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OUTLINE DESCRIPTIONS
OF
BRITISH COLEOPTERA.

BY THE
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ADVERTISEMENT.

MR. BLACKBURN'S "Outline Descriptions of British Coleoptera" first appeared, and are still being published, in *The Scottish Naturalist*, but as papers in a magazine are not convenient to refer to, a *few* separate copies of the "Outlines" will be published in parts from time to time, for the use of workers, and for these early application should be made.

F. BUCHANAN WHITE,
Editor of the *Scottish Naturalist*.

INTRODUCTION.

THIS paper is the first of a series in which I hope from time to time to furnish in the briefest possible form (for obvious reasons no other form would be suitable to a quarterly magazine), tables of the leading characters of the British *Coleoptera*. By using abbreviations for various constantly recurring words, and attempting no greater fulness of description than will just suffice for easy identification, I expect to bring the work within reasonable limits. The divisions of groups, families, &c., adopted in the tables will often be artificial (*e.g.*, in the first table, relating to "groups," the *Buprestidæ*, *Eucnemidæ*, and *Elateridæ* are characterised separately, instead of unitedly as *Sternoxi*; and in the table of *Feroniidæ*, *Pterostichus inæqualis* is eliminated from the rest of its genus). The object I have in view, however, is the provision of a ready means of identifying species, not classification. For classification I will, in passing, refer to Dr. Sharp's "Catalogue of British Coleoptera" (E. W. Janson, 28 Museum Street, London, W.C., price one shilling) as the best catalogue procurable. I may also refer to Mr. E. C. Rye's "British Beetles" (Lovell Reeve, & Co., 5 Henrietta Street, Covent Garden, London, W.C., price ten shillings and sixpence) for the general instructions that want of space prevents my supplying as an introduction to my work.

As this series of papers will be designed especially for beginners, I pass by, in describing, characters that cannot be detected without dissection, or the aid of the microscope, and select such as can be perceived with an ordinary, or at any rate with a Coddington, lens; also, I rely as much as possible on characters connected with the upper side of the insects. In the case of a few genera (*Homalota* for instance) the species are too minute and closely allied to be distinguishably characterised in a short space; I shall in such cases merely offer a few general remarks, and refer readers who desire more to monographs of them that have been already published on a

larger scale than would be practicable for the pages of a magazine. Finally I must express my obligations to Mr. G. C. Champion for information he has courteously supplied to me on the geographical range of many species.

As it is possible that some readers of the "Scottish Naturalist" who would like to make use of the "tables" in the "Outline descriptions of British Beetles," may not be sufficiently familiar with the dichotomous system, it may be of advantage to describe the process that should be gone through in order to arrive at the name of a species. For this purpose we will *take an example*, and suppose that a collector is endeavouring to identify by the descriptions—say a specimen of *Cychnus rostratus*. He will act as follows:—

1st. He will turn to the "Table of Groups" (p. 11), in order to discover to which *main division* of the Coleoptera his specimen belongs. In this table, under the figure "1" (on the *left* hand side of the page), beetles are divided into two classes; one containing species whose elytra reach considerably beyond the insertion of the 3rd (or hind) legs; the other, species in which the elytra are much shortened. Finding his specimen to belong to the *first* of these classes, he will be referred (by the figure "2" on the *right* hand side of the page) to the place where there is a *separation into classes* of the species whose elytra reach considerably beyond the insertion of the 3rd legs. (This will be where the figure "2" occurs on the *left* hand side of the page). There they are split into the following divisions, viz.—(a) those, which have the antennæ quite simple, which are not aquatic, and which have tarsi easily seen to consist of five joints; (b) those having the antennæ not clubbed, not being aquatic, and having tarsi easily seen to consist of four joints; (c) aquatic species; (d) a residuum not possessing *all* the characters of any one of the *other* divisions under the figure "2." By comparison of the specimen under enquiry with the characters of these several groups, it is seen to belong to the *first* of them, against which, on the *right* hand side of the page, is set the figure "3." Turning to the line where the figure "3" occurs on the *left* of the page, it will be seen that the species attributed to that number are divided into two groups—one having the anterior tibiæ *simple*, the other having them either notched on the inner side or with a spine at the apex. As the specimen will be found to have a strong spine at the apex of the anterior tibiæ, it will be referred to the *Geodephaga*.

2nd. The student will turn to the "Table of families of *Geodephaga*" (p. 12), to ascertain to which of those families his specimen belongs. Against the figure "1" on the *left* of the page, there are three divisions characterised. The absence of a distinct notch on the anterior tibiæ will refer his specimen to the *first* of these, against which "2" is set on the *right*. Referring to "2" on the *left*, he will find the species composing that class divided into two groups distinguished by the length of the eye, as compared with the length of the basal two joints of the antennæ together. The eye of the specimen in question being *shorter* than the basal two joints of the antennæ, it will be referred to the *Carabidæ*.

3rd. The table headed "*Carabidæ*" (p. 13) must be referred to, to determine the *genus* of the specimen. Under the figure "1" on the *left* of the page it will be referred (by the form of the base of the thorax) to the figure "2" on the *right*. Consequently the student will look where "2" occurs on the *left*, and, observing that the elytra of his specimen are not striated, he will decide that it belongs to the genus *Cychrus*.

4th, and finally, he will turn to the table headed "*Cychrus*" (p. 14), and, finding that his specimen answers to the description of the single species, he will decide that it is *Cychrus rostratus*. If the genus contained more than one species, he would go through the same process (to determine which *species* it belonged to) that he had previously gone through to discover its *group*, its *family*, and its *genus*.

It is necessary, in concluding these remarks, to draw attention to the necessity of *observing accurately the slightest point mentioned*, as any failure in doing so might lead the observer far wrong indeed; and it may just be added that, after a little practice, the collector will carry the characters in his mind sufficiently to render it unnecessary for him, in *most* cases, to do more than turn at once to the table of species in a genus.

Below is the figure of a beetle, showing the relative position of the various parts of the body. This is followed by a glossary, and a table of the abbreviations to be used. The work proper then commences, and is arranged as follows:—(a) Table of the "groups," for ascertaining to which main division of the *Coleoptera* a specimen belongs. (b) Table of the "families" contained in the 1st group. (c) Table of "genera" in 1st family of 1st group. (d) Table of species in 1st genus of 1st family of 1st group.

(e) Table of species in 2nd genus of 1st family of 1st group.
And so on.

Explanation of Figure.—1. A Beetle—*mp*, maxillary palpi; *m*, mandibles (or jaws); *lp*, labial palpi; *a*, antennæ; *e*, eyes; *h*, head; *th*, thorax; *s*, scutellum; *el*, elytra; *hb*, hind body; *f*, femora; *t*, tibiae; *ts*, tarsi; *c*, claws. N.B.—The wings are folded under the elytra.

2. An Elbowed Antenna—*s*, scape; *f*, funiculus; *c*, club.

GLOSSARY.

Anterior.—Front.

Apex.—The extremity farthest from the middle of the insect.

Aquatic.—Living in the water.

Bilobed.—Cleft into two parts.

Close (when spoken of punctuation).—Having the spaces between the punctures not larger than the space occupied by the separate punctures.

Clypeus.—The front portion of the upper surface of the head.

Cordate (spoken of the thorax).—Abruptly contracted backwards immediately behind the broadest part, but of about uniform width in the part just in front of base.

Dentate.—Toothed.

Disc.—The surface, exclusive of the margins.

Dorsal.—Running along the centre longitudinally.

Elongate.—Longer than broad.

Fascia.—A stripe.

Foliated (spoken of antennæ).—Having the terminal joints flat (like leaves), and with a common base.

Fovea.—A short channel.

Glabrous.—Smooth (*i.e.*, without striæ or punctures).

- Granulated.—Appearing to be covered with minute tubercles.
 Humeral.—Placed at the external corner of the base of the elytra.
 Interstice.—A space between punctures or striæ.
 Obsolete.—Only faintly to be discerned.
 Pectinated.—Comb-like.
 Peduncle.—A contracted process joining two parts of the body (as between the thorax and hind body of a wasp).
 Penultimate.—Immediately preceding the last.
 Posterior.—Behind.
 Punctate-striate.—Having striæ in which are punctures.
 Pygidium.—Upper surface of the last segment of the hind body.
 Reflexed margin.—The under surface of the extreme margin.
 Rostrum.—A snout.
 Segment.—A division, or joint (spoken of the hind body).
 Serrated.—Saw-like.
 Sparing (when spoken of punctuation).—Having the spaces between the punctures larger than the spaces occupied by the separate punctures.
 Stria.—An impressed line, or long narrow channel.
 Subulate.—Like an awl (*i.e.*, with the apex abruptly contracted).
 Testaceous.—Of a transparent yellowish colour.
 Transverse.—Broader than long.

LOCALITIES.

B.—Great Britain generally (so far	S.—Scotland.
E.—England & Wales. [as known].	I.—Ireland.

My information concerning Irish and Welsh localities is very limited. I should be glad of local lists.

N. S. E. W. C. F. M. (printed above the line, *e.g.*, E.^{s.c.}) signify severally, North, South, East, West, Coasts, Fens or marshes, Mountains.

!—A common insect. !!—An abundant insect. The names of the rarest species, some possibly not indigenous, are printed in italics.

N. B.—The figures preceding the locality indicate the length of the insect measured from the base of the antennæ to the apex of the hind body. "1." signifies "line": (a "line" is one-twelfth of an inch). The average length is given, but most species vary more or less in this respect.

ABBREVIATIONS.

Abbrev.—Abbreviated.	Ba.—Base, or basal.
Abr.—Abrupt, or abruptly.	Backw.—Backwards.
Ac.—Acute, or acutely.	Bil.—Bilobed.
Alt.—Alternate, or alternately.	Bl.—Blue, or bluish. (See "B.")
An.—Antennæ.	Br.—Bright.
Ang.—Angle.	Chan.—Channel, or channeled.
Ant.—Anterior, or anteriorly.	Cl.—Club, or clubbed.
Ap.—Apex, or apical.	Clyp.—Clypeus.
B.—Black; when prefixed, "blackish," as "b.-r."	Conc.—Concave.
	Cons.—Considerably.

- Consp.—Conspicuous, or conspicuously.
 Contr.—Contracted.
 Conv.—Convex.
 Cop.—Coppery.
 Cyl.—Cylindric.
 Def.—Defined.
 Dent.—Dentate.
 Dil.—Dilated.
 Dist.—Distinct, or distinctly.
 Dor.—Dorsal.
 E.—Elytra.
 El.—Elongate.
 Elev.—Elevated.
 Ex.—External, or externally.
 Exc.—Except.
 F.—Femora.
 Fasc.—Fascia, or fasciæ.
 Forw.—Forwards.
 Fov.—Fovea, or foveæ.
 Fr.—Front.
 Fun.—Funiculus.
 Gen.—Generally.
 Glab.—Glabrous.
 Gr.—Green.
 Gran.—Granulated.
 H.—Head.
 H.-b.—Hind body.
 Hi.—Hinder.
 Hum.—Humeral.
 Impr.—Impression, or impressed.
 Impunc.—Impunctate.
 In.—Inner.
 Ind.—Indistinct, or indistinctly.
 Ins.—Insertion.
 Int.—Interstice.
 Interm.—Intermediate.
 Irreg.—Irregular, or irregularly.
 J.—Joint, or jointed.
 Longi.—Longitudinal.
 Mar.—Margin, or margined.
 Met.—Metallic.
 Mid.—Middle.
 Obl.—Oblique.
 Obs.—Obsolete, or obsoletely.
 Obsc.—Obscure, or obscurely.
 Obt.—Obtuse, or obtusely.
 Oliv.—Olivaceous.
 Out.—Outer.
 Pal.—Palpi (maxillary).
 Pec.—Pectinated.
 Pen.—Penultimate.
 Pit.—Pitchy (*i. e.*, of the colour of pitch).
 Post.—Posterior, or posteriorly.
 Prec.—Preceding.
 Prod.—Produced.
 P.-s.—Punctate-striate.
 Pub.—Pubescent.
 Punc.—Puncture, or punctate.
 Pyg.—Pygidium.
 R.—Red, or reddish. (See “B.”)
 Rectang.—Rectangular.
 R.-m.—Reflexed margin.
 Ros.—Rostrum.
 Sc.—Scutellum.
 Seg.—Segment.
 Serr.—Serrated.
 Should.—Shoulder.
 Spar.—Sparing, or sparingly.
 Str.—Stria, or striate.
 Sub.—Subulate.
 Sut.—Suture.
 Tar.—Tarsi.
 Test.—Testaceous.
 Th.—Thorax.
 Tib.—Tibiæ.
 Tr.—Transverse, or transversely.
 Unic.—Unicolorous.
 Unif.—Uniform, or uniformly.
 U.-s.—Under side.
 Var.—Variety.
 Vio.—Violet.
 Wh.—White, or whitish. (See “B.”)
 Yel.—Yellow, or yellowish. „
 ♂—Male.
 ♀—Female.

BRITISH COLEOPTERA.

TABLE OF GROUPS.

1. E. reaching cons. beyond ins. of 3rd legs	2
E. not reaching beyond ins. of 3rd legs,—or if a little beyond, an. not with an abr. cl.	Brachelytra
2. An. quite simple. Not aquatic. Tar. all 5 j. (easy to count). E. hard and horny, closely applied to each other	3
- - - - - 4 j. (easy to count). An. straight, never cl. Pen. j. of tar. very deeply bil. and much shorter than the prec. together	4
- - - - - Aquatic	Hydradephaga
- various	5
3. Ant. tib. dist. notched on in. mar., or sharply spined at ap. - - plain. Th. more than twice length of h., and acutely prod. at hi. angs.	Geodephaga Elateridæ
4. H. not deeply sunk in th., with 2nd j. of an. much less than $\frac{1}{2}$ length of 3rd, or with eyes notched, or with both	Longicornes
An. much thickened towards ap., and 1st j. of 3rd tar. much longer than the 2 following together	Bruchidæ
Not possessing the characters of either of the 2 prec.	Eupoda
5. Tar. all 5 j. (easy to count). Pal. longer than an.	6
- - - - - not longer than an.	7
- 4 j. (easy to count). An. elbowed, or ros. prod. as a snout, or both	Rhyncophora
- various, but with less than 4 js., often not easy to count 3rd tar. 4 j.; rest 5 j. (easy to count)	8 Heteromera
6. 1st j. of 3rd tar. evidently longest	Sphæridiadæ
- - - - - not evidently longest	Hydrophilidæ
7. 1st and 2nd pairs of legs meeting at ins., 3rd remote from them	Buprestidæ
- - - - - not close together. Hi. angs. of th. acutely prod. backw. An. much thickened (or serr.) towards ap.	Eucnemidæ
- - - - - not acutely prod. backw. An. elbowed, with a foliated cl.	Lamellicornes
- - - - - not as in prec.	{ Malacodermi Necrophaga
8. Tar. with 3 broad js. (easy to count). Ins. of an. near each other, between the eyes	Endomychidæ

- - - - -	- - - far apart, in fr. of the eyes	Coccinellidæ
- 1 or 2 j.	Species very minute	} Sphæriadæ Trichopterygidæ
- 3 j.	Species small, but rarely less than $\frac{3}{4}$ line	
		Lathridiidæ

TABLE OF FAMILIES OF GEODEPHAGA.

1.	Ant. tib. not dist. notched on in. mar.	2
- -	dist. notched on in. mar. H.-b. consists of not more than 6 segs.	4
- - - - -	- - - more than 6 segs.	Brachinidæ
2.	Eye longer than first 2 js. of an. together. H. often conc.	3
-	shorter than first 2 js. of an. together. H. not conc.	Carabidæ
3.	E. dull, with met. spaces, or <i>vice versa</i>	Elaphridæ
	E. not met.,—variegated with colours,	Cicindelidæ
4.	E. covering h.-b. Ex. mar. of ant. tib. not dent.	5
- - -	- - - dentate. (Th. joined to h.-b. by a peduncle)	Scaritidæ
-	leave ap. of h.-b. exposed	Lebiadæ
5.	Ap. j. of pal. not sub. 4 dil. js. in ant. tar. of ♂. In- term. tar. of ♂ gen. dil.	Harpalidæ
- - - - -	Less than 4 dil. js. in ant. tar. of ♂	6
- - -	sub. Ant. tar. of ♂ with 2 dil. js.	Bembidiadæ
6.	Each dil. j. in ant. tar. of ♂ contr. at its base. Dil. js. only 2	Trechidæ
- - - - -	- - - 3	Feroniidæ
- - - - -	not contr. at its base. Dil. js. 3	Chlæniidæ

First Family—CICINDELIDÆ. (1 genus.) CICINDELA.

1.	E. gr.	2
	E. not gr.	3
2.	Th. broadest in fr. Br. gr. Legs cop. Mouth wh. E. with wh. spots (with a b. punc. in ♀). 7 l. B. !	campestris
	Th. cyl. Shining dull gr. with cop. gloss. Hum. ang., a spot near mid of mar., and a crescent at ap., of e. obsc wh. 5 l. E.s.	germanica
3.	Ap. of e. pale	4
- - -	not pale. Cop.-b. E. wrinkled and pitted. Hum. angs. and 3 streaks from mar. (the middle one long and w shaped) yel. 8 l. E.s.	sylvatica
4.	Cop. or oliv. E. with a hum. and ap. crescent, and a broad waved band (whose ant. mar. at one end is in a line with post. at other) not reaching sut., yel. $7\frac{1}{2}$ l. E.n.c.	hybrida
? var. of prec.	Ant. mar. of tr. band at one end cons. behind post. at other. E.s.c.	maritima

Second Family—ELAPHRIDÆ. (3 genera.)

1. E. with a consp. polished longi. space on each side of sut.	Notiophilus
E. not as in prec.	2
2. H. and th. unif. and thickly punc.	Elaphrus
H. (which is not conc.), and th., not unif. punc.	Blethisa

NOTIOPHILUS.

1. E. with the ap. consp. paler than the disc	2
E. unic. H. consp. punc. near ba. Brassy. Tib. red-dish. E. deeply p.-s., the str. failing near the ap.	
2¼ l. B. !	palustris
- - - - - The whole legs (especially the ant. ones) r. E. deeply p.-s. throughout.	2½ l. E.
- - - - - almost impunc. Brassy or b. Tib. gen. b. A more el. species than the prec., less strongly p.-s., the str. failing near the ap.	2½ l. B. !
	aquaticus
2. 2nd int. beyond the polished space broader than 1st	3
- - - - - not broader than 1st. First 2 ints. both much broader than the rest. H. narrow. Punc. of str. fine. Brassy. Tib. r. 2⅓ l. B.	
	substriatus
3. Only 2nd int. a little broader than the rest. H. broad. Punc. of str. coarse. Brassy. Tib. r. E. with 1 large consp. punc. 2¼ l. B. !!	biguttatus
Very like prec. E. with 2 large consp. puncs. E.	quadripunctatus

ELAPHRUS.

