 fathoms, Lochfyne.

**Hyas araneus*, common between tide marks.

* „ *coarctatus*, common in the off-shore waters of Lochfyne, but not so abundant as on some parts of the east coast of Scotland.

**Cancer pagurus*, frequent on the rocky shores of Lochfyne, but not large so far as our observation goes. There is no systematic crab fishery.

**Carcinus mænas*, common.

Portunus puber, frequent in 10 to 15 fathoms or more in Lochfyne.

„ *depurator*, frequent.

* „ *marmoreus*, frequent.

* „ *pusillus*, frequent.

Ebalia bryerii, Sunidale Bay, 20 fathoms.

El. tuberosum

ANOMOURA.

Lithodes maia, common in Lochfyne, mostly medium size.

**Pagurus bernhardus*, common.

„ *prideauxii*, common. Often has the beautiful anemone *Peachia* attached to it.

* „ *ferrugineus* (Norm.), East Loch Tarbert.

„ *lævis*, frequent.

**Porcellana longicornis*, not very plentiful, between tide marks.

**Galathea squamifera*, common.

„ *intermedia* (Lill.), East Loch Tarbert and Buck Bay.

P. thomasi

P. pubescens

f. f.

MACRURA.

Palinurus vulgaris, a single specimen taken in herring nets by Ardrishaig fishermen in the spring.

**Calocaris M'Andree*, occurs sparingly in the deeper portions of Lochfyne, 60 to 90 fathoms.

Homarus vulgaris, generally distributed. There is a small summer fishery in Buck Bay, which is carried on by Ardrossan fishermen.

**Crangon vulgaris*, by no means plentiful.

„ *spinosus*, rare.

* „ *Almani*, frequent in the off-shore water.

Crangon neglectus (Sars), East Loch Tarbert and at Barmore, new to Britain.

**Virbius (Hippolyte) varians*, Zostera bed, East Loch Tarbert, abundant.

„ *fasciger* (Gosse.), East Loch Tarbert.

Hippolyte pandaliformis, East Loch Tarbert. = *pandalus* (Sars).

„ *securifrons* (Norm.), common in 20 to 40 fathoms, Lochfyne.

Pandalus annulicornis, common.

„ *brevirostris* (Rathke), East Loch Tarbert.

SCHIZOPODA.

**Boreophausia Raschii* (G. O. Sars), Lochfyne.

**Nyctiphanes norvegica* (M. Sars), Lochfyne; also found in stomachs of herring and *Acanthias*.

Erythrops pygmæa (Sars), Barmore, and East Loch Tarbert, new to Britain.

Mysidopsis gibbosa (G. O. Sars), East Loch Tarbert, new to Britain.

„ *angusta* (G. O. Sars), in 4 fathoms, Barmore.

Leptomysis linguata (G. O. Sars), East Loch Tarbert.

Mysis chumæleon (J. V. Thomps.), Zostera bed, East Loch Tarbert.

„ *inermis* (Rathke), Zostera bed, East Loch Tarbert.

„ *arenosa* (G. O. Sars), Zostera bed, East Loch Tarbert.

„ *lamornæ* (Couch.), East Loch Tarbert.

**Siriella Clausii* (G. O. Sars), East Loch Tarbert.

„ *Brooki* (Norm.), East Loch Tarbert.

„ *armata* (M. Edw.), East Loch Tarbert.

CUMACEA.

Vaunthompsonia cristata (Ball.), East Loch Tarbert.

Lamprops uniplicata, (?) East Loch Tarbert.

Hemilamprops fasciata (G. O. Sars), at low water, East Loch Tarbert.

Pseudocuma cercaria (Van Ben.), East Loch Tarbert.

Diastylis rugosa (Sars), East Loch Tarbert.

COPEPODA.

See separate list given by Mr Calderwood.

OSTRACODA.

Pontocypris mytiloides (Norm.), East Loch Tarbert.

„ *trigonella* (Sars), East Loch Tarbert.

Cythere lutea (Müll.), East Loch Tarbert.

Cythere viridis (Müll.), East Loch Tarbert.

„ *pellucida* (Baird), East Loch Tarbert.