1. Tib. more or less test.	2
- not test.	3
2. Oliv. Tar. br. gr. Unif. and closely punc., exc. a few elev. spaces on the in. ints. E. with 4 rows of faintly impr. pits. 3½ l. B. !	riparius
Bronzy. Tar. not gr. Spar. and irreg. punc. E. with 4 rows of deeply impr. pits. Th. with a deep chan. forked in fr. 3¾ l. B. !	cupreus
3. E. much less closely punc. than th. Glossy b., gr., r., or golden. E. with 4 rows of faintly impr. pits. 4¼ l. S.M.	lapponicus
E. punc. much as th. Met. gr. or b. E. with 4 rows of dist. impr. pits. Th. with 2 obl. pits on either side of an irreg. dors. chan. 4¼ l. B.	uliginosus

BLETHISA.

Dark bronze. Mar. of th. and of the p.-s. e., gen. gr.	
Third int. with 4 or 5 large pits, fifth with 2. 5 l. B.	multipunctata

Third Family—CARABIDÆ. (6 genera.)

1. Th. not consp. prod. backw. at hi. ang.	2
Th. consp. prod. backw. at hi. ang.	Carabus
2. E. str. Th. not closely punc. over entire surface	3
- - - closely punc. over entire surface	Calosoma
- not str.	Cychrus

3. 5th j. of an. about double length of 4th	Leistus
- - - - cons. longer than 4th, but much less than double	Nebria
- - - - scarcely longer than 4th (E. with consp. pits) .	Pelophila

CYCHRUS.

B. The long narrow h., and strongly mar. th. and e.
all coarsely gran. E. with traces of 3 elev. lines.
8½ l. B.	rostratus

CARABUS.

1. E. with 3 continuous strongly elev. longi. lines.	2
E. without these lines	4
2. Space between the lines simply gran. or wrinkled	3
- - - - (the first of which is obs. in the hi. third) occupied
by chain-like rows of elev. lines. Brassy. 10 l. B. !	granulatus
- - - - occupied by large pits connected into rows by
short elev. lines. Brassy. 12 l. B.	clathratus
3. H. and th. cop. E. gr. with a cop. mar. Legs black-
ish. 8 l. B.	nitens
Rich gr. Mouth, pal., ba. 4 js. of an., and legs, r.
11 l. E.s.c.	auratus
4. Th. more or less tr.	5
- as long as broad. Blackish bl. Ap. j. of pal. consp.
hatchet-shaped. E. with chain-like rows of elev.
lines, 3 of them very consp. 12½ l. E.s.w.	intricatus
5. E. with rows of shallow but dist. imprs.	7
- without dist. str., imprs., or elev. lines	8
- dist. str., with elev. lines, but not dist. imprs.	6
6. Ints. of str. continuous and dist. elev., exc. 4th, 8th, and
12th. which consist of short elev. lines. Colour
variable. 12 l. E.	monilis
- - - - but scarcely elev., exc. 4th, 8th, and 12th, which
consist of short strongly elev. lines. Colour vari-
able. 9 l. B.	arvensis
- - - much interrupted; 4th, 8th, and 12th more elev.
than the rest. Bl.-b. Mar. of th. and e. often vio.
11½ l. B. !	catenulatus
7. H. and th. bronzy. E. greenish, gran., with 3 chain-
like rows of scarcely elev. lines, on each of which is
a very dist. row of imprs. 11 l. B. !	nemoralis
B., with mar. of th. and e., bl. E. only twice as long
as th., covered with close elev. lines, on which
are 3 faint rows of imprs. 8 l. E.	convexus
8. Sut. gently elev., especially behind. B. gen. tinged
with vio. or gr. E. gran.—the granulation tending
to run into lines. 12 l. B. !	violaceus
Sut. flat. Glossy b., tinged with steel bl. Very conv.
E. very finely and evenly gran. 12 l. B. ^m	glabratus

CALOSOMA.

Blackish, E. shining, gr., p.-s., with smooth elev. ints. A row
of puns. on the 4th, 8th, and 12th ints. 12½ l. E. ^s	sycophanta

Shining gr. E. p.-s., with flattish ints., which are tr.
wrinkled, the 4th, 8th, and 12th with a row of consp.
puncs. Legs and an. bl. $7\frac{1}{2}$ l. E. I. inquisitor

NEBRIA.

1. E. not unic. 2
- unic. 3
2. B. Disc of th., mar. of e., an., pal., and legs, pale. 7 l.
E.^c (Yorkshire) livida
Test. E. with 2 irreg. tr. fasc., joined by longi. lines, b.
9 l. E.^{w.c} complanata
3. B. An., pal., tib., and tar., r. E. consp. p.-s. Th. very
tr., almost as wide at ba. as in fr. 5 l. B. !! brevicollis
B. or reddish. An. and legs more slender and long than
in prec., an. darker. Str. of e. almost impunc. Th.
strongly contr. behind. $4\frac{3}{4}$ l. B.^m Gyllenhalli

PELOPHILA.

Brassy. Legs gen. more or less r. Th. very tr. E. p.-s.,
3rd and 5th ints. with large imprs. $4\frac{1}{2}$ l. I. borealis
Orkney, Shetland

LEISTUS.

1. Th. bl. b. or blackish. Mouth, an., legs, and pal., test. 2
- - - - Fem. pitchy or b. Rest of limbs (which are
very long and slender) dusky r. Th. very tr. E.
strongly p.-s. $4\frac{1}{4}$ l. E. ! spinibarbis
- r. 3
2. H. and e. bluish b. or r. Th. twice as broad as long.
E. short, very strongly p. s., the in. ints. dist. elev.
Th. without a consp. r. mar. $3\frac{1}{2}$ l. B. fulvibarbis
H. and e. consp. bl. Th. longer than in prec. E. longer
and more parallel, less strongly p.-s., ints. less elev.
Th. with a consp. r. mar. $3\frac{1}{2}$ l. B.^m montanus
3. Unic., varying from pale to deep r. E. deeply and
unif. p.-s. Hi. ang. of th. sharp. 3 l. E. ! ferrugineus
H. b. E. r., with ap. (and sometimes ba.) b. E. p.-s.,
the punc. str. failing at sides and ap. Hi. ang. of
th. obt. 3 l. B. rufescens

Fourth Family—SCARITIDÆ. (2 genera.)

Fr. of clyp. simple. Sides of th. not strongly rounded.
Red. Clivina
- - - with 2 or 3 teeth. Sides of th. strongly rounded.
Brassy Dyschirius

CLIVINA.

Unic. but varying from r. to r-b. H., pal., an., and legs,
often paler. Back of h. almost impunc. E. strongly
p.-s. $2\frac{3}{4}$ l. B. ! fossor

Very like prec. (? var.). H. and th. consp. darker than e.

H. clearly punc. behind. E. often with a dark

blotch. $2\frac{1}{4}$ l. B.

collaris

DYSCHIRIUS.

1. Clyp. prod. into 3 teeth in fr. 2
- - - 2 teeth only in fr. 3
2. E. dist. p.-s. Th. strongly rounded. Legs reddish.
R.-m. of e. carried round ba. Ant. tib. with 2 well
def. ext. teeth. E. el.-oval. 2 l. B.^c thoracicus.
Very like prec. E. more deeply str. Str. impunc. E.
oval. $1\frac{3}{4}$ l. E.^{N.E.C.} obscurus
3. Striation of e. reaches ap. Ant. tib. only obs. toothed
on ext. mar. 4
- - - - - acutely toothed on ext. mar. 7
- - - fails near ap. Brassy b. Legs and an. r. Th.
round. E. oval, p.-s. in fr. Ant. tib. with a strong
ext. tooth. $1\frac{1}{4}$ l. B. globosus
4. R.-m. of e. not carried round ba. 5
- - - carried round ba. Th. el. E. cyl., strongly p.-s.
Mouth, an., and legs reddish. $1\frac{3}{4}$ l. E.^{sc} extensus
5. Str. of e. not dist. punc. throughout. In. ap. spine of
ant. tib. clearly shorter than outer. E. oblong oval.
Mouth, legs, and an., reddish. 6
- - - dist. punc. throughout. Ap. spines of ant. tib.
about equal. Th. el. E. narrow with sub-parallel
sides. 2 l. B.^c politus
6. Str. of e. unif. deep, and impunc. in hi. *half*. Int. elev.
 $2\frac{1}{4}$ l. B.^c impunctipennis
Str. of e. not deep, and fainter near mar., punc. exc. in
hi. *third*. $2\frac{1}{4}$ l. B.^{N.C.} nitidus
7. R.-m. of e. not dist. carried round ba. Legs and an.
dusky 8
- - - dist. round ba. Crown strongly wrinkled, E.
not broader than th., cyl., deeply p.-s. Clyp.,
mouth, an. and legs r. $1\frac{1}{3}$ l. E.^c angustatus
8. E. cyl., deeply p.-s. in fr., fainter behind. Str. unif.
punc. to behind mid. Out. teeth on ant. tib. both
well def. 2 l. B.^c salinus
E. oblong oval, deeply p.-s. nearly to ap. Str. more
faintly punc. *from* mid. Only *lower* ext. tooth on
ant. tib. well def. $1\frac{1}{2}$ l. E. æneus

Fifth Family—BRACHINIDÆ. (1 genus.) BRACHINUS.

1. U.-s. of h.-b. dusky. H., th., pal., and legs, r. An.
r., often marked with b. 2

U.-s., h., th., pal. and an., clear r. E. bl., with ba. of sut. r., scarcely str. 2-3 l. E. ^s	<i>sclopeta</i>
2. E. bl., spar. punc., dist. str., with elev. ints. 2½-4 l. E. E. bl., rarely marked with r., punc., scarcely str., ints. flat. 2-3 l. E. ⁿ	<i>crepitans</i> <i>explodens</i>

Sixth Family—LEBIADÆ. (12 genera.)

1. Ba. j. of an. not longer than h. Th. very tr. and but little contr. behind	2
- - - - - el., much narrower than h., narrowest in fr.	<i>Odacantha</i>
- - - - - not as in either of prec.	3
- - - - - longer than h.	<i>Drypta</i>
2. Th. br. r.	<i>Lebia</i>
- not br. r.	<i>Masoreus</i>
3. Pen. j. of an. tar. bil. and larger than 3rd. Claws simple	<i>Aetophorus</i>
- - - - - Claws toothed	<i>Demetrias</i>
- - - - - not as in prec. H. and th. closely and unif. punc.	4
- - - - - not closely and unif. punc.	5
4. Ap. j. of pal. thickest behind the mid.	<i>Cymindis</i>
- - - - in fr.	<i>Polystichus</i>
5. An. entirely pale	<i>Dromius</i>
- not entirely pale. Claws toothed	6
- - - - - untoothed	<i>Lionychus</i>
6. Mentum toothed	<i>Metabletus</i>
- untoothed	<i>Blechrus</i>

DRYPTA.

Pub., punc. H., th., and e. br. bl. Mouth, pal., legs, and an., yel. Ba. of an. partly b. E. str. 3¾ l. E. ^s	<i>dentata</i>
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POLYSTICHUS.

Pub. punc. R. Legs, and a large dorsal mark on each of the e., paler. E. p.-s. 4 l. E. ^c	<i>vittatus</i>
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ODACANTHA.

H. and th. br. gr. An. dusky, pale at ba. Legs test.; knees and tar. dusky. E. reddish test. with blackish ap., very faintly p.-s. 3 l. E. ^r	<i>melanura</i>
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AETOPHORUS.

H. b. Th. r. An., pal., legs, and e., test. E. faintly p.-s., with a b. cloud forked in fr. on the sut., and marked with b. on the mar. Breast b. 2½ l. E. ^r	<i>imperialis</i>
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DEMETRIAS.

- R.-test.. H. b. The sut. more or less clouded with fuscous. U.-s. test. E. faintly p.-s. Claws with 1 tooth. 2 l. E.^{r.c.} monostigma
- Very like the prec.. The e. vary in the fuscous clouding (it is sometimes absent). Breast b. Claws with 3 teeth. 2½ l. E. ! atricapillus

DROMIUS.

1. Hi. half, at least, of u.-s. of h.-b. b. Th. tr. (E. gently str.) 2
- - - - - not tr. (Mouth, pal., legs, and an., pale.) 4
- H.-b. reddish beneath; often rather darker near ap. 6
2. E. with well def. markings. (Mouth, pal., legs, and an., pale.) 3
- unic., blackish r. H. dark. Th. reddish with paler mar. Sides of E. very parallel. 3 l. E. meridionalis
3. Hi. angs. of th. very obt. H. b. Th. r. E. b., each with 2 large pale spots, the ant. spot not reaching mar. of E. 2½ l. B. ! quadrimaculatus
- Very like prec. Smaller. Hi. angs. of th. hardly obt. Ant. pale spot on e. touches the mar. 1¾ l. E. quadrisignatus
4. E. not unif. pit. (H. b. Th. reddish. E. gently str.) 5
- unif. pit. Very like *meridionalis*. An. longer and stouter. E. longer, with less parallel sides. 3 l. B. ! agilis
5. E. b., each with 2 well def. pale spots, of which the hi. is smallest. The ant. spot sometimes fills ba. 1¾ l. B. ! quadrinotatus
- pale in fr., dark behind; often an obsc. pale spot near ap.; or unif. brown; or sut. entirely dark. 1⅝ l. B.^{c.} nigriventris
6. Legs, pal., and an. pale. E. with dist. markings. (H.-b. Th. r.) 7
- - - - - with no dist. markings. (H. and th. reddish.) 8
- Pal. dark brown. H. b. Th. r., about as broad as long. Legs and an. test. E. pale, often darker near sut. 1½ l. B. ! melanocephalus
7. A pale cloud at ba. of each of the obs. str. e. The in. mars. of these pale marks meet on sc. and run very obl. apart backw. Rest of e. dark, exc. round ap. of sut. 1¾ l. E.^{s.c.} vectensis
- Very like prec. An. longer. Th. more el. E. longer and more parallel. In edges of pale clouds on fr. of e. more parallel. Ap. of e. entirely pale 1¾ l. E.^{r.} sigma

8. E. pale, dusky on sut. and behind. H. and th. about equally long and broad. E. parallel, dist. p.-s. $1\frac{3}{4}$ l. B. ! linearis
 Very like prec. H. consp. longer and narrower than th. E. broadest behind, obs. str. 2 l. E.^r longiceps

BLECHRUS, METABLETUS, AND LIONYCHUS.

1. E. with pale spots 2
 - b., very ind. p.-s., without a dist. impr. on the disc 3
 - brassy brown, faintly but dist. p.-s., a consp. impr. on the disc of each. An., pal. and legs, blackish. $1\frac{3}{4}$ l. B. ! M. foveola
 2. E. brown brass, obs. str., with a pale hum. spot ; r.-m. pale. H. and th. b. An. dark, with ba. j. gen. r. Legs r., fem. dark. 2 l. E. M. obsкуро-guttatus
 Shining b. Ba. j. of an. r. E. dist. str. on disc., each with a pale hum. and ap. spot, that at ap. often obs. $1\frac{3}{4}$ l. E.^{s.c.} L. quadrillum
 3. B. Tib., and often ba. j. of an., reddish. Th. very tr., shorter than h. $1\frac{1}{4}$ l. E. M. truncatellus
 - Th. not strongly tr., about length of h. 1 l. E. ! B. maurus

LEBIA.

1. E. unic. gr. or bl., p.-s., ints. punc. H. gr. or bl., punc. Th. r. An., tar., and pal., dusky 2
 E. b., with a pale spot. Mouth, an., th., and legs, r. 3
 E. r.-yel., with b. marks forming a +. H. b., punc. Th. r. Sc. b. Legs r. Knees and tar. dusky.
 Breast b. An. dusky, ba. js. r. 3 l. B. crux-minor
 2. Breast and sc. b. Fem. and tib. partly b. Ba. j. of an. r. $3\frac{1}{4}$ l. E. cyanocephala
 - fem., tib., sc., and ba. js. of an. r. Ints. less dist. punc. than in the prec. $3\frac{1}{4}$ l. B. chlorocephala
 3. The spot on e. ap. H. r. Breast b. E. faintly p.-s. Ints. obs. punc. $2\frac{1}{4}$ l. E.^s hemorrhoidalis
 - - - hum. H. b. Breast r. E. strongly str. Ints. almost glab. $2\frac{1}{2}$ l. E. turcica

CYMINDIS.

- H. b. An., pal., and legs r. H. spar. punc. Th. r., spar. punc. on disc, thickly on sides. E. b., deeply str.; with mar., & hum spot, r.; ints. spar. punc. $4\frac{3}{4}$ l. E. axillaris
 H. and th. pit., deeply and unif. punc. E. pit., ba. r., finely p.-s., ints. thickly and deeply punc. An. pal. and legs r. $4\frac{1}{4}$ l. B.^m vaporariorum

MASOREUS.

- Reddish, much clouded with fuscous. Mouth, pal, an. and legs r. E. finely p.-s., ints. glab. $2\frac{1}{2}$ l. E.^{s.c.} Wetterhali

Seventh Family—CHLÆNIIDÆ. (7 genera.)

1. An. set. with long stout bristles. Th. and e. not pub.	Loricera
Not with the 2 characters of the prec. Th. and e. pub.	2
- - - - - Not pub. Th. broadest at ba.	Oödes
- - - - - - - - not broadest at ba.	4
2. Ap. j. of pal. consp. hatchet-shaped. (Eyes prominent).	Panagæus
- - - not consp. hatchet-shaped	3
3. Th. very much contr. behind, dull pale r.	Callistus
- not as in prec.	Chlænius
4. H. and th. unif. punc. Ap. j. of pal. hatchet shaped	Licinus
- - - not dist. punc. Ap. j. of pal. not hatchet shaped	Badister

LORICERA.

Brassy gr., rarely reddish. Pal. tib. and tar. r. E. p.-s.,
with 3 consp. imprs. on the 3rd int. $3\frac{3}{4}$ l. B. ! pilicornis

PANAGÆUS.

B. Th. strongly tr. E. each with 2 very broad, tr., r.
fasc. (not reaching the sut.) often joined on the
mar. $3\frac{1}{4}$ l. E.^r. crux-major
Very like the prec.; smaller, & with th. not tr. $2\frac{3}{4}$ l. E.^s. quadripustulatus

CALLISTUS.

H. bl. or gr. Th. and pal. r. E. r.-yel; shoulds., and 2
bands (1st. not reaching sut.) joined on mar. of e.,
b. Legs test, marked with b. An. r. at ba.
 $3\frac{1}{4}$ l. E.^s. lunatus

CHLÆNIUS.

1. E. unic. gr. (H. and th. cop. or gr.)	2
Th., e., legs, and an., unic., dull b. H. brighter. Th.
much punc. E. str., ints punc. 5 l. E. I. ^r .	holosericeus
- gr. E. gr., with yel. mar. and ap. Mouth, pal., an.
and legs, yel. E. finely str., ints. punc. 5 l. E.	vestitus
2. Th. broadest at mid., hi. angs. very obt. No more
than 1st j. of an. r. Legs r., often more or less pit.
5 l. B. !	nigricornis
- in fr. of mid., its hi. angs. hardly obt. Pal. and
ba. 3 js. of an. r. Legs r., often more or less
brown. 5 l. E. ^{s.c} .	Schranki

OÖDES.

B. H. and th. smooth. Th. very massive. E. finely
p.-s., str. not reaching ba. $4\frac{1}{4}$ l. E.^r. helopioides

LICINUS.

- B. Th. very tr. E. finely p.-s., ints. with large puncts. ;
the alt. ints. elev. Winged. $6\frac{3}{4}$ l. E.^s silphoides
- - hardly tr. E. finely p.-s. ; ints. punct., flat. Th. shin-
ing, much more deeply punct. than e. Wingless.
5 l. E.^s depressus

BADISTER.

1. Th., legs, and ba. and ap. of an., clear r. H. b. E.
r., with ap. and a broad tr. fasc. (not reaching sut.,
varying in size, but at least leaving a r. spot near
ap. of sut.) b. 2
H., th. and e., dusky 3
2. Breast with the sides r. Th. shorter, and hardly broader,
than h. $3\frac{3}{4}$ l. E. unipustulatus
- b. Th. not shorter, and cons. broader, than h. 3 l.
E. S. I. ! bipustulatus
3. Mar. of th., and mar. and sut. of e., pale. E. with a
pale hum. spot. Legs, and ba. and ap. of an., pale.
Th. hardly tr. E. str. 2 l. E. sodalis
Fuscous b. Mar. of th., extreme ba. and ap. of an., r-m.
of e., and legs, sometimes pale. Th. tr. E. str.
 $2\frac{3}{4}$ l. E.^s I.^s peltatus

Eighth Family—FERONIIDÆ. (13 genera).

1. Claws dent. Ap. j. of labial pal. forms a thick cl. Taphria
- - - - - does not form a dist. cl. 2
- not dent. An. with 3d j. more than twice length of 4th Sphodrus
- - - - - not more than twice as long as 4th 3
2. Th. consp. narrower at ba. than in fr. Pristonychus
- not consp. narrower at ba. than in fr. Calathus
3. Ant. tib. much dil. from ba. of notch to ap. of tib. 4
- - not much dil. from ba. of notch to ap. of tib. 6
4. - with 1 spine at ap. on in. side. Th. tr. and widest
at ba. Amara (part)
- - - - - not as in prec., but very tr. An.
and pal. r. Amara (part)
- - - - - not tr. An. and pal. r. E. not
dist. str. Miscodera
- - - - - dist. str., but not
dist. punct. Platyderus
- - - - - p.-s. Th. nar-
rowest at ba. Stomis
- - - - - in fr. Pt. inaequalis
- - - - - An. and pal. dusky. Th. contr.
at ba. 5
- - - 2 well def. spines at ap. on in. side. Zabrus

5. E. dist. str., gen. with a shortened str. near ba. of sut.	Pterostichus
- only obs. str., without the shortened str. . . .	Brosicus
6. Th. dist. narrower than e. . . .	Anchomenus
- scarcely narrower than e. . . .	Olisthopus

BROSCUS.

- B. Pal. and an. reddish towards ap. H. punc. Th. joined to e. by a peduncle. E. el., parallel, obs. p.-s.
8 l. E.^c. S.^c. I.^c. ! . . . cephalotes

MISCODERA.

- Shining brassy. Pal., an. and legs, r. Th. globose, joined to e. by a peduncle. E. obs. p.-s., sides rounded.
2¾ l. B. ^{N.M.} . . . arctica

SPHODRUS.

- Dull b. An. paler towards ap. Th. contr. at ba. E. finely p.-s. 10 l. B. . . . leucophthalmus

PRISTONYCHUS.

- Obsc. bl. b. rather shining. An. and pal. gen. brown. Th. hardly tr. E. str.; str. finely punc. Interm. tib. bent. 7 l. B. . . . subcyaneus

CALATHUS.

1. A row of consp. imprs. on 3d and 5th str. of e. Th. rectang. at ba. H., th. and e., b. 1st j. of an. r. Legs r. or blackish. E. str., the str. gen. punc. 4½ l. E. S. I. ! . . . cisteloides
No dist. rows of imprs. on e. Th. sharply rectang. at ba. 2
- - - - - Ba. ang. of th. rounded off or obt. . . . 3
2. Th. dist. contr. at ba.; with, at most, a very narrow yel. mar. B. An. pal. and legs yel. E. deeply str. 4 l. B.^c. . . . flavipes
- hardly contr. at ba., with a dist. yel. mar. A broad, brown b. insect. An., pal. and legs, yel. E. finely str. 4 l. B. . . . fuscus
3. E. and disc. of th. unic., or nearly so. An. wholly pale. 4
H. b. An. th. and legs, vary from pale r. to b. E. pit., often with a r. mar., finely str., ints. flat. (When disc. of th. is b. the an. are dusky. This var. is *nubigena*. Halid). 3 l. E. S. I. !! . . . melanocephalus
4. Ba. of th. dist. broader than fr. An., pal. and legs, test. . . . 5
- - - not dist. broader than fr. Pit. An., pal. and legs, dusky r. E. finely str. 3½ l. E. S. I. . . . piceus

5. Th. broadest in fr. of mid., b., with a yel. mar. H. b.
 E. b., very finely str. 3 l. E.ⁿ. S. . . . micropterus
 - - at, or behind, mid. H., th. and e. reddish.
 Rarely pit., with mar. of th. and of e. paler. E.
 finely str. 3 l. E.^c. S.^c. I.^c! mollis

TAPHRIA.

- Blackish, shining. Mouth, pal., an., and legs, test. Th.
 tr., as broad at ba. as in fr. E. strongly str. 3¾
 l. E. S. I. nivalis

ANCHOMENUS.

1. H. and th. br. gr. Ba. of an., and legs, test. E. test.;
 a greenish cloud behind. Th. el.; hi. ang. obt.
 E. str. ¾ l. E. S. I. ! prasinus
 Not as prec. Hi. ang. of th. sharply def., not obt. . . . 2
 - - - - - extremely obt. 3
2. Brown b. An., pal., and legs test. Th. gently tr.;
 mar. narrow. E. str.; ints. flat; mar. often pale.
 ¾ l. E. S. I. !! albipes
 - - - - - brown. Th. el.; mar. narrow. E. p.-s.;
 ints. elev. ½ l. E. I. oblongus
 B. Th. very tr.; mar. broad. E. deeply str.; ints.
 elev. ¼ l. B. ! junceus
3. E. with a row of 4 to 7 large consp. pits. on 3d int. . . . 4
 E. not with a row of consp. pits. on 3d int. . . . 5
4. Entirely cop. b. Th. twice as wide as long. E. rather
 uneven, parallel, finely str. ½ l. E.ⁿ. . . . quadripunctatus
 Met. H. and th. gr. E. cop.; mar. gr. An., pal.,
 and legs, dusky. Th. very tr. E. finely p.-s.;
 ap. pointed (*Colour varies*). 4 l. E. . . . sexpunctatus
 Very like prec. Gen. unic. cop. Th. only slightly tr.
 E. not pointed at ap. Often with a gr. mar.
 ¾ l. B.ⁿ. ericeti
5. H., th., and e., br. gr. Mar. of e. yel. An. and pal.
 dusky. Legs dusky; tib. test. Th. tr. E. finely
 str.; ints. elev. ½ l. E. S. I. . . . marginatus
 Not as the prec. An. with 3d j. pub. 9
 - - - - - smooth, as 2d 6
6. Fifth str. of e. forms a consp. fov. near ap. B. Ba. of
 an., r.-m. of e., and legs, gen. reddish. Th.
 hardly tr. E. str. ¾ l. B. atratus
 - - - - - simple. The str. deeper, and ints. more elev.,
 near ap. 7
 - - - - - and ints. unif. throughout 8

7. Obsc. gr. (or b., *mæstus* Duf.). Th. tr. E. rather deeply p.-s.; ints. somewhat conv. in fr. $3\frac{3}{4}$ l. B. ! viduus
 Very like prec. Th. more tr. E. very finely p.-s.; ints. quite flat in fr. $3\frac{1}{2}$ l. E. versutus
8. H. and th. gr. E. cop. Tib. and ba. j. of an. pale. 3 or 4 dist. puncts. on 3d int. of e. $3\frac{1}{2}$ l. E. S. I. ! parumpunctatus
 Very like prec. Unic. cop. Ba. j. of an. hardly pale. 5 dist. puncts. on 3d int. of e. $3\frac{3}{4}$ l. E. gracilipes
 Reddish or pit. An., pal., and legs, pale r. H. much contr. behind. 3 dist. puncts. on 3d int. of e. 5 l. E.^s I. livens
9. Th. not el., its sides dist. rounded. Legs quite b. IO
 - - - - - more or less reddish or test. II
 - el., its sides little rounded. E. very finely str. 12
10. B. Th. slightly tr. E. widest behind, very finely and unif. str.; ints. flat throughout. $2\frac{3}{4}$ l. E. scitulus
 Very like prec. E. narrower and more parallel. The str. deepen a little, and the ints. are not quite so flat close to ap. $2\frac{3}{4}$ l. E. S. I. gracilis
11. Dusky, with a gr. gloss. Ba. of an., legs, and r.-m. of e., brown. Th. dist. tr. E. rather broad, with gently rounded sides, finely str. 3 l. B. micans
 Very like *micans*. Th. more tr. and less contr. at ba. E. *brown* (not gr.), and much more el., with more parallel sides. $2\frac{3}{4}$ l. B. piceus
 A stoutly built species. Th. hardly tr. H. and th. b. E. reddish or b. (not gr.). Legs and ba. of an. reddish b. E. broad and not parallel, rather strongly str. 3 l. E. S. I. !! fuliginosus
12. H. and th. pit. b. E. pit. brown. Ba. j. of an. and legs dark brown. 3 l. B. puellus
 Very like prec. Mar. (at least) of th. test. E. brown, darker near sut. Ba. of an. and legs test. 3 l. E.^f Thoreyi

OLISTHOPUS.

- Brassy brown. An., pal., and legs, test. Th. tr. E. dist. str.; the str. obs. punc.; ints. flat. 3 l. B. rotundatus

STOMIS.

- Pit. An., pal., and legs, r. Th. el., much contr. in fr. of ba. E. el., narrow, strongly p.-s.; ints. flat. 3 l. B. pumicatus

PLATYDERUS.

- Rusty r. Th. almost square, gently contr. towards ba. E. moderately str.; ints. flat. 3 l. E. ruficollis

PTEROSTICHUS.

1. An elev. keel on 1st j. of an. (Species vary in colour—met. gr. cop., bl. or b. An. dusky. Legs pit. or r.)	2
1st j. of an. simple. Ba. angs. of th. rounded off, ill def.	3
- - - - - well def., not rounded off	4
2. Ba., and gen. 2nd, j. of an. test. H. punc. Th. tr., narrower than e. E. broad, widest <i>behind</i> mid., str., ints. gently elev. About 10 hairs on in. mar. of post. tib. $5\frac{1}{2}$ l. E. S. I. !	cupreus
Very like prec. Brighter. H. impunc. E. narrow, widest <i>at</i> mid. About 6 hairs on in. mar. of post. tib. 5 l. E. S. I.	versicolor
Only u.-s. of ba. js. of an. test. H. and th. cop.; e. br. gr. (H., th. and e. rarely unic.) Th. tr., hardly narrower than e. E. broad, deeply str.; Ints. slightly elev. $5\frac{3}{4}$ l. E.	dimidiatus
An. b. Th. slightly tr. E. el., parallel, deeply str.; ints. flat in fr., but less so behind. $5\frac{3}{4}$ l. B.	lepidus
3. No large pits on e. Sc. small. B. Legs often r. Th. tr. E. el., widest <i>at</i> mid., str., ints. ind. elev., 1 punc. on 3rd. $7\frac{1}{4}$ l. E. S. I. !!	madidus
Very like prec. Shorter. E. less parallel, widest <i>behind</i> mid.; ints. dist. elev., 3 dist. puncs. on 3d. 6 l. B. ^m	æthiops
3 large pits on 3rd int. of e. Sc. dist. Deep b. Th. tr. E. el., parallel, finely p.-s., str. fainter on sides. $6\frac{1}{2}$ l. E. ^r	aterrimus
4. E. wider than ba. of th. An. pale r. Pal. and legs r. H., th. and e. pit. No abbrev. str. near sc. E. consp. p.-s. $2\frac{3}{4}$ l. E. ^c	inaequalis
- - - - - dusky. An abbrev. str. near sc. Less than $3\frac{3}{4}$ l.	5
- - - - - More than $3\frac{3}{4}$ l.	6
- not dist. wider than ba. of th. An abbrev. str. near sc. B. An. and pal. r. at ap. Th. tr., widest near mid., with 2 equal ba. fov. on each side. E. str., str. not dist. punc. Ints. flat (exc. 7th at ba.); no puncs. on 3rd. 9 l. E. S. I.	striola
- hardly wider than ba. of th. No abbrev. str. B. Legs, and ba. of an., reddish. Th. tr. E. deeply str.; ints. elev. 3 l. E. S. I.	vernalis
5. Th. hardly tr., punc. on u.-s., contr. only <i>in fr.</i> of ba., punc. <i>across</i> ba. B. Legs r. E. p.-s., faintly at sides. $2\frac{3}{4}$ l. E. S. I. !	strenuus
- - -, impunc. on u.-s., contr. from mid. nearly <i>to</i> ba., ba. angs. obs. punc. B. Tib. reddish. E. p.-s. $2\frac{1}{2}$ l. E. S. I. !	diligens

- gently tr., punc. on u.-s., contr. from mid. to ba., ba.
angs. punc. B. Legs reddish. E. p. s. 3 l. E. S. I. . minor
6. No consp. pits on E. Legs dusky. More than 6 l. . 7
- - - - . Less than 6 l. E. with hardly elev. ints. . 9
- - - - . Pit. Legs r. An. & pal. dull r. Th. hardly
tr., contr. at ba. E. long & flat, str., ints. hardly
elev. $5\frac{1}{2}$ l. E. picimanus
- Consp. pits on 3rd int. of e. Brassy b. Legs pit. Th.
very tr., its elev. mar. dist. widest at ba. E. el.,
parallel, str.; str. obs. punc. in ♂, dist. in ♀.
Ints. gently elev. in ♂, flat in ♀. 5 l. B.^m. . vitreus
- - - - . Gr.-b. Pal., tib. and tar., reddish. Th.
gently tr., its elev. mar. hardly wider at ba. E.
short, dist. broadest behind mid., simply str.; ints.
gently elev. 5 l. B.^m. oblongopunctatus
7. B. Th. contr. from mid. to ba., punc. at ba. E. str.;
ints. elev. 8
- - - suddenly *in fr.* of ba., the ba. impunc. E. str.;
ints. elev. An elev. keel under ap. seg. of h.-b.
in ♂. 7 l. E.ⁿ. parumpunctatus
8. Winged. Th. not tr. An elev. keel under ap. seg. of
h.-b. in ♂. 9 l. E. S. I. ! niger
- Wingless. Th. dist. tr. Ap. seg. of h.-b. in ♂ simple.
8 l. E. S. I. !! vulgaris
9. Th. tr., ba. angs. prod. laterally in a small tooth. Str.
of e. not punc. A short keel under ap. seg. of
h.-b. in ♂. $4\frac{1}{2}$ l. E. S. I. !! nigrita
- Very like prec. Th. hardly tr.; ba. angs. sharp, but
not prod. Sut. prod. at ap. A fov. under ap.
seg. of h.-b. in ♂. 5 l. E. anthracinus
- Very like nigrita. Legs brown. Str. of e. punc. U.-s.
of last seg. of h.-b. brown, even in both sexes.
 $4\frac{1}{4}$ l. E. gracilis

AMARA.