„ *crispata* (Brady), East Loch Tarbert.

„ *albo-maculata* (Baird), East Loch Tarbert.

„ *convexa* (Baird), East Loch Tarbert.

„ *tuberculata* (Sars), East Loch Tarbert.

„ *concinna* (Jones), East Loch Tarbert.

„ *angulata* (Sars), East Loch Tarbert.

„ *villosa* (Sars), East Loch Tarbert.

„ *antiquata* (Baird), Lochfyne.

„ *Jonesii* (Baird), Lochfyne.

Cytheridea papillosa (Bosq.), Lochfyne.

„ *punctillata* (Brady), Lochfyne.

Encythere argus (Sars), Lochfyne.

Krithe Bartonensis (Jones), East Loch Tarbert.

Loxococoncha impressa (Baird), East Loch Tarbert.

„ *granulata* (Sars), East Loch Tarbert.

„ *tamarindus* (Jones), East Loch Tarbert.

„ *multiflora* (Norm.), East Loch Tarbert.

Xestoleberis aurantia (Baird), East Loch Tarbert.

Cytherura nigrescens (Baird), East Loch Tarbert.

„ *angulata* (Brady), East Loch Tarbert.

„ *striata* (Sars), East Loch Tarbert.

„ *undata* (Sars), East Loch Tarbert.

„ *gibba* (Müll.), East Loch Tarbert.

„ *cornuta* (Brady), East Loch Tarbert.

„ *cellulosa* (Norm.), East Loch Tarbert.

„ *flavescens* (Brady), East Loch Tarbert.

Cytheropteron latissimum (Norm.), East Loch Tarbert.

„ *arenatum* (B. C. and R.), East Loch Tarbert.

„ *nodosum* (Brady), East Loch Tarbert.

„ *angulatum* (B. and R.), East Loch Tarbert.

Bythocythere simplex (Norm.), East Loch Tarbert.

„ *turgida* (Sars), Furlong Bay.

Pseudocythere caudata (Sars), Lochfyne.

Sclerochilus contortus (Norm.), Lochfyne.

Xiphichilus tenuissima (Norm.), Lochfyne.

Paradoxostoma variabile (Baird), East Loch Tarbert.

„ *pulchellum* (Sars), Furlong Bay.

Philomedes interpuncta (Baird), East Loch Tarbert.

Asterope Mariae (Baird), East Loch Tarbert.

„ *teres* (Norm.), East Loch Tarbert.

Polycope orbicularis (Sars), East Loch Tarbert.

C. porcellum

C. Clutha

C. Jonesii

C. semipunctata

Cy. elongata

X. Nepesica

Cytheropteron

Cytheridea

Cytheridea
Pas. - subflavescens

CIRRIPEDIA.

Balanus balanoides, L., on stones and shells, East Loch Tarbert.

„ *crenatus* (Brug.), on stones and shells, East Loch Tarbert.

Verruca Stromia (Müll.), on stones and shells, East Loch Tarbert.

ECHINODERMATA.

CRINOIDEA.

Antedon rosaceus, common near the east shore of Lochfyne.

OPHIUROIDEA.

- **Amphiura filiformis* (Müll.), off Buck Island.
- „ *elegans* (Leach), frequent between tide marks.
- Ophiactis Ballii* (Thomp.)? *Zostera* bed, East Loch Tarbert.
- **Ophiocoma nigra*, (O. F. M.), very abundant up to 15 to 20 fathoms.
- **Ophioglypha albida* (Forb.), common.
- „ *lacertosa* (Linck.), frequent, East Loch Tarbert.
- Ophiopholis aculeata* (O. F. M.), common near east shore of Lochfyne.
- **Ophiothrix rosula* (Linck.), common, particularly near the east shore of Lochfyne

ASTEROIDEA.