1. Th. dist. contr. behind mid. (1 or 2 fov. at ba. on each
side) 2
- not (or hardly) contr. behind mid. (fov. as above) 5
2. Hi. tib. of ♂ pub. on in. side. 2 dist. imprs. on fr.
of h. 3
- - - with only a few long hairs. Interm. tib. of ♂
with tubercles. Two deep pits on fr. of h. (Black-
ish r.; legs and an. often r. E. dist. p.-s.) 4
3. Pale brown. Very broad. Th. twice as wide as long,
punc. at ba., with 2 shallow fov. E. consp. str.,
the str. moderately punc. $4\frac{1}{4}$ l. B. fulva

- Pit. r. Pal., legs. and an. r. Narrow. Th. not so tr.
as in prec., punc. at ba., with two deep fov. E.
consp. p.-s. in fr., obs. behind. $3\frac{1}{2}$ l. E. S. I. ! *apricaria*
4. Width of th. more than $1\frac{1}{2}$ length. Th. cons. wider
in fr. than at ba., widest at mid. E. short, not
parallel. $5\frac{3}{4}$ l. B. ! *spinipes*
Very like prec. Th. less closely punc. at ba., widest in
fr. of mid. E. long and parallel $5\frac{1}{2}$ l. B.^c *convexiuscula*
Width of th. less than $1\frac{1}{2}$ length. Fr. of th. hardly
wider than ba. E. long, parallel. Vars. often r.
 $4\frac{1}{2}$ l. S.^m *alpina*
5. H., th., e., and legs of a reddish tone. Only a few
long hairs on hi. tib. of ♂ (exc. consularis). An.
(exc. quenseli) unic. reddish. 6
- - and e. greenish. Legs gen. dusky. Hi. tib. of ♂
densely pub. on in. side. An. not unic. reddish. 13
6. Str. of e. not (or moderately) punc. 7
- - - very strongly punc. Hi. tib. of ♂ densely pub.
on in. side. H. very wide. Width of th. dist.
less than twice length. $3\frac{3}{4}$ l. B. consularis
7. Mar. of th. (exc. at ant. angs.) unif. narrow. Js. of an.
moderately stout. 8
Mar. of th. growing wider backw. Ap. of an. gen.
dusky, the js. el., thin. Th. nearly twice as wide
as long, dist. punc. at ba., with deep fov., its ant.
angs. strongly prod. E. very finely p.-s. $3\frac{1}{2}$ l.
S.^m *quenseli*
8. More than $3\frac{3}{8}$ l. 9
Less than $3\frac{3}{8}$ l. 11
9. Width of th. dist. less than twice length 10
Th. quite twice as wide as long. Th. mod. punc. at
ba., ba. fov. deep. E. clearly p.-s. $4\frac{1}{4}$ l. E. *ingenua*
10. Ba. of th. finely punc. Eyes very prominent. E.
finely str., the str. faintly punc. $3\frac{3}{4}$ l. E. *fusca*
Ba. of th. coarsely punc. E. strongly str., the str. dist.
punc. $4\frac{1}{2}$ l. B. *patricia*
11. Less than $2\frac{1}{4}$ lines. 12
More than $2\frac{1}{4}$ lines. Th. strongly punc. across ba.,
not much contr. in fr., its ant. angs. ill def. E.
wider than th., str., the str. consp. punc. in fr.
 $2\frac{3}{4}$ l. E. S. I. bifrons
- - - - not punc. all across ba., much contr. in fr.,
its ant. angs. well def. E. not wider than th., str.,
str. not much punc. A broad insect. 3 l. B. rufocincta

12. H., th., and e. nearly b. Th. almost twice as wide as long, punc. at ba., not much contr. in fr., its ant. angs. ill def. Js. of an. almost tr. E. dist. p.-s. 2 l. E.^{s.c.} *infima*
13. Ap. spine of ant. tib. 3 pronged. Tib., and ba. of an., r. 14
 - - - - simple. Legs dusky. Ba. 3 js. of an. test. 15
 - - - - . . . Only ba. 2 js. of an. test. 17
 - - - - . . . Not more than ba. j. of an. test. Gr. b. Th. hardly punc. at ba. E. finely str., deeper at ap. Str. obs. punc. in fr. $3\frac{1}{4}$ l. E. S. I. *lunicollis*
 - - - - . . . , ba. 3 js. of an., and ba. of 4th, yel. B., or gr. b. Eyes rather conv. Ant. angs. of th. sharp and well def. E. str. Str. gen. ind. punc. $2\frac{3}{4}$ l. B. !! *familiaris*
 Very like prec. Greener. Eyes *extremely* conv. Ant. angs. of th. rounded off and ind. $2\frac{1}{2}$ l. B. *lucida*
14. Brassy. Ba. of th. impunc. E. very dist. p.-s. 4 l. E.^{s.c.} *strenua*
 - - - - more or less punc. E. str., str. obs. punc. 3 l. E. S. I. ! *plebeia*
15. Size from $2\frac{3}{4}$ to $4\frac{1}{2}$ l. Interm. tib. of ♂ pub. on in. side, 2 consp. puncs. under each side of ap. seg. of h.-b. in ♂ and ♀. E. as broad in mid. as at ba. 16
 - - - - . . . with only a few long hairs. Puncs. on ap. seg. of h.-b., 1 in ♂, 2 in ♀. E. str., str. obs. punc. Sut. very much elev. Th. impunc. at ba., 1 deep fov. on each side. *Brassy* gr., tib. pale. $3\frac{1}{2}$ l. E. S. I. ! (This species varies.) *trivialis*
 - - - - I in ♂ and ♀. E. str., str. ind. punc. Th. more or less punc. at ba. Obsc. gr. Tib. pale. A row of large puncs. on mar. of e. consp. interrupted near fr. Ant. angs. of th. strongly prod. $3\frac{1}{4}$ l. B. *communis*
 Very like prec. Row of puncs. on mar. of e. entire. Ant. angs. of th. less def. A broader species. $3\frac{1}{4}$ l. E! S. (?) *continua*
 More than $4\frac{1}{2}$ ls. Interm. tib. of ♂ with only a few long hairs. Puncs. on ap. seg. of h.-b., 1 in ♂, 2 in ♀. E. dist. p.-s. Th. impunc. at ba. *Brassy* gr. Legs b. A wide insect. $4\frac{3}{4}$ l. B. *acuminata*
 Less than $2\frac{3}{4}$ ls. Tib. and ap. of h.-b. as in prec. Th. gen. impunc., with 2 *deep* fov. E. finely but dist. p.-s. Legs blackish or dusky r. $2\frac{1}{2}$ l. B. *tibialis*

16. Very wide. Gr. Legs gen. b. Th. impunc. at ba.
 E. str. 4 l. B. ovata
 Obsc. gr. Tib. pale. Th. punc. at ba. E. str.
 $3\frac{3}{4}$ l. E. I. ! similata
17. More than 3 ls. Brassy gr. Th. punc. at ba. E.
 finely p.-s. throughout. Tib. and ap. of h.-b. as
 in *communis*, $3\frac{3}{4}$ l. B.^c. spreta
 Less than 3 ls. Dull obsc. gr. Th. not (or hardly)
 punc. at ba. E. str., more deeply near ap. Tib.
 and ap of h.-b. as in *trivialis*, $2\frac{1}{2}$ l. B. curta

ZABRUS.

- Winged. Reddish b. Mouth, ba. of an., pal. and tib.,
 paler. Th. tr., consp. punc. at ba. E. dist. p.-s.
 $6\frac{1}{2}$ l. E.^s. gibbus

Ninth Family—HARPALIDÆ. (7 genera.)

1. Length more than $2\frac{1}{2}$ l. (exc. *S. elegans*). E. test.
 or variegated 2
 - - - - - not test. or variegated 4
 - less than $2\frac{1}{2}$ l. 5
2. Ant. tib. with a single spine at the ap. 3
 A consp. spine *before* ap. of ant. tib. and one *at* the ap. Diachromus
3. The whole insect closely and unif. punc. Dichirotrichus
 Glabrous species Stenolophus
4. 1st j. of ant. tar. of ♂ consp. less than 2nd. Often
 with a r. mark on h. Anisodactylus
 Not possessing the above characters Harpalus
5. Mentum with a sharp tooth. Interm. tar. of ♂ simple Bradycellus
 - - no dist. tooth. Interm. tar. of ♂ with dil. js. Acupalpus

DIACHEOMUS.

- Thickly punc. H., pal. and legs, test. Th. tr., gr. or bl.
 E. str., test.; a bluish cloud near. ap. U.-s. b. $3\frac{3}{4}$
 l. E.^{s.c}. *germanus*

DICHIROTRICHUS

- Pub. Test. A dusky cloud on disc of e. E. str., widest
behind mid.; 3 rows of *fine* puncs. on each int.
 $3\frac{3}{4}$ E.^c obsoletus
 - -, often much clouded with fuscous. E. str., widest
at mid. 2 rows of *coarse* puncs. on each int. 3 l. B.^c ! pubescens

ANISODACTYLUS

- Ap. spine of ant. tib. simple B. Ba. of an., and often
 legs, r. Th. widest in front of mid.; its ba. ang.
 laterally prod. E. el., str.; ints. conv. 5 l. B. binotatus

- - - 3 pronged. Gr., bl. or b. An. paler at ba.
Th. widest *at* mid.; its ba. ang. rounded off. E.
rather wide, str.; ints hardly conv. $5\frac{1}{4}$ l. E^{s.c.} . poeciloides

HARPALUS

1. H., th. and e., thickly punc. An., pal. and legs, test.
or r. 2
E. and ba. of th. (but not h. or disc of th.) thickly punc.
B. Pal., an. and legs, yel. E. str., with golden
pub. 6 l. B! ruficornis
Only *out.* ints. of e., and *ba.* of th. punc. Met. Gr, bl.,
cop. or b. Legs, pal. and an., gen. r. E. str.;
mar. notched near ap. $4\frac{1}{4}$ l. B!! Proteus
Ints. of e. not dist. punc. 8
2. Th. regularly contr. from mid. to ba. H., th. and e.,
bl. or gr. 3
- cordate. 4
3. Ba. ang. of th. very obt. but dist. Mar. of e. ind.
sinuate near ap. Th. roughly punc., widest *in fr.*
of mid.; fr. wider than ba. H. and th. blackish.
6 l. E^{s.} sabulicola
- - - not dist. Mar. of e. dist. sinuate near ap. Th.
moderately punc., widest *at* mid.; fr. hardly wider
than ba. H. and th. unfc. with e. Ints. of e.
equally punc., exc. large puns. on 3, 5, and 7.
6 l. E. obscurus
- - - - - finely punc., widest *at*
mid.; fr. hardly wider than ba. H. and th. more
or less reddish. Ints. of e. most closely punc.
behind. 5 l. E. rotundicollis
4. H. and th. r. or reddish. E. reddish or pit. 5
H., th., and e. bl. or gr. H. and th. coarsely punc.
Th. mar. behind. Ints. of e. rather strongly punc.
 $3\frac{1}{2}$ l. E.^s azureus
H., th., and e. obsc. gr. H. and th. finely punc. Th.
not mar. behind. Ints. of e. finely punc.; 3d, 5th,
and 7th, with some larger puns. 4 l. E.^s punctatulus
5. Only extreme *hi.* part (if any) of side mar. of th. falling
quite perpendicularly on ba. 6
The *hi.* $\frac{1}{4}$ of side mar. of th. falls quite perpendicularly
on ba. Th. hardly tr., much contr. behind mid.,
thickly and strongly punc. E. thickly and finely
punc.; the sut. gen. consp. r. 4 l. E.^{s.c.} cordatus
6. E. not very parallel, less than twice as long as together
broad; ints. consp. less strongly punc. than th. 7
E. very parallel, quite twice as long as together broad,
ints. in fr. hardly less strongly punc. than th. Th.
only slightly tr. $3\frac{3}{4}$ l. E. rupicola

7. Th. strongly punc. all over, though a little less thickly on disc. E. moderately punc. In type specimens the th. is dist. but slightly tr., and rectangular (almost sharply) at ba. There are specimens, however, with the th. *scarcely* tr. and the ba. angs. gently obt. This is probably a distinct species. It *may* be *rectangulus*, Thoms. $3\frac{1}{2}$ l. B! puncticollis
- Very like type form of prec. Smaller. H. and th. more regularly punc. Ant. angs. of th. more rounded off. Outline of th. more sinuate. $2\frac{3}{4}$ l. E. parallelus
- Th. very strongly tr.; rather finely punc., especially on the disc, where the puncs. are almost obs.; ba. angs. ac. E. very short and very finely punc. $3\frac{1}{2}$ l. E. rufilabris
8. Th. cordate, tr., its hi. angs. laterally prod. E. deeply str. B. Pal., an., tib. and tar., r. 4 l. E. consentaneus
- not cordate., its hi. angs. not laterally prod., but sharply rectangular or ac. 9
- - - - - obt. or rounded off. 12
9. Some dist. puncs. on 7th or 8th int. of e. near ap. 10
- Not as above. 11
10. The puncs. on the 7th int. H. and th. shining bl., gr. or b. Th. punc. at ba. E. consp. str., coloured as th., duller in ♀. An., pal. and legs r. A *wide* species. $4\frac{1}{2}$ l. E. S. I. rubripes
- - - 8th int. B. An., and pal. r., gen. marked with b. Legs pit. Tar. r. E. finely str. (the str. punc. in fr.), pointed at ap. $4\frac{1}{2}$ l. E.^{n.w.} I.^{s.w.} melancholicus
11. Hi. angs. of th. right. H. and th. blackish. E. pit. or gr. Pal., an., legs, mar. of th., and sut., r. Th. punc. at ba. E. finely str. $4\frac{1}{2}$ l. E.^s discoidens
- - - ac. Pit. b. E. and mar. of th. often paler. An., pal., tar., and ba. of tib. reddish. Th. widest at ba. E. finely str. A wide flat species. $3\frac{3}{4}$ l. E.^{s.c.} servus
12. Some dist. puncs. on 7th or 8th int. of e., near ap. 13
- Not as above. 14
13. Th. dist. punc. at ba. E. with puncs. on 5th and 7th ints. B. Th. gen. bl. or gr. E. often bluish. An. pit., ba. r. Pal. pit. or r. E. consp. str.; ints. often elev. $5\frac{3}{4}$ l. E.^s caspius
- not dist. punc. E. with puncs. on 7th int. only. B. or bluish. Pal. and an. r., pit. near ba. Legs pit. Tar. reddish. E. deeply str. $4\frac{1}{4}$ l. E. ignavus
14. Legs unicolor. B. An., pal., and mar. of th. test. Th. punc. at ba. E. strongly str. 4 l. E. S. I. ! latus

- Very like prec., legs often darker. Th. unic. E. with
2 or 3 large puncts. on 3rd int. $4\frac{1}{4}$ l. S.^m. *quadripunctatus*
- Legs more or less b. or pit. Th. ruggedly punc. at ba.,
often very narrowly edged with r. H., th. and e.
br. gr. An. and pal. pit. Sut. brown. E. deeply
str. ; str. faintly punc. $5\frac{1}{2}$ l. E.^s. *cupreus*
- - - - - not ruggedly punc. at ba. *15*
15. Th. not (or hardly) punc. at ba. *16*
- dist punc. at ba. Bl.-b. An. pal. and tar. r. Mid.
js. of an. pit. E. consp. prod. at ap. and strongly
str. $4\frac{1}{2}$ l. E. *tenebrosus*
16. An. and pal. unic. rusty or r. *17*
- - - not as above *19*
17. Th. hardly, if at all, wider in mid. than at ba. *18*
- cons. wider in mid. than at ba., its ba. impunc. exc.
in the fov. Bl.-b. An. pal., tib. and tar. r. E.
strongly str. $3\frac{3}{4}$ l. E. *sulphuripes*
18. - very tr., its ba. impunc., and ba. angs. hardly
rounded off. B. An., pal., and tar. r. Tib. more
or less r. E. very strongly str. $3\frac{3}{4}$ l. B. *tardus*
- tr., its ba. impunc., and ba. angs. very strongly
rounded off. Pit. b. An. & pal. r. Legs pit. r. ;
fem. darker. E. very finely str. $2\frac{1}{2}$ l. E.^{s.d.} *picipennis*
19. - dist. narrower in fr. than at ba. *20*
- hardly narrower in fr. than at ba. ; ba. impunc. exc.
in the fov. ; ba. angs. obt. B. An. pit., with r.
ba. Pal. reddish. Legs pit. E. strongly str.
 $3\frac{1}{2}$ l. E.^{s.e.c.} *neglectus*
20. Th. very much contr. in fr. ; ba. impunc., exc. in the
fov. ; ba. angs. much rounded. B. Ba. and ap.
of an. and pal. test. Tar. often reddish. E.
strongly str. $4\frac{3}{4}$ l. E.^c *serripes*
- moderately contr. in fr. ; ba. impunc. ; ba. angs.
hardly rounded. B. An., pal., legs and mar. of
th. more or less reddish. E. finely str. $3\frac{1}{4}$ l.
E.^c ! *anxius*

STENOLOPHUS

1. Th. blackish, not tr., punc. at ba. ; its mar. yel. E.
narrow, dusky, often pale in fr., str. Legs and
ba. j. of an. test. H. b. $2\frac{1}{2}$ l. E. *vespertinus*
- Not as above. *2*
2. E. test. in fr., with a well def. b. cloud behind. Ba. of
th. not punc. exc. in the ba. fov. *3*
- rusty r., often dusky at sides and ap., str. H. b. An.
b. ; ba. 2 js. r. Th. tr., r., punc. at ba. Pal. and
legs r. 3 l. E. *Skrimshiranus*

3. H. b. Th. hardly tr., r. E. str., r. in fr., wholly
(except outer mar.) b. behind. An. b.; ba. 2 js. r.
Pal. r.; ap j. dusky at ba. Legs r. 3 l. E.^c. Teutonius
Like prec. Th. tr. E. test., each with a large oblong
b. spot. Sut. pale. 2 l. E.^{s.c}. elegans

ACUPALPUS

1. Ba. ang. of th. very obt., or rounded. More than $1\frac{3}{8}$ l. 2
- - - rounded. Not more than $1\frac{3}{8}$ l. Narrow. H.
b. Th. r. or dusky, tr. E. pit. or brown, str.
An. dusky; ba. j. pale. Pal. and legs test. $1\frac{1}{4}$ l.
B. exiguus
- - - hardly obt. H. b. Th. hardly tr., contr. behind,
r. or dusky. E. str., test., with a dusky cloud
behind. An. b., ba. 2 js. test. Pal. and legs test.
2 l. E. consputus
2. Th. not punc. across ba., nor wholly yel. 3
- - - yel., very tr. H. b. E. str., dusky; mar. and
sut. test. An. b.; ba. 2 js. pale. Legs and ba. of
pal. test. $1\frac{1}{2}$ l. E.^a. flavicollis
- punc. across ba.; hardly tr.; contr. behind; b. H. b.
E. el.; str.; b.; extrême ba. and the sut. pale. An.
b.; ba. pale. Legs and ba. of pal. pale $1\frac{2}{3}$ l. E. ! meridianus
3. Ba. fov. of th., and the whole ba., quite impunc. Very
like *Gyllenhalli*; a wider insect; darker; th.
wider; tar. more el. $1\frac{3}{4}$ l. E. derelictus
- - - more or less punc. 4
4. Pit. b. Th. and e. partly test. Ba. of an. and of pal.
pale. Legs often pale. E. str., with some well
def. puncs. in hi. half of 2nd int. $1\frac{2}{3}$ l. B. Gyllenhalli
- . Very like prec. H. th. and e. unic. E. more finely
str., without dist. puncs. on 2nd int. $1\frac{3}{4}$ l. E.^a. brunnipes

BRADYCELLUS.

1. E. without a shortened str. near sc. 2
- with a shortened str. near sc. 3
2. Brown, clouded with b. Legs and ba. of an. pale.
Th. tr., narrowed at ba.; ba. ang. rounded; ba.
and fr. punc. E. str., rather wide; sides rounded.
 $2\frac{1}{4}$ l. B. placidus
Very like prec. Gen. darker, especially legs and ba. of
an. Th. less narrowed at ba. E. more el. and
parallel; sut. consp. the palest part. 2 l. B. cognatus
3. Ba. ang. of th. dist. obt. or rounded, and not laterally
prod. 4
- - - hardly obt., and slightly prod. laterally. Pit. or
b. An., pal., and legs pale. Th. deeply punc. at
ba. E. str. $2\frac{1}{2}$ l. E. S. I. distinctus
4. Th. more or less reddish. 5

- h. and e. deep pit. b. An., pal., and legs paler.
Sut. often r. Ba. of th. punc. only in the fov. E.
very faintly str., especially near mar. $1\frac{1}{2}$ l. B. . similis
5. Th. not narrowest at ba. 6
- narrowest at ba. H., th., an., pal., and legs rather
consp. r. E. darker. Th. punc. only in the fov.
E. str. $1\frac{2}{3}$ l. B. collaris
6. Hi. ang. of th. strongly rounded, and ba. dist. punc.
Pit. r. An., pal., and legs paler. E. strongly
str. 2 l. B. harpalinus
- - - dist., though obt., and ba. strongly punc. R.
brown. E. often darker. An., pal., and legs
paler. E. strongly str. $2\frac{1}{4}$ l. E. S. I. ! . verbasci

Tenth Family—TRECHIDÆ. (5 genera.)

1. Eyes not pub. 2
- pub. [Ap. j. of pal. very narrow.] Perileptus
2. E. very flat and parallel, not dist. str., and shorter
than h.-b. Eyes hardly conv. A long spine
under 4th j. of ant. tar. Aëpus
- Not as above. 3
3. Ap. j. of pal. not dist. longer than prec. j. 4
- - - very dist. longer than prec. j. Patrobus
4. H. and th. shining brassy or gr. Pogonus
- - - not shining brassy or gr. Trechus

N.B.—*Lymnæum* (in the *Bembidiadæ*) bears sufficient resemblance to this family to be capable of confusion with it.

PATROBUS.

1. Wingless species 2
Winged. H. and th. b. E. pit. or r. An., pal., and
legs reddish. Th. cordate, rather strongly tr.; ba.
fov. very large and deep, separated from side mar.
of th. by a narrow elev. ridge. E. p.-s. 4 l.
E. S. I.^m. septentrionis
2. Very like prec. Smaller. Th. only very gently tr.
 $3\frac{1}{2}$ l. B. excavatus
- Very like *excavatus*. Th. rather more tr.; ba. fov.
close up to side mar. of th. E. longer and more
parallel. $3\frac{3}{4}$ l. E. S. I.^m. assimilis

POGONUS.

1. H., th., and e. brassy gr. Pal. and an. dusky 2
H. and th. br. gr. An., pal., legs and e. test. Region
of sut. dusky. Th. double as wide as long. $3\frac{1}{4}$ l.
E. E. S. G. luridipennis

2. Legs reddish. Th. tr. E. p.-s. The punc. str. obs. on sides and near ap. $2\frac{3}{4}$ l. B.^c! chalceus
- Very like prec. Th. narrower behind. E. much more el. and parallel. The punc. str. hardly fainter at sides, and not at all fainter near ap. Tar. shorter and thicker than in prec. 3 l. E.^c littoralis

TRECHUS.

1. E. pub. 2
- not pub. 3
2. R. Legs paler. H. dusky. A dist. band near ap. of e. b. An. nearly as long as whole body. Ba. ang. of th. ac. E. p.-s. Ints. smooth. $2\frac{1}{4}$ l. E. discus
- - - - - Disc of e. often dusky. An. not more than $\frac{3}{4}$ length of whole body. Th. rectang. at ba. E. faintly p.-s.; ints. punc. 2 l. B. micros
3. Ba. ang. of th. well def., though sometimes obt. 4
- - - - - rounded off. R. An. and legs paler. E. short, with rounded sides. 1st str. very deep, reaching ap., punc. in fr., bent round at ap. to include 2d, 3d, and 4th str, which are fainter, but strongly punc.. 5th str. faint. $1\frac{3}{4}$ l. B. secalis
4. E. with rounded sides. 5
- very long and parallel. Pale brown. H. darker. An. long. Th. rectang. at ba. 1st, 2d, and 3d str. of e. deep, but faintly punc. Ap. of 1st str. bent round to include 2d. The 4th str. faint. $1\frac{3}{4}$ l. B.^c longicornis
5. Str. of e. rather strongly punc. Th. rectang. at ba. 6
- - - hardly punc., and faint. 7
- - - - -; the in. 3 very deep,—the 4th faint. Pit. or r. An. r.; 2nd, 3d and 4th js. darker. Legs test. Th. rectang. at ba. 2 l. E.^r ricularis
6. Str. of e. all well def., the in. 4 very deep. R. An. pal. and legs paler. E. short, with strongly rounded sides. $2\frac{1}{2}$ l. E. S. I.^c lapidosus
- Out. str. obs.; the in. 3 only rather deep. Pit. r. Pal., an., legs, and (often) ap. of e. paler. E. longer and more parallel than in prec. $2\frac{1}{2}$ l. B. rubens
7. Pit. r. Pal., an. and legs pale. Ba. ang. of th. dist. obt. E. finely str., the in. 4 str. well def. $1\frac{3}{4}$ l. B. ! minutus
- Very like prec. Rather darker. Ba. ang. of th. almost rounded. E. shorter, more faintly str. Not more than in. 3 str. well def. $1\frac{2}{3}$ l. E. S. I. obtusus

AEPUS

- Th. rectang. at ba. Pale r. 1 l. B.^c marinus

B. ang. of th. very obt. Pale r. ; fr. of e. gen. darker

1 l. B.^c Robinii

PERILEPTUS

Pit. Ba. of an., mouth, legs and disc of e. pale. Th.

tr., rectang. at ba. E. dist. p.-s. $1\frac{1}{4}$ l. B.^c , areolatus

Eleventh Family—BEMBIDIADÆ (5 genera.)

1. E. with a shortened str. near sc.	2
- without a shortened str. near sc.	3
2. Ant. tib. with a strong spine near ap. of ex. mar. ,	Cillenum
- - without this spine	Bembidium
3. H., th. and e. unif. and densely punc.	Tachypus
Not as above	4
4. Sut. str. of e. consp. bent round at ap.	Tachys
Not as above	Lymnæum

N.B. *Perileptus* (in the *Trechidæ*) bears sufficient resemblance to this family to be capable of confusion with it.

LYMNÆUM

Pit. b. Mouth, pal., an. and legs pale. Ba. of th.

faintly punc. E. flat, deeply str. Ints. elev. ; 2

deep imprs. on 4th. 2 l. E.^{s.c} nigropiceum

CILLENUM

H. and th. gr. Mouth, pal., an., legs and e. pale brown.

Th. not tr., with right ang. at ba. E. deeply str. ;

str. faintly punc. $1\frac{3}{4}$ l. B.^c laterale

TACHYS

1. Ba. ang. of th. obt.	2
- - - sharp	3
2. H. and th. dark brown. An. brown, paler at ba. Legs	
test. E. test., clouded with darker. Th. tr. In.	
2 str. of e. dist. ; the rest obs. Ap. of bent part	
of 1st str. consp. bent towards sut. $1\frac{1}{8}$ l. B. .	scutellare
Pit. (sometimes paler). Ba. of an. and legs paler. Th.	
tr. E. with only the in. 2 str. well def. Bent.	
part of 1st str. nearly parallel to sut. 1 l. E. .	bistriatum
3. Pit. b. Ba. of an. r. Legs r. brown. A r. spot near	
should. and ap. of each e. Th. tr. E. flat, with	
3 dist. punc. str. ; the outer str. fainter ; 8th dist.	
$1\frac{1}{8}$ l. E. ^s	quadrisignatum
R.-yel. An. and legs paler. Th. gently tr. E. short,	
conv., twice as wide as th., with the in. 2 punc. str.	
deep ; the out. ones grow obs., the 8th deep behind.	
$1\frac{1}{8}$ l. E. ^s	Focki

BEMBIDIUM.

1. The 9th int. of e. much narrower than the rest	2	
- - - - about equal to the rest. Pale copper or silvery. An., pal. and legs greenish. Th. tr.; ba. angs. sharp. E. dist. p.-s. On the 3rd int. are 2 large square pits. $2\frac{1}{2}$ l. B. ⁿ		paludosum
2. Entire surface of h. and th. strongly punc. Greenish or dusky. Legs and ba. j. of an. more or less r. Ba. angs. of th. sharp. E. strongly p.-s. $2\frac{1}{4}$ l. E. S. I.		punctulatum
Not as above.	3	
3. E. with 7 well def. symmetrical str.	4	
Str. of e. faint at sides and ap.	9	
4. - - - punc.	5	
- - - impunc. Bronzy gr. An., pal. and legs dusky. Th. tr., not much contr. at ba.; ba. angs. sharp. Ap. of 5th str. of e. very deep. $2\frac{1}{8}$ l. B. ⁿ		prasinum
5. E. test., often dusky at ap. H. and th. gr. An., pal. and legs test. Th. little contr. at ba. A fov. on each side of mid. line besides the usual ba. fov. $1\frac{1}{2}$ l. E. ^c		ephippium
Not as above.	6	
6. 2nd and 3rd js. of an. more or less test.	7	
An. b. exc. 1st j. which is r. beneath. Bronzy gr. E. with 2 narrow pale fasc. Th. tr., little contr. at ba. E. finely p.-s.; ints. very flat. $1\frac{3}{4}$ l. E. ^s		obliquum
7. Ap. of h.-b. not dist. test.	8	
Extreme ap. of h.-b. dist. test. H. and th. obsc. gr. E. and legs fuscous. E. more or less mottled with test. An. and pal. dusky, test. at ba. Th. tr. E. strongly p.-s.; ints. not quite flat in fr. $2\frac{1}{3}$ l. E. S. I.		flammulatum
8. Th. not wider at ba. than in fr. Obsc. gr. E. more or less mottled with test. Legs pit. Ba. of an obsc. pale. Th. tr. E. finely p.-s.; ints. very flat. $2\frac{1}{4}$ l. E.		varium
Very like prec. Th. wider at ba. than in fr. The test. markings on e. well def., occupying at least half the surface. Ba. 3 js. of an., and the legs, test. E. more strongly str. $1\frac{3}{4}$ l. E.		adustum
9. Th. cons. narrowed at ba.; more or less cordate; ba. angs. sharp.	10	
- little narrowed at ba., not cordate; ba. angs. obt. or rounded; mars. very narrow	40	
- - - -, - - -; mars. very broad	44	
10. Whole surface of h. coarsely punc.	11	
Not as above	12	

11. An., pal., legs and e. pale test. E. with a darker tr. fasc. H. and th. gr. or cop. Th. tr. E. dist. p.-s. $2\frac{1}{8}$ l. B.^{n.c.} pallidipenne
 Unic. Obsc. gr. Th. tr., punc. in fr. and at ba. E. finely p.-s.; a consp. pit on each, in fr. of mid. 2 l. E. S. I. bipunctatum
12. Fr. of h. with 2 well def. longi. ridges on each side 13
 - - - - not more than 1 ridge on each side 15
13. E. not mottled with test. 14
 Blackish. E. mottled with test. Legs and ba. of an. r. Th. tr. E. dist. p.-s. 2 l. E. fumigatum
14. Obsc. greenish. Legs, ba. of an. and a spot near ap. of e. test. Th. tr. with a simple ba. fov. on each side. E. strongly p.-s. in fr. $1\frac{1}{2}$ l. E. assimile
 Very like prec. Th. wider at ba.; the ba. fov. each contain a small dist. longi. ridge. E. with no dist. pale spot near ap. $1\frac{5}{8}$ l. E. S. I. Clarki
15. Ba. fov. of th. close up to side mar. of th. 16
 - - - - separated from side mar. by a dist. elev. ridge 17
16. Brassy b. An. reddish at ba. A large test. spot near fr., and a small one near ap. of each e. Tib. very pale test.; fem. and tar. darker. Th. not tr. E. with rows of puncs. failing in hi. $\frac{2}{3}$. 2 l. B. ! quadriguttatum
 Very like prec. Ba. of an. paler. Fem. pale. Th. gently tr. E. p.-s. to behind mid. $1\frac{1}{2}$ l. E. quadrimaculatum
 Very like *quadriguttatum*. An. wholly b. Th. tr. E. p.-s. to behind mid. $1\frac{2}{3}$ l. E.^s quadripustulatum
17. Part (at least) of fr. half of e. dist. test. 18
 Front half (at least) of e. unic., not test. 27
18. Less than $1\frac{3}{4}$ l. (E. dusky, mottled with test.) 19
 More than $1\frac{3}{4}$ l. 20
19. H. and th. br. gr. Legs, ba. of pal., and ba. of an. test. 2 fov. on each side of h.; the in. ones meet in fr. Th. not. tr. E. consp. p.-s. $1\frac{1}{2}$ l. E. articulatum
 H. and th. b. Legs, ba. of pal. and 1st j. of an. test. Th. tr. $1\frac{1}{4}$ l. E.^s *Sturmi*
20. Th. not (or hardly) tr., not dist. punc. across ba. 21
 Th. not as above. 22
21. H. and th. br. gr. E. el., narrow, with gently rounded sides, dusky, with a pale blotch on should. and near ap., strongly p.-s. Legs, ba. of an. and ba. of pal. test. Th. el. $2\frac{3}{4}$ l. E. fluviatile
 E. broad, flat, parallel, p.-s., obsc. test., without dist. markings. H. and th. br. gr. Th. slightly tr., very short and narrow. Legs and ba. of an. r. E. rarely marked as in *littorale*. 2 l. B.^{n.} testaceum

22. Ap. of pal. and of an. dusky. H. and th. gr. E. dusky, with a pale blotch at should. and near ap. 23
 H. and th. br. gr. Legs, pal. and at least ba. and ap. of an. test. E. dusky, with a pale blotch at should. and near ap. connected along the mar. Th. tr. E. strongly p.-s. $2\frac{1}{2}$ l. B. concinnum
23. Not more than the in. 3 str. of e. continued in ap. quarter as more than a faint row of puncts. 24
 At least the in. 5 str. of e. dist. continued *as* str., quite (or almost) to the ap. Pal. dusky. Ba. 3 js. of an. and the legs, gen. test. Fem. sometimes dusky. A. flat, parallel species. $2\frac{1}{4}$ l. B. saxatile
24. Ap. part. of 3rd j. of an. dist. blackish 25
 - - - - - at most ind. fuscous. 26
25. An. with ba. 1 or 2 js. test. Th. hardly punc. at ba. E. narrow, widest *at*, or *in fr. of* mid.; pale part *whitish* brown, finely p.-s.; 7th str. ind. Fem. dusky. Tib. pale. 2 l. E. S. I. ! femoratum
 Very like prec. Th. punc. at ba. E. widest *behind* mid., more strongly p.-s.; 7th str. dist. Pale part of e. *brown*. 2 l. E. S. I. bruxellense
26. Th. strongly punc. at ba. E. strongly p.-s. Legs entirely test. Pale part of e. *brown*. $2\frac{1}{2}$ l. E. S. I. !! littorale
 Th. hardly punc. at ba. E. finely p.-s. Fem. sometimes dusky in mid. Pale part of e. *whitish* brown. $2\frac{1}{4}$ l. B.ⁿ. anglicanum
27. Not less than 2 l. Fem. dusky. Ba. j. only of an. test. 28
 - - - . At least ap. of fem. test. Ba. 2 or 3 js. of an. test. 29
 Less than 2 l. 34
28. Dusky gr. Tib., tar., ba. j. of an., and often extreme ap. of fem., reddish. Th. tr.; sides strongly rounded. E. conv., strongly str.; the str. consp. punc. to cons. behind mid. Ap. of e. very obt. $2\frac{1}{2}$ l. B.ⁿ. tibiale
 Very like prec. Narrower and much flatter. E. much more finely p.-s., and with the str. hardly punc. behind mid. 2 l. E. S. I. atrocerculeum
29. E. without dist. markings. 30
 Brassy. Legs, pal., a semicircular fasc. near ap. of e., and ba. (often the whole) of an., pale. Th. strongly tr.; ba. punc. E. strongly p.-s. $2\frac{7}{8}$ l. B.ⁿ. lunatum
30. E. with dist. rounded sides. 31
 E. long, flat, parallel. Bl.-gr. Legs, ba. of pal. and ba. of an. r. A few puncts. on h. behind eyes. Th. hardly tr., obs. punc. at ba. E. strongly p.-s. $2\frac{1}{2}$ l. E. S. I. decorum

31. Th. dist. tr. 32
 - not or hardly dist. tr. 33
32. Brassy brown. Pal., legs and at least ba. 3 js. of an.
 test. E. rather strongly p.-s., widest behind mid.
 $2\frac{7}{8}$ l. E. Stephensi
 Gen. gr. Ba. of pal., not more than ba. 2 js. of an.
 and the tib. test. Fem. dusky, with broadly test.
 ap. E. widest *at* or *in fr. of* mid. H. shorter than
 in prec., eyes more prominent, an. longer. 2 l. B. brunnipes
33. Br. bl.-gr. Legs, ba. of pal. and ba. 2 js. of an. r.
 Th. hardly punc. at ba. E. conv., very finely p.-s.
 $2\frac{1}{8}$ l. B.^N. monticola
 Bronzy gr. An. reddish. Legs, pal. and ba. of an.
 r.-yel. Th. strongly punc. at ba. E. str.; sides
 dist. rounded; str. very strongly punc.; 8th str. obs.
 in fr., very deep behind. $2\frac{1}{2}$ l. B.^N. stomoides
34. The fov. on fr. of h. parallel in their hi. half 35
 - - - - - consp. sloped from ba. almost to meet in fr.
 B. Legs and ba. j. of an. reddish. Th. hardly tr.,
 narrow behind; 2 dist. fov. on each side at ba. E.
 finely p.-s., gen. pale near ap. $1\frac{1}{2}$ l. E. S. I. doris
35. An. entirely b. 36
 - not entirely b. 37
36. Brassy. Legs reddish. Pal. brown. Th. very strongly
 tr., with strongly rounded sides; ba. ang. slightly
 obt. E. moderately p.-s.; 7th str. wanting. Very
 like *lampros*. $1\frac{3}{4}$ l. E.^N. nigricorne
 B. Ba. of tib. and ap. of e. sometimes pale. Th. tr.
 E. with 7 strongly punc. str. $1\frac{1}{2}$ l. B.^c! minimum
37. Fov. on fr. of h. not approximated in fr. 38
 The fov. dist. sloped together in fr. of eyes 39
38. Th. very tr., rectang. at ba. Br. brassy. Ba. j. of
 an. (more or less) and legs r. E. faintly str. (7th
 str. gen. wanting); str. strongly punc. $1\frac{3}{4}$ l.
 E. S. I.!! lampros
 - gently tr.; ba. ang. obt.; 2 equal fov. on each side
 at ba. Blackish. Ba. j. of an., legs, and ap. of e.
 obsc. r. E. strongly p.-s. $1\frac{1}{2}$ l. E.^c. normannum
39. B. or blackish. Legs and ba. 2 js. of an. clear test.
 Th. strongly tr. E. strongly p.-s., smooth at ap.
 $1\frac{1}{2}$ l. E. gilvipes
 Very like prec. Bluish or greenish. Fem. pit. Pal.
 reddish. Th. less narrowed behind. E. shorter;
 the in. str. are dist. to ap. $1\frac{1}{4}$ l. B.^N. Schuppeli
40. Ba. of th. emarginate behind the ba. ang., so that its
 mid. part. is strongly prod. backw. 41

- Ba. of th. straight, or only slightly emarginate, behind hind. ang. 42
41. B. Legs, ba. of an. and a spot near ap. of each e. more or less pale. Th. very tr. Ba. ang. extremely obt. E. with 6 or 7 very strongly punc. str.; the 6th strongly punc. to behind mid. $1\frac{3}{4}$ l. B. ! . biguttatum
- Very like prec.; more brassy in color. Ba. ang. of th. only slightly obt. Str. of e. only 6, finely punc., and more dist. near ap. than in prec. Ap. pale spot on e. often wanting. 2 l. E. S. I.^c . æneum
42. Th. dist., though slightly, emarginate at ba., widest at mid. 43
- straight at ba., widest in fr. of mid. Blackish, gr., or bronzy. Legs, ba. of an. and ba. of pal. test. E. very finely p.-s. $1\frac{1}{3}$ l. B. obtusum
43. Brassy b. Legs, ba. of an. and a red spot near ap. of each e. r. E. rather el., rather strongly p.-s. 6th str. not dist. punc. so far as to mid. of e. $1\frac{1}{2}$ l. B. ! guttula
- Very like prec. B. (not brassy). Legs and ba. of an. test. Extreme ap. of e. often reddish. Th. broader than in prec., more narrowed behind, more rounded on sides. E. shorter, with more rounded sides. $1\frac{1}{2}$ l. E. S. I. Mannerheimi
44. R. E. gen. clouded with fuscous. An., pal. and legs test. Th. very tr., its ba. ang. very sharp. Sides of e. much rounded. E. very finely p.-s. $2\frac{1}{3}$ l. E. S. I. rufescens
- Obsc. gr., sometimes bronzy. An., pal. and legs test. Th. extremely tr., its ba. ang. rather blunt. E. very long, strongly p.-s. in fr. $2\frac{1}{4}$ l. B. quinquestriatum

TACHYPUS.

- Cop., marked with gr. Legs, pal. and ba. of an. more or less test. Up. side of fem., pal., and 1st and 2nd j. of an. often gr. H., across eyes, hardly wider than th. Th. cordate, hardly tr. E. pub., minutely punc., ind. str., each with 2 consp. pits. $2\frac{1}{2}$ l. B. pallipes
- Very like prec. Pal., legs and ba. of an. more unif. test. H., across eyes, dist. wider than th. Th. dist. tr. E. more strongly punc. 2 l. B. . flavipes

TABLE OF FAMILIES OF HYDRADEPHAGA.

1. An. not shorter than h., having only 10 js. Hi. fem. inserted under a large plate formed by the coxæ. . Haliplidæ
- - - - - 11 js. 2
- shorter than h. Gyrinidæ

2. Tar. with only 4 visible js. Sc. invisible	.	.	Hydroporidæ
- dist. 5 j. Sc. (exc. in <i>Noterus</i> and <i>Laccophilus</i>) well def.	.	.	3
3. H. deeply inserted in th.	.	.	Dytiscidæ
- protruded and dist from th.	.	.	Pelobiidæ

First family—HALIPLIDÆ. (3 genera.)

1. Space between the eyes not consp. less than diameter of eye	.	.	2
- - - - - very consp. less than diameter of eye	.	.	Cnemidotus
2. Th. about same width in mid. as at ba.	.	.	Brychius
- much narrower in mid. than at ba.	.	.	Haliplus

CNEMIDOTUS.

Test. Some large b. puncs. at ba. of th. E. with 10 rows of large b. puncs. $1\frac{2}{3}$ l. B. cæsus

HALIPLUS.

1. H., th. and ints. of e. (independently of larger puncs.) minutely reticulated, dull	.	.	2
- - - - - smooth, shining	.	.	3
2. Test. Th. punc. at ba. E. with rows of fine puncs. placed on b. lines; the b. lines interrupted at least twice, and often run together. $1\frac{1}{2}$ l. B.	.	.	obliquus
Very like prec. Th. with a faint fov. and (often) a b. mark on each side at ba. E. with the b. lines seldom interrupted more than once, and less run together. $1\frac{1}{2}$ l. E.S.I.	.	.	confinis
Very like <i>obliquus</i> ; smaller, broader in fr. Ba. and fr. of th. b. Resembles <i>confinis</i> in having fov. at ba. of th. but they are very faint. Perhaps a var. of one of the 2 prec. $1\frac{1}{2}$ l. E. ⁿ	.	.	varius
3. Th. with a dist. furrow on each side at ba.	.	.	4
- without the furrow	.	.	7
4. E., just behind shoulds., hardly wider than in mid.	.	.	5
- - - - - very cons. wider than in mid. Reddish. Back of h. and fr. of th. dusky. H. and th. punc. E. with rows of puncs. placed on b. lines which are confused and blotched. $1-1\frac{1}{2}$ l. E.S.I. !!	.	.	ruficollis
5. Coloured much as <i>ruficollis</i> , or darker	.	.	7
Very pale test. H. and fr. of th. darker. E. with rows of fine puncs. placed on b. lines which do not run together, but are not of even width. H. and th. punc. $1\frac{1}{3}$ l. E.S.I.	.	.	fluviatilis
6. Very like <i>ruficollis</i> in color and markings, but the b. lines on the e. do not run together, and are of even width throughout. $1\frac{1}{8}$ l. S.	.	.	striatus

- H. and fr. of th. nearly b. Some b. marks at ba., and
 gen. a well def. b. line down mid., of th. H. and th.
 strongly punc. Markings of e. as in *ruficollis*. $1\frac{1}{2}$ l.
 E. S. I. ! lineatocollis
7. E. marked with numerous well def. dark spots . . . 8
 - not so marked 9
8. Dark test. H. and th. punc. Th. with a consp. row
 of large puncs. along ba. E. with rows of puncs.
 forming str.; ints. with rows of smaller puncs. The
long dark blotches on the e. are not confluent with
 the sut. $1\frac{3}{4}$ l. E. S. I. fulvus
 Very like prec. Less pointed behind. The rows of
 puncs. at ba. of th. less consp. Some of the *round*
 dark spots on e. confluent with sut. $1\frac{1}{2}$ l. E. variegatus
9. Ba. puncs. of th. confused, not forming a consp. row . . . 10
 A consp. row of large puncs. along ba. of th. (besides
 smaller ones). H. and fr. of th. punc. E. with
 rows of strong b. puncs., and of fine ones in the ints.
 Sides rounded. $1\frac{7}{8}$ l. B. flavicollis
10. Dark test. E. very parallel in fr. $\frac{2}{3}$. H. wide and short.
 H. and th. (exc. on disc.) thickly punc. E. with
 rows of puncs. and finer rows between. $1\frac{7}{8}$ l. E.^s mucronatus
 Test. Sides gently rounded. H., and th. (in fr. and
 behind), strongly punc. E. with rows of puncs.,
 and finer rows between. $1\frac{2}{3}$ l. E.^s cinereus

BRYCHIUS.

- Th. with a mar. fold on each side. E. p.-s., clouded
 with b. The fr. part of the 3rd int. and the hi. part
 of sut. strongly elev. $1\frac{3}{4}$ l. B. elevatus

Second Family—PELOBIIDÆ. (1 genus) Pelobius.

- Dull reddish or test. Thickly punc. Th. at ba. and
 in fr., 2 marks on h., and disc of e., b. $4\frac{1}{2}$ l. E. Hermanni

Third Family—HYDROPORIDÆ. (3 genera)

1. Ap. of e. prod. in a consp. and very sharp point. . . Oxynoptilus
 Not as above. 2
2. Claws of post. tar. unequal; the in. claw fixed. . . Hyphydrus
 - - - equal, moveable. Hydroporus

OXYNOPTILUS.

- Punc. Reddish brown. Th. darker in mid. Each e.
 has its mar. and two indist. bands paler. $1\frac{1}{4}$ l.
 E. s.c. cuspidatus

HYPHYDRUS (1 species) and HYDROPORUS.

1. Forehead with an elev. mar. in fr. (Body globose).	2
- simple. R.-m. of e. with a mar. pit at should. to receive the ba. end of the mid. tib.	6
- - - simple. On each side a furrow at ba. of th. is continued on the e.	9
- - - - - on th. runs parallel to the mar., but is not continued on e.	11
- - - - - No dist. furrow on th. E. test., with dist. dusky lines or spots, or <i>vice versa</i> .	17
Not belonging to any of the above groups	22
2. Less than $1\frac{3}{4}$ l. Body dist. globose. H., th. and e. punc.	3
More than $1\frac{3}{4}$ l. Body <i>very</i> globose. R.-brown; ϵ . darker. Irreg. punc., with mingled large and small puncs. E. often with obsc. pale lines and blotches. δ shining, φ dull. $2\frac{1}{8}$ l. B.	Hyphyrus ovatus
3. A well def. and consp. pale line close to sut. runs from near ba. to ap. of each e.	4
This line is wanting, at least on disc.	5
4. H., th., an. and legs pale brown. Ap. of an. and ba. and ap. of th. often dusky. E. b.; the irreg. mar., and 2 lines (joined in fr. and behind, not reaching ba.) test. These lines meet the pale mar. in fr. and behind, and an irreg. fasc. joins the out. one to the mar. just behind mid. E. very finely reticulated, and spar. sprinkled with very coarse puncs. $1\frac{1}{3}$ l. E.	reticulatus
Very like prec. Thickly punc. with mingled large and very fine puncs. The pale mar. and 2 lines on the e. are all dist. in fr., and commence nearer the ba. of e. $1\frac{1}{3}$ l. E.S.I.	quinquelineatus
5. Resembles prec. The in. line on e. (and often the out.) absent, exc. at ba., or near ap., or both. Ba. and ap. of th. dist. b. No. consp. well def. contrast in size of puncs. on e. $1\frac{1}{4}$ l. E.S.I.!	inæqualis
Brown b. H., th., and a blotch near ba. and ap. of each e., paler. E. spar. punc., with very fine and very coarse puncs. mingled. 1 l. E.	decoratus
6. Coarsely punc. Dark brown. An., legs, fr. of h. and fr. of th. paler. Fr. part of each e. with 4 dist. str. formed by rows of consp. puncs. 2 l. E.S.I.	picipes
Not as above	7
7. Less than 2 l.	8
Finely punc. Test. Sides of h., disc. of th., sut. and 4 lines on each e. (of which the 2nd reaches the ba. and which are often more or less confluent) b. Mar. of e. gen. marked with b. $2\frac{1}{4}$ l. E. ^c .	parallelogrammus

8. A moderately el. species. Very finely punc. Pale test. Disc of th. dusky. Sut. and 4 lines on e. (rarely reaching ba. or ap. and gen. interrupted) dusky or b. $1\frac{3}{4}$ l. B.^{n.} novemlineatus
- A short globose species. Very finely punc. and spar. sprinkled with large puncs. H. and th. reddish. E. very pale test.; the sut. and 4 lines on each e. (not reaching ba. or ap., often more or less confluent) b. $1\frac{1}{2}$ l. B. confluens
9. A dist. str. on each e. close to the sut. is obs. near ap. 10
This str. runs consp. to ap. Finely pub. and punc.
B. Th. paler. Legs, a fasc. near ba., and some marks near mar. and ap., of e. test. The continuation on e. of ba. fov. of th. shorter than th. itself.
1 l. E. geminus
10. Very finely punc. B. An., h., legs, and 3 fasc. on e. (not reaching sut.), test. Continuation on e. of ba. fov. of th. much longer than the th. itself. A long parallel species. $\frac{3}{4}$ l. E.^{s.w.} minutissimus
- Very finely pub. and punc. Pit. Disc of th. and gen. some markings on e. obsc. test. Continuation on e. of ba. fov. of th. much longer than th. itself.
Not a parallel species. $\frac{5}{8}$ l. E.^{e.s} unistriatus
11. Narrow, el. species. Less than $1\frac{1}{2}$ l. 12
Not as above 13
12. Spar. and dist. punc. and pub. B. Ba. of an., and 2 lines on each e., yellow. 1 l. E. granularis
- - very finely punc. and pub. B. Legs, ba. of an., mar. of th., and 4 more or less interrupted lines on each e., yellow. $1\frac{1}{8}$ l. E. flavipes
13. Ap. half of an. entirely dusky or b. 14
Not as above 15
14. Tar. consp. b. Densely pub. Finely punc. B. Fem., tib., ba. of an., and some irreg. fasc. on e. (not reaching sut.) consp. yellow. $1\frac{1}{2}$ l. E. S. I. lepidus
- not consp. b. Obs. pub. Spar. and dist. punc. Pit. Legs, h., th., and ba. of an., paler. A yel. line runs down disc of each e., forming a large blotch at ba. and near ap.; r.-m. yel. 1 l. E. S. I. pictus
15. Length not less than twice width. Sides moderately rounded 16
- less than twice width. Sides strongly rounded. Ind. punc. Test. Disc of th. gen. darker. Disc of e. with a large b. blotch (often leaving only ba., mar., and some spots near ap., test.; sometimes in the form of 5 b. lines). $1\frac{3}{8}$ l. E. S. I. rivalis

16. Spar. and faintly punc. E. widest *in fr.* of mid.
 Test. A V-shaped mark on h., some marks on th.,
 and about 7 lines on e. (seldom reaching ba. or ap.
 and often confluent), b. 2 l. B.ⁿ. Davisi
 Very like prec. E. widest *at or behind* mid. H. gen.
 without the V-shaped mark. A shorter insect, less
 pointed behind. $1\frac{3}{8}$ l. E.S.I. septentrionalis
17. Th. contr. at ba.; or, its ba. ang. very obt. or
 rounded; or both. 18
 Not as above 21
18. E. with a small tooth just before the ap. 19
 E. not as above 20
19. Th. dist. contr. in fr.; its ba. ang. rounded. Very
 finely punc. and pub. Test. Ap. of an., 2 spots
 at ba. of th., 6 lines (more or less confluent) on e.,
 and the tar., b. U.-s. finely punc. $1\frac{3}{4}$ l. B.ⁿ. assimilis
 Very like prec. Th. hardly contr. in fr. The b. color
 of the lines on e. is gen. more suffused, and there are
 gen. 6 consp. large pale blotches on each e. $2\frac{1}{4}$ l.
 E.S.I. depressus
20. Resembles *assimilis*. The dark marks on th. are on
 disc. Th. contr. in fr., rectang. at ba. U.-s.
 coarsely punc. $1\frac{3}{4}$ l. E.^c. halensis
 Very finely punc. and pub. Th. as wide in fr. as at
 ba.; ba. ang. obt. H. test. Th. test.; ba. and
 ap. dusky. E. b., with 6 (often less) test. spots.
 Legs and an. test. $2\frac{1}{2}$ l. E.S.I. duodecim-
 [pustulatus]
21. - - - - B. Sides of h., sides and centre line of th.,
 ba. of an., legs (exc. tar.), and some irreg. lines on e.,
 test. Varies to unic. test., with back of h. dusky.
 $1\frac{3}{4}$ - $2\frac{1}{8}$ l. S.ⁿ. griseo-striatus
 Strongly pub. Ind. punc. Brown. H. th., an.,
 legs, mar. of e., and 4 more or less dist. lines on
 each e., test. $1\frac{2}{3}$ l. E.S.I. lineatus
22. E. simply punc., or with some *rows* of larger puncs. 23
 Very finely punc., and spar. sprinkled with large coarse
 puncs. Densely pub. R.-brown. Fr. of e. paler.
 ♀ with a smooth keel near ap. of e. A broad spe-
 cies. $2\frac{1}{8}$ l. B.ⁿ. latus
23. Th. and fr. part of h. unif. b. or pit. b. An. not
 unif. pale 24
 Not as above 29
24. Legs r. or test. (wide species with more or less rounded
 sides) 25
 B. Legs and an. pit. or b. Fem. and ba. of an.
 reddish. Spar. and coarsely punc. Ba. ang. of th.
 strongly obt.; its mar. very faint. E. consp. el.,
 parallel, widest behind mid. $1\frac{1}{2}$ l. B.^{n.m}. atriceps

- Resembles prec.; still more parallel; less strongly punc.; the th. strongly mar. Fr. legs r. $1\frac{5}{8}$ l. S. *longicornis*
25. Puncs. on e. fine deep and close 26
 - - - coarse, shallow and spar. B. Legs and ba. of
 an. r. Disc of th. gen. almost impunc. A short
 species; hardly pub.; sides little rounded. $1\frac{1}{4}$ l.
 E. S. I. nigrita
26. Very spar. pub. H. and th. b. E. dusky, with more
 or less of well def. yel. markings at ba. and mars.
 Sides strongly rounded. $1\frac{2}{3}$ l. E. S. I. lituratus
 Very pub. No well def. markings on e. 27
27. Less than $1\frac{5}{8}$ l. 28
 More than $1\frac{5}{8}$ l. E. rather long, dark brown, gen.
 paler at ba. and mars. Sides moderately rounded.
 $1\frac{7}{8}$ l. E. S. I. !! planus
28. Extremely like prec. Narrower. Color of e. varies
 from darker brown to unic. test. $1\frac{1}{2}$ l. E. S. I. ! *melanocephalus*
 Resembles prec. E. shorter, a little more closely punc.,
 unic. b. Sides more rounded. $1\frac{1}{2}$ l. B. *discretus*
29. Th. and e. b. An. entirely test. r. 30
 Not as above 32
30. H. more or less reddish. Legs r. Puncs. on disc of
 th. very obsc. E. with only obsc. traces of rows of
 larger puncs. Sides very parallel. Front tib. of
 normal form. 31
 Colored as above. Puncs. on disc of th. fine but
 very dist. E. rather closely punc.; rows of larger
 puncs. pretty dist. Sides rounded. Front tib. very
 short and broad. $1\frac{1}{2}$ l. E. S. I. celatus
31. E. spar. and rather coarsely punc. A wide insect.
 $1\frac{5}{8}$ l. E.^s. *melanarius*
 E. very spar. and finely punc. Narrower and duller
 than the above. $1\frac{3}{8}$ l. E. S. I. monticola
32. Puncs. on e. all well def., and spar. (i. e. spaces be-
 tween puncs. much larger than the puncs.) 33
 Not as above. 40
33. Disc of th. almost or quite impunc. 34
 Entire surface of th. dist. punc., though often more
 finely and less thickly on disc. 37
34. More than $1\frac{1}{3}$ l. 35
 Not more than $1\frac{1}{3}$ l. 30
35. Shining. El. Sides parallel in fr. $\frac{2}{3}$, then much
 contr. Finely and spar. punc., with some very fine
 puncs. consp. mingled. H. and th. reddish or b.
 An., pal., legs, mars. of th. (often), and e. (especi-
 ally in fr.), reddish. $2\frac{1}{4}$ l. E.^s. *oblongus*

- Colored much as prec., but duller and paler. Broader, and less contr. behind. Much more strongly punc.
 $1\frac{2}{3}$ l. B.ⁿ. *obsoletus*
36. Widest part of e. (which are rather parallel) hardly wider than ba. of th. Dark brown. H., th., legs, and ba. of an., paler. Ap. of an. b. E. strongly and rather closely punc. An. short and thick. A rather wide species. $1\frac{1}{3}$ l. E. S. I. *obscurus*
 - - - (- have gently rounded sides) dist. wider than ba. of th. Brown. H., th., ba. of an., and legs, gen. paler. E. strongly but not closely punc. An. rather long and slender. $\frac{7}{8}$ l. E.ⁿ. *Scalesianus*
37. E. unif. punc. or with only slight traces of rows of larger puncs. 38
 - each with 2 dist. rows of puncs. larger than the rest. Pit. b. An., legs, and often h. and mars. of th., reddish. Ap. of an. often dark. Not pub. Finely and spar. punc. A consp. row of puncs. across fr. of th. ♂ shining, ♀ dull, and much less spar. punc. $1\frac{7}{8}$ l. E. S. I. *memnonius*
 - - - - - Broad, flat and parallel. Not very shining. E. very strongly and rather thickly punc. R.; palest about ba. of e. $1\frac{7}{8}$ l. B. *ferrugineus*
38. Mars. of th. cons. paler than disc. 39
 Narrow, el., rather strongly punc. Hardly pub. H. dusky, paler in fr. Th. b. E. dark brown. Legs and ba. of an. reddish. $1\frac{1}{2}$ l. E. S. I. *tristis*
 Very like prec.; often paler in color. Rather narrower. An. longer. E. more dist. contr. at ba. Th. with dist. rounded sides. Sides of th. often obsc. r. $1\frac{1}{4}$ l. E. *neglectus*
39. Rather el.; sides gently rounded. Very strongly punc. Hardly pub. Pit. r.; fr. of h. and sides of th. paler. $1\frac{2}{3}$ l. E. S. I. ! *Gyllenhalli*
40. Th. widest about ba. 41
 - - cons. in fr. of ba. Rather el. and flat. E. much wider than th. Pub. Very closely and finely punc. Dark brown. Legs, mars. of th., ba. of an., and mar. and often fr. part of e., r. U.-s. obsc. r. $2\frac{1}{4}$ l. E. *dorsalis*
41. Side mars. (at least) of th. broadly r. or test. 42
 El. Very conv. Spar. pub. Strongly and rather closely punc. H. reddish. Th. b. (mars. sometimes very narrowly r.). E. brown, paler at ba. and mars. Legs and ba. of an. r. Ap. of an. pit. Mar. of th. broad. $2\frac{1}{3}$ l. B. *ruffrons*

- El. Rather flat. Pub. Closely and very finely punc.
Colored much as prec. Mar. of th. very narrow.
 $1\frac{1}{4}$ l. E. S. I. umbrosus
42. Hi. half (at least) of u.-s. of th. b. 43
- - of u.-s. of th. for the most part test. 44
43. El.; widest behind mid. Very conv. Densely pub.
Strongly and closely punc., exc. disc of th. which
is almost impunc. H., legs, and ba. of an., test.
Th. and ap. of an. b. E. brown. Sides of th. and
ba. of e. paler. ♀ often duller and more finely punc.
 $1\frac{3}{4}$ l. E. S. I. ! erythrocephalus
- Resembles prec. in shape; flatter, and narrower behind.
Whole surface very much more finely, closely and
evenly punc. H. and th. b. Mars. of th. widely
test. E. brown, widely test. at ba. Legs and ba.
of an. more or less test. 2 l. E.^{s.w.} marginatus
44. Th. or e. or both (exc. in extreme vars.), with dist.
markings 45
Pale brown. E. and ap. of an. darker. H.-b. blackish.
Disc of th. often a little dusky. El., narrow, pub.
Thickly and rather strongly punc. A rather well
def. ba. fov. on each side on th. $1\frac{1}{2}$ l. B. . . . angustatus
45. El., narrow, very pub. Thickly and very faintly
punc. Th. with no dist. ba. fov. H., legs, and ba.
of an., test. Th. pale brown; disc dusky. E.
blackish; ba., mars., and ap., more or less marked
with clear yel. (Varies from almost b. with fr. of h.
and sides of th. test., to unif. pale test.) $1\frac{5}{8}$ l.
E. S. I. !! palustris
- Very like prec. Shorter and broader, with more
rounded sides. Darker in color, especially the e.,
which have only the ba. and mars. narrowly pale.
 $1\frac{3}{8}$ l. B. vittula
- Extremely close to *palustris*. Broader, with more
rounded sides. Less pub. (especially th.), more
shining. A little less faintly punc. Colored much
as *palustris*, exc. that the pale markings on e. are
not well def. $1\frac{3}{4}$ l. B.^{n.} incognitus

Fourth family—DYTISCIDÆ. (9 genera.)

1. Sc. obs. 2
- well def. 3
2. E. sprinkled with large coarse puns. Noterus
Not as above Laccophilus
3. One of the 2 claws of the hi. tar. consp. longer than the
other 4
The claws of about equal length 7

4. An. short and stout (hardly, if at all, longer than h. and th.). Body extremely conv. The shorter claw on hi. tar. cons. more than $\frac{1}{2}$ longer one. Ilybius
 Not as above. 5
 5. Th. not dist. punc. 6
 - thickly and consp. punc. Ant. tar. of δ much as in *Hydaticus*. E. of φ with consp. hairy furrows. Acilius
 6. Claws of ant. tar. hardly, if at all, shorter than ap. j. of ant. tar. Ant. tar. of δ with, at most, *moderately* dilated js. Colymbetes
 - - - consp. shorter than ap. j. of ant. tar. Ant. tar. of δ with 1st 3 js. many times wider than 4th. Hydaticus
 7. Less than 6 l. 8
 More than 6 l. Ant. tar. of δ as above (in *Hydaticus*). E. of φ gen. with some deep furrows. E. of δ with 3 rows of consp. puncs. Dytiscus
 8. The ba. 3 js. in interm. tar. of δ strongly tr. Leiopteris
 Not as above Agabus

NOTERUS.

- Reddish. E. darker. Smooth and shining. E. with 3 irreg. rows of puncs. Breast flat. Js. 5 and 6 in an. of δ very tr.; the rest much narrower. $1\frac{3}{4}$ l. E. clavicornis
 Very like prec. Larger and paler. E. with irreg. coarse puncs. not in rows—most puncs. near ap. An elev. keel on breast. J. 5 in an. of δ very wide, 6-10 narrower, 11 very narrow. 2 l. E. sparsus

LACCOPHILUS.

1. Well def. pale markings *across the ba.* of e. 2
 U.-s. test. Smooth, shining. H., th., an., and legs, test. brown. E. gen. darker; along each side mar. 4 greenish test. spots, which are often ind. or obs. Th. much prod. backw. in mid. of ba. 2 l. E. S. I. minutus
 2. Very like prec. The markings dist. and, in addition, some irreg. ones of same color across ba. of e. Ba. of th. hardly prod. backw. 2 l. E. S. I. ! hyalinus
 Narrower than prec. 2. B. or nearly so. An., legs, th. (exc. ba. and fr.), and some markings near ba. and ap. and on mars. of e., very consp. yel. U.-s. brown. Ba. of th. hardly prod. $1\frac{2}{3}$ l. E.^s variegatus

COLYMBETES.

1. E. finely wrinkled transversely. Brown. Fr. (and some marks on disc) of h., side mar. of th. and e., and gen. the tib. and tar., test. On disc of e. 3 more or less dist. rows of puncs. $7\frac{3}{4}$ l. E. S. I. ! fuscus
 Not as above 2
 2. E. test. very closely sprinkled with b. (exc. on sut. and mars.) 3

- Dull b. An., pal., the fr. legs, and fr. of h., test.
Mars. of th. often r. Narrow. El. E. each with
3 ind. rows of puncts. 5 l. E. . . . Grapei
3. Disc of th. marked with b. . . . 4
- - - without b. markings. . . . 5
4. Test. H. and disc of th. marked with b. E. very
closely sprinkled with b. Legs r. or pit. r. U.-s.
b. A broad flat species, with strongly rounded sides.
Fr. claws of ♂ not lengthened. 5½ l. E. . . . pulverosus
- H., and ba. (often) and disc of th., marked with b.
E. sprinkled with b. Legs r. U.-s. b. with test.
or r. markings, or vice versâ. Conv. Rather nar-
row. Sides little rounded. Fr. claws of ♂
lengthened, one much longer than the other. 5 l. B. . . . notatus
5. U.-s. (at least principally) b. Fr. claws of ♂ length-
ened. . . . 6
Test. Ba. of h. and ba. of th. often dusky or b. E.
sprinkled with b. Legs and u.-s. test. Fr. claws
of ♂ gen. very much lengthened. Shaped much as
notatus. 5 l. E. S. I. . . . exoletus
6. Test. Ba. of h. and ba. of th. b. E. sprinkled with
b. Legs test. U.-s. b. Segments of h.-b. often
mar. with r. Shaped much as *notatus*. 5 l. B.^{sc}. . . . bistriatus
Test. Ba. of h. and ba. of th. often b. E. very
closely sprinkled with b. Legs test. U.-s. b.
Segments of h.-b. mar. with test. Breast test. in
mid. A short broad species with rounded sides.
Less than twice as long as wide. 4½ l. E.^f. . . . aberratus

ILYBIUS.

1. E. very finely reticulated; b.; with 2 small, often obsc.,
pale spots near mar.,—1 about mid., 1 near ap. . . . 2
- - - , brassy, with the mar. consp. pale . . . 5
2. Not more than 5½ l. Back of h. with 2 obsc. r. spots . . . 3
More than 5½ l. A wide species. E. contr. backw.
from a little *behind* the mid. Fr. claws of ♂ un-
toothed. U.-s. of last seg. in h.-b. of ♂ with a long
elev. keel. B.; obsc. brassy. Fr. of h., 2 spots at
back of h., mars. of th. and of e., and hi. legs, more
or less obsc. r. Pal., an., and fr. legs, r. 6 l.
E. S. I. . . . ater
3. E. contr. only from *behind* the mid. backw. Fr.
claws of ♂ untoothed. U.-s. of h.-b. in ♂ hardly
keeled . . . 4
- - - from the mid. backw. A narrow species. Fr.
claws of ♂ each with a tooth in the mid. U.-s. of
last seg. in h.-b. of ♂ with a long elev. keel. B.
Mouth, mars. of th. and of e., and hi. legs, obsc. pit.
brown. Pal., an., and fr. legs, r. Some obsc. rows of
puncts. on e. 5 l. B. . . . obscurus

4. Brassy b. Rather el. and narrow; sides little rounded.
 Mars. of th. and hi. legs obsc. r. brown. Pal., an.,
 fr. legs, and fr. of h., r. $4\frac{1}{4}$ l. B. *ænescens*
 Very like prec. B. (not brassy). Obsc. rows of puncs.
 on e. $4\frac{1}{2}$ l. E. *guttiger*
 Very like *ænescens*. More brassy. An. pit. near ap.
 [Doubtful as British.] *angustior*
5. Widest at mid. On the u.-s. the plate on the side of ba.
 of mid. legs is triangular and broad. 6
 Widest *behind* mid. On the u.-s. the plate on the side of
 the mid. legs is narrow, with its hi. side rounded.
 Brassy brown. Pal., an., legs, back of h., side
 mars. of th. and of e., and u.-s., r.-brown. The
 pale mar. of e. gen. leaves a dist. pale dash within it,
 on the e. behind mid. 5 l. E. *fenestratus*
6. Resembles prec. The pale mar. is wider, paler, and
 much more consp., not leaving a pale dash within.
 On the e. it is (at its widest) about as wide as
 diameter of the eye. $4\frac{2}{3}$ l. E. S. I.! *fuliginosus*
 Resembles prec. Wider. The pale mar. of th. and e.
 is obsc. and narrow. 5 l. E. *subæneus*

LEIOPTERUS (1 species) and AGABUS.

1. Surface of e. covered with fine longi. str. (or wrinkles)
 which occasionally run into one another, 2
 Not as above 4
2. The str. on e. very close and running almost entirely
 in a longi. direction. A tooth at ba. of in. claw of fr.
 tar. of ♂. E. with some rather dist. rows of puncs.
 Sides rounded. 3
 - - - not very close, and intersected by numerous dist.
 tr. str. Shining. Not very narrow. Sides little
 rounded. B.; often with an obsc. pale mark near mar.
 of e. behind mid. An. and pal. dull r. Legs pit. A
 small tooth at ba. of in. claw of fr. tar. of ♂. Fr.
 claws of ♂ equal. $4\frac{1}{2}$ l. B.ⁿ. *tarsatus*
 The str. on e. closer and more dist. longi. than in prec. No
 tooth at ba. of in. claw of fr. tar. of ♂. The claws
 equal. An el. narrow species; flat, with parallel
 sides. Some obsc. large puncs. on e. hardly form
 rows exc. near ba. B. Fr. of h., 2 marks on h., an.,
 and pal., r. Legs more or less r. $3\frac{3}{4}$ l. E. *striolatus*
3. A wide species. Ba. of th. sinuate, its hi. ang. ac.
 Th. wide. Colored much as prec. ♂ brassy, ♀ dull.
 Mars. of e. often obsc. r. $4\frac{3}{4}$ l. E. S. I.!! *bipustulatus*
 Very like prec. Narrower, and more pointed behind.
 Th. narrower, its ba. dist. narrower than ba. of e.,
 and hardly sinuate; its ba. ang. slightly obt. $4\frac{3}{4}$
 l. S. *Solieri*

4. Th. pit. or b., or with only an extremely narrow r. mar. (the width of which is much less than $\frac{1}{2}$ diameter of eye). Fr. claws of δ equal. . . . 5
 - test. or brown, or with broad r. or test. mars. . . . 9
5. E. dull r.; ba. and mars. still paler. An., pal., legs, extreme mar. of th., and some marks on h., reddish. Rest of body b. Rather short, broad, and conv. δ shining; η dull. E. (especially in δ) with numerous large consp. puncts. forming rows in fr. Surface of δ spar. and minutely punc., of η wrinkled. Fr. claws of δ simple and equal, but el. $3\frac{1}{2}$ l. B^s. . . . congener
- Brassy b., almost glabrous. An., pal., fr. legs, some marks on h., and extreme mar. of th., reddish. E. each with two yel. spots near mar. (the fr. one about as large as the eye, and, often, divided), and 3 or 4 rows of puncts. A wide conv. species. Claws of fr. tar. in δ equal and simple, but el. $3\frac{3}{4}$ l. E. . . . didymus
- Not as above. Ap. j. of interm. tar. cons. longer than its claw, and a little longer than the prec. 2 js. together. Gen. 2 r. spots near mar. of each e. . . . 6
- - - - - hardly longer than its claw, and hardly so long as the prec. 2 js. together. Brassy b. Pal., an., legs, r.-m. of e., and 2 marks on h., r. Surface finely wrinkled. Some obsc. rows of puncts. on e. Not a very wide species. $3\frac{3}{4}$ l. E. S. I. ! . . . chalconotus
6. A small well def. round fov. on each side of th. near ba. Not less than $3\frac{1}{2}$ l. 7
 This fov. obs. Less than $3\frac{1}{2}$ l. 8
7. B. An., pal., 2 spots on h., and (gen.) 2 spots on e. near mar., r. Legs pit. or r. Rather narrow, parallel and flat. Very minutely punc. or wrinkled. E. with some rows of puncts, which do not reach ba. and are quite irreg. behind. Ant. claws of δ equal, simple, and not el. $3\frac{1}{2}$ -4 l. B. guttatus
- Very like prec. The rows of puncts. on e. regular and well def. in fr. Legs darker. In. claw on ant. tar. of δ with a tooth in the mid. $3\frac{3}{4}$ l. B. nitidus
8. Brassy b. Pal., an., legs, 2 spots on h., 2 spots on e. near mar., and r.-m. of e., r. or reddish. Conv. Rather narrow. Finely punc. Some rows of dist. puncts. on e. are irreg. in fr. Sides rather rounded. A sharp tooth at ba. of each claw in ant. tar. of δ . 3l. B. unguicularis
- Very like prec. Less brassy. R.-m. of e. b. Sides hardly rounded. The rows of puncts. on e. regular in fr. 3 l. S. *afinis*

9. Prevailing color of th. dist. r. or test. E. without sharply def. pale markings, their mar. not paler than lightest part of disc. 10
 Not as above. Surface of e. covered with a dist. but fine network of wrinkles. 11
 - - - - - not consp. wrinkled. 13
10. Test. Hi. $\frac{2}{3}$ of h., 2 marks in mid. of th., some small well def. lines and blotches closely and irreg. placed on e., and the u.-s., dusky or b. Rather flat; not very wide; sides rounded. Rows of puncs. on e. very obsc. ♂ shining, almost glab.; ♀ dull, wrinkled. Fr. claws of ♂ equal, with an obsc. tooth at ba. 4 l. E.S.I. *nebulosus*
 - - - -, ba. and fr. of th., and some obsc. clouds on e. and on the fem., b. or dusky. Like prec. in shape. Almost glab. exc. some very obsc. rows of puncs. In. claw of fr. tar. of ♂ wider than outer, and with a tooth. $3\frac{3}{4}$ l. B. *conspersus*
 Shining r.-brown, often with obscure darker clouds. Almost glab. Short, wide, and conv. with rounded sides. E. with rather dist. rows of puncs. U.-s. b. The upper surface, an., and pal., nearly or quite unic. Hi. legs and ant. fem. more or less pit. Claws of fr. tar. of ♂ equal, el., and not dist. toothed. 4 l. E^s. *brunneus*
 Dull r., more or less clouded with dusky. U.-s. b. Narrow, el., and pointed behind. Finely and thickly punc. E. with regular rows of larger puncs. Fr. claws of ♂ short, equal, and simple. $3\frac{3}{4}$ l. E. *Leiopterus ruficollis*
11. Surface of e. *unif.* not very shining nor very smoothly wrinkled. Ba. 3 js. in ant. tar. of ♂ *strongly* dil. U.-s. b. 12
 - - - shining and very smoothly wrinkled in fr., but dull and rough near ap. Rows of puncs. obsc. H. and th. test. more or less clouded with dusky. E. b.; mar. and some well def. lines and blotches yel. An. pal. and legs test. U.-s. dull test. Ant. claws of ♂ short and simple. Color varies. Th. and e. sometimes b. with a yellow mar. $3\frac{3}{4}$ l. B. *maculatus*
12. Rather narrow, with parallel sides. H. dusky; fr. $\frac{1}{3}$ test. Th. test.; ba. and fr. darker (rarely b. with pale mar.). E. dark test. or brown; mar. yel. An. pal. and legs test. Rows of puncs. on e. obs. In. claw of fr. tar. in ♂ short, broad, and with a blunt tooth in mid. $3\frac{1}{2}$ l. B^s. *arcticus*
 Resembles prec. Broad with rounded sides. Not more than *extreme* fr. of h. test. Th. b.; mar. pale.

- Fr. claws of ♂ equal and simple, but very long. Hi. legs often dusky. $3\frac{3}{4}$ l. B. Sturmi
13. E. without well def. puncs. (exc. irreg. rows of large puncs.) or sharply def. markings. 14
- E. thickly and dist. (though finely) punc., and with dist. rows of larger puncs. Brassy. Fr. and back of h., sides of th. and e., an., pal., and legs, r. or reddish. Not very wide; sides rounded. Fr. claws of ♂ simple, el. Fr. fem. of ♂ set with long yel. hairs. 3 l. B. femoralis
- Obs. punc. B. H., an., pal., legs, and sides of th., r. E. each with a consp. angulated tr. yel. fasc. near fr., and a spot behind mid. Some dist. rows of puncs. on e. Fr. claws of ♂ simple, but very el. Conv. Not very broad. Sides rounded. $3\frac{1}{2}$ l. E. undulatus
14. Very shining. Glab. Rather broad and flat; sides little rounded. H. b.; fr., and 2 spots behind, pale. Th. b. with pale mars. E. brown, paler at sides and in fr., with some irreg. rows of large puncs. An., pal., and legs, reddish or pit. Fr. claws of ♂ el. but simple. $3\frac{1}{2}$ l. E. S. I. paludosus
- Resembles prec. Broader and more conv. with more rounded sides. Very minutely but dist. punc. The rows of large puncs. more dist. Out. claw of fr. tar. of ♂ much broader than the in., with a strong tooth in the mid. $3\frac{1}{3}$ l. E.^N. uliginosus

DYTISCUS.

1. U.-s. (at least partially) test. 2
- Rather narrow, el. Finely punc. Coxæ of hi. legs (*i.e.*, a narrow el. plate on u.-s. reaching from breast backw. to ba. of hi. legs) rounded at hi. ap. B. An., pal., fr. of h., and side mars. of th. and of e., test. Fr. legs and a mark on h. more or less r. Hi. legs pit. 13 l. E. S. I. punctulatus
2. Sc. b. U.-s. entirely test. 3
- yel. U.-s. spotted with b. Coxæ of hi. legs, long, narrow, and ac. pointed at ap. 5
3. Coxæ of hi. legs pointed at ap. 4
- - - round at ap. Dark b.-gr. An., pal., legs, fr. of h., side mars. of th. and of e., and often an obse. fasc. near ap. of e., test. Fr. and ba. of th. obse. pale. 16 l. E.^{E.F.}. dimidiatus
4. - - - obt. pointed at ap. Very like prec. All the mars. of th. broadly test. 15 l. E. S. I. marginalis

- - - very acutely pointed at ap. Very like prec.
Narrower. 15 l. E.^{E.F.} *circumcinctus*
5. Very like prec. exc. in the points already mentioned.
14 l. E. circumflexus
- - -. The test. mars. of th. much wider than in the
other species, the mars. at fr. and ba. being together
as wide as the space between them. E. with numer-
ous fine longi. yel. lines. 12 l. S.I. *lapponicus*

ACILIUS.

- Very wide and flat; sides very round. Closely and
finely punc. Brown b. An., pal., some marks on
h., mars. of th., a line on disc of th., mar. of e.,
u.-s. of th., fr. 4 legs (exc. part of up. side of ant.
legs), r.-m. of e., some spots on u.-s. of each seg.
(exc. 1st) of h.-b., and ap. part of hi. fem., test.
E. of ♀ with 2 hairy fov. on th., and 4 on e. $7\frac{3}{4}$ l.
E. S. I. ! sulcatus
- Very like prec. Narrower. On u.-s. *all* segs of h.-b.,
marked (more plentifully) with test. Hi. fem. test.
In ♀ no hairy fov. on th.; 3rd fov. on e. narrower.
7 l. B.^{N.} canaliculatus

HYDATICUS.

1. Not very wide. Widest about mid. of e. U.-s. dusky
or b. Mid. tar. of ♂ with 3 strongly dil. js. Very
minutely and closely punc., with dist. rows of larger
puncs. 2
- Wide. Widest behind mid. of e. U.-s. test. Mid.
tar. of ♂ little dil. Finely and spar. punc. E. with
obsc. rows of larger puncs. H. and th. test.; some
marks on h., ba. of h., and ba. and fr. of th., b.
E. test., very thickly sprinkled with b., exc. on
mars. Legs, an., and pal., test. 7 l. E.^{F.} *cinereus*
2. B. Fr. of h., fr. and side mars. of th., mar. of e., pal.,
an., and fr. legs, test. $6\frac{1}{4}$ l. E. seminiger
- Very like prec. Less closely and evenly punc. Mars.
of th. more widely test. A tr. yel. fasc. near ba. of
e. 6 l. E. transversalis

Fifth Family—GYRINIDÆ. (2 genera.

- Shining. Last seg. of h.-b. rounded at ap., and flat.
[Legs test.] Gyrinus

Dull. Pub. Last seg. of h.-b. el., pointed at ap.
 [Legs test.] *Orechtochilus*

GYRINUS.

1. U.-s. of h.-b. test. or pale brown 2
 - - - b. R.-m. of th. and e., and the claws, test. or r.
 [Shining b., bl., or gr. Breast and ap. of h.-b. often
 reddish. E. with about 11 longi. rows of puncs.] 3
 - (exc. legs) wholly b. Claws b. (ant. only at ba.)
 Otherwise as above. 6
2. El. Bluish or bl.-gr. E. unif. p.-s. U.-s. of h.-b.
 often dusky at ba. 2 l. E. S. I. *minutus*

Wide. Bl.-b. E. with obsc. longi. cop. clouds. E.
 with fine rows of puncs. which are obsc. near sut.
 3½ l. E.^{N.E.} *urinator*
3. Ints. of e. glab. Puncs. in rows near sut. much finer
 than towards mar. 4

Rather broad; sides rounded. Puncs. in all the rows
 about equal, but in each row faint near ap. 2¼ l.
 E. S. *Suffriani*

Not very wide. Ints. of e. finely punc. Puncs. in
 rows near sut. much finer than towards mar. 3 l.
 E. *colymbus*
4. Species dist. more than twice as long as wide and with
 only moderately rounded sides. 5

Not (or hardly) twice as long as wide. Sides strongly
 rounded. Rows of puncs. on e. variable, but al-
 ways fine; those near sut. dist. the finest. Ap. of
 e. rounded. 2½-3 l. E. S. I. !! *natator*
5. El.; sides nearly parallel. Rows of puncs. on e.
 strong, though finer near sut. Ap. of e. strongly
 rounded. 3⅓-4 l. E.^{N.} *bicolor*

Probably var. of prec. Sides less parallel. Ap. of e.
 less rounded. 2¾-3½ l. B. *distinctus*

Apparently resembles *bicolor* but is wider, with more
 rounded sides, and the ap. of e. almost quite straight.
 3⅞ l. E. *caspicus**
6. Not very broad. B.-bl. Legs test. E. with regular
 rows of strong puncs. between which the ints. are
 often slightly conv. Ints. of ♂ glab., of ♀ punc.
 2½-3½ l. B. *marinus*

* I have never met with an authentic specimen (British or foreign) of this insect. Types that I have seen do not answer to description.

Very like prec. Perhaps a var. Rows of puncts. on
e. finer: those near sut. finer than near mar. $2\frac{1}{3}$ -
3 l. B.

opacus

ORECHTOCHILUS.

Narrow. El. Finely punct. B.-brown. Densely pub.
U.-s reddish or test. $2\frac{7}{8}$ l. B.

villosus

TABLE OF FAMILIES OF PHILHYDRIDA.

1st j. of hi. tar. not longer than the rest—often very
small. [Species occurring in water.] Hydrophilidæ
1st j. of hi. tar. evidently the longest. Tib. with
numerous coarse spines. H. and th. thickly punct.
[Species occurring in rotten vegetable matter, sea-
weed, manure, &c.] Sphæridiadæ

First family—HYDROPHILIDÆ (17 genera.)

1. An. with at least 7 js. Fr. of clyp. not emarginate	2
- - only 6 js. Fr. of h. deeply emarginate	Spercheus
2. Th. broader at ba. than in fr.; its surface without
consp. furrows or ridges. Less than 5 l.	3
- - - - -; - - - - - More than 6 l.	10
Not as above	11
3. H.-b. consisting of more than 4 dist. segs.	4
- - - only 4 dist. segs. [Not more than 1 l. A str.
close to sut. in hi. part of e. is obs. in fr. An. 9 j.
Pal. short]	Chætarthria
4. Last j. of pal. longer than pen.	5
- - - shorter than pen. An. 9 j.	9
Last 2 js. of pal. equal. Sut. str. as above (see
<i>Chætarthria</i>). An. 9 j.	Enochrus
5. Sut. str. as above. More than 2 l. An. 9 j.	Hydrobius
- - - Less than 2 l. An. 9 j.	6
- - either absent, or entire. An. 8 j.	7
6. Th. very finely and rather ind. punct. Space between
ins. of mid. and hi. legs flat.	Anacæna
- strongly and roughly punct. Space between ins. of
mid. and hi. legs elev.	Paracymus
7. E. not deeply p.-s.	8
- deeply p.-s.	Berosus
8. Pal. dist. longer than tar. of mid. legs.	Limnebius
- not dist. longer than tar. of mid. legs	Laccobiu
9. Ap. j. of pal. not more than $\frac{1}{2}$ as long as 2nd. Sut.
str. as in <i>Chætarthria</i> . Space between ins. of mid.
and hi. legs elev.	Philhydrus
- - - more than $\frac{1}{2}$ as long as 2nd. Sut. str. obs.
Space between ins. of mid. and hi. legs flat	Helochares

10. Sc. more than $\frac{1}{2}$ as long as th. An. 9 j. Hydrophilus
 - hardly $\frac{1}{2}$ as long as th. An. 9 j. Hydrous
11. Last j. of pal. cons. longer than pen. 12
 Pen. j. of the rather short pal. large and thick. Last
 j. much shorter and thinner. An. 9 j. Ochthebius
12. Pal. cons. shorter than h. and th. 13
 - about as long as h. and th. An. 9 j. Hydræna
13. Th. strongly tr. An. 9 j. Helophorus
 - hardly (or not) tr. An. 7 j. Hydrochus

HYDROPHILUS.

Smooth, shining. Pit. b. An., pal., and some fringes
 of hair on the legs, more or less r. E. with 4 rows
 of puncs. ; a spine at ap. Ap. j. of ant. tar.
 of ♂ strongly dil. 18 l. E. piceus

HYDROUS.

Very minutely punc., shining. B. or bl.-b. Legs,
 an., and (often) fr. legs, more or less reddish. E.
 with 4 rows of large puncs. Ap. j. of fr. tar.
 of ♂ dil. $7\frac{1}{2}$ l. E. caraboides

HYDROBIUS.

A short wide species. B. or brassy b. Legs (more or
 less), pal., and ba. of an., r. Thickly punc. On e.
 10 consp. punc. str., which are faint in fr., very deep
 behind. An obsc. row of large puncs. on alt. ints.
 $3\frac{3}{4}$ l. E.S.I. !! fuscipes

Very like prec. Longer. Narrower. The punc. str.
 on e. are represented by mere rows of puncs. 4 l.
 E._{s.c.} oblongus

HELOCHARES.

Rather flat. Wide behind. Minutely and thickly
 punc.; more spar. behind. Faint traces of rows of
 larger puncs. on e. H. and th. test. E. test.,
 more or less dusky on disc. Pal., legs and an. test.
 Extreme ap. of ap. j. of pal. dusky. $2\frac{3}{4}$ l. E! lividus

Very like prec. More unif. test. brown. More of ap.
 j. of pal. dusky. Rather strongly and very unif.
 punc. $2\frac{1}{2}$ l. B. punctatus

PIILHYDRUS.

1. H., th. and e. test. (chiefly). Last j. of pal. not consp.
 dark. Not less than $2\frac{2}{3}$ l. 2

- Not as above. Sut. (especially behind) broadly b., in dist. contrast to the brownish e. 3
- Not as either of the prec. groups. 4
2. Test. H. (behind), disc of th. (often), cl. of an., 2nd j. of pal., and some obsc. clouds on e., dusky or b. Finely and closely punc., with very obsc. traces of rows of larger puncs. on e. $2\frac{7}{8}$ l. E! testaceus
- Very like prec. Narrower. More shining. Not quite so finely and thickly punc. Cl. of an. lighter. H. only a little dusky at ba. Pal. unic. test. E. with the rows of puncs. more dist. $2\frac{7}{8}$. E^c. maritimus
3. Rather el. Not very closely punc. H. b.; 2 pale spots in fr. Th. test.; dusky about mid. and ba. E. (exc. sut.) brown. Pal. test.; 2nd and 4th js. often a little darker. An. brown; test. at ba. Fem. b. Tib. lighter. Tar. test. $1\frac{7}{8}$ l. E. S. I. suturalis
- Resembles prec. Rather more thickly punc. H. unspotted. Pal. with 1st and 3rd js. dull red; 2nd and 4th pit. b. $1\frac{1}{2}$ l. B. marginellus
4. Pal. unic. or with only obsc. dull clouds. 5
- Pal. test.; ap. part of last j. (and often 2nd j.) consp. pit. b. H. b. (often with 2 pale spots in fr.) Th. dusky; paler on mars. E. test. or brown; often paler near ap. Legs reddish. Rather thickly and strongly punc. $1\frac{3}{4}$ - $2\frac{1}{2}$ l. E. S. I. ! melanocephalus
5. Shining pit. b. Pal., an., tar., and mars. of th. and of e., yel. or yellowish. A rather short species, strongly and not very thickly punc. 2 l. E. ovalis
- Brown. Back of h., and cl. of an., dusky. Strongly and thickly punc. $2\frac{1}{8}$ l. B. nigricans

ENOCHRUS.

- H. (exc. 2 yel. spots in fr.), ap. of pal., and u.-s., b. Th. and e. test. yel. (often with dusky clouds). An. and legs dusky r. or pit. Rather thickly punc. E. obsc. p.-s. behind. $2\frac{1}{5}$ l. E. bicolor

PARACYMUS.

- Short and conv. Strongly punc. Shining brassy, tending to r. on the sides. Legs, and ba. of an. and of pal., reddish. $1\frac{1}{3}$ l. B. æneus

ANACÆNA.

1. Thickly and finely punc. B. or pit. b. 2
- H. dusky; 2 large test. spots in fr. Th. test.; disc dusky. E. test. with dusky clouds. Legs, and ba. of an. and of pal., test. Ap. of latter 2, dusky. Broad and rather conv. Spar. punc. 1 l. E. bipustulata

2. B. Side mars. of th. and of e. and ba. of an. and of pal. test. Legs reddish. Broad and very conv. Tar. stout. $1\frac{1}{2}$ l. E.S.I!! limbata
- H. b. (often with 2 *small* pale spots in fr.) Th. dusky, paler at sides. E. pit. or brown. Legs and ba. of an. and of pal. brown. Ap. of latter 2 dusky. Rather narrow. Tar. thin. $1\frac{1}{4}$ l. E.S.I! variabilis

LACCOBIUS.

- Broad, round and conv. Dist. and rather thickly punc. H. b. ; 2 pale spots in fr. Th. b. ; side mars. irreg. test. E. test. clouded with dusky lines and spots. Legs, pal. and ba. of an. test. Cl. of an. dusky. The puncs. on e. are confused, only here and there forming irreg. rows. $1\frac{2}{3}$ l. E.S.I! nigriceps
- Very like prec. Not quite so broad. The puncs. on e. form regular rows throughout. $1\frac{1}{3}$ l. E.S.I! minutus

BEROSUS.

1. Ap. of e. simple. Ints. of e. pretty unif. punc. 2
- - - . Finely punc. E. deeply p.-s. ; 3d and 5th ints. with some large consp. puncs. among the fine ones. H. brassy gr. Th. dull test. ; 2. obsc. met. lines down mid. E. dirty test., with some dusky clouds. Pal., legs, and an., dull test. $2\frac{2}{3}$ l. E. signaticollis
- - - each with 2 spines. Test. or brown, more or less dusky. Finely punc. E. p.-s. ; the ints. very flat, finely punc. ; some consp. large puncs. on 3rd and 5th ints. $2\frac{3}{4}$ l. E.^{s.c.} spinosus
2. very conv. Strongly punc. E. deeply p.-s. Ints. rather conv. ; each with one or 2 very irreg. rows of puncs. H. brassy ; Th. brassy ; test. on mars. E. brown, with some dusky clouds. Pal. (