- Asterias rubens* (L.), abundant.
- „ *violacea* (O. F. M.), with the preceding.
- „ *glacialis* (L.), frequent in 20 to 30 fathoms in Lochfyne, some of large size.
- Solaster papposus* (L.), frequent in Lochfyne, smaller specimens between tide marks.
- „ *endeca*, L., frequent some distance from shore, and also occurs at low water.
- **Cribrella oculata* (Linck.), East Loch Tarbert.
- * „ *rosea* (Müll.), East Loch Tarbert.
- Hippasteria plana* (Linck.), frequent in shallow water.
- Luidia savignyi* (Aud.), Sunidale Bay, 20 fathoms.

ECHINOIDEA.

- Echinus esculentus* (Penn.), very abundant in some parts of Lochfyne, particularly in the Channel between Skate Island and the Mainland.
- * „ *miliaris* (L.), between tide marks, East Loch Tarbert.
- **Echinocyamus pusillus* (Müll.), Sunidale Bay.
- **Spatangus purpureus* (Leske), Sunidale Bay.
- **Echinocardium cordatum* (Penn.), very abundant in the sand at White Shore Bay, East Loch Tarbert.

HOLOTHUROIDEA.

Several species which are not yet identified.

FORAMINIFERA.

- Cornuspira foliacea* (Phil.), East Loch Tarbert.
- Biloculina ringens* (Lam.), Lochfyne, near Tarbert. *B. elongata*, 7 cont
- „ *depressa* (d'Orb.), East Loch Tarbert.
- Triloculina trigonula* (Lam.), Lochfyne, near Tarbert.
- „ *tricarinata* (d'Orb.), Lochfyne, near Tarbert. *Tai - elongata* B.
- Miliolina seminulum* (L.) East Loch Tarbert.
- „ *subrotunda* (Mont.), East Loch Tarbert. *mil. contorta* B.
- „ *secans* (d'Orb.), East Loch Tarbert.
- „ *Ferussacii* (d'Orb.), East Loch Tarbert.
- „ *agglutinans* (d'Orb.), East Loch Tarbert.
- Spiroloculina limbata* (d'Orb.), Lochfyne.
- „ *canaliculata* (d'Orb.), Lochfyne.
- Haplobragium carriensis* O. Arb. L.
- „ *pseudospiralis* O. Arb. L.
- Reophax scorpiurus* Mont. L.

Trochammina, sp., East Loch Tarbert.

Lagena sulcata (W. and J.), East Loch Tarbert.

„ *laevis* (Mont.), Lochfyne.

„ *gracillima* (Sagz.), Lochfyne.

„ *globosa* (Mont.), Lochfyne.

„ *striata* (d'Orb.), Lochfyne.

„ *marginata* (W. and J.), East Loch Tarbert.

„ *melo* (d'Orb.), Lochfyne.

„ *squamosa* (Mont.), East Loch Tarbert.

„ *hexagona* (Will.), Lochfyne.

„ *Jeffreysii* (Brady), Lochfyne and East Loch Tarbert.

Nodosaria scalaris (Batsch.) Lochfyne, frequent.

Polymorphina lactea (W. and J.), East Loch Tarbert.

„ *tubulosa* (d'Orb.), Lochfyne.

Dentalina communis (d'Orb.), Lochfyne.

Orbulina universa (d'Orb.), East Loch Tarbert.

Textularia sagittula (Defrance), East Loch Tarbert.

Bulimina marginata (d'Orb.), East Loch Tarbert.

Discorbina rosacea (d'Orb.), East Loch Tarbert.

Truncatulina lobatula (Walker), East Loch Tarbert.

Rotalia Beccarii, L., East Loch Tarbert, common.

„ *nitida* (Will.), East Loch Tarbert, rare.

Patellina corrugata (Will.), Lochfyne.

Polystomella crispa (L.), East Loch Tarbert, common.

„ *striato-punctata* (F. and M.), East Loch Tarbert, common.

Nonionina asterizans (F. and M.), East Loch Tarbert, common.

„ *depressula* (W. and J.), East Loch Tarbert, common.

Planorbulina Mediterraneensis (d'Orb.), East Loch Tarbert, common.

~~*Gypsinina*~~

Gypsina inherens

Lh

Ammodiscus ammoides from

Lh

Ammodiscus gordialis Parker & Jones.

18. *Proclia distorta*
2. *Proclia distorta*
3. *Proclia distorta*

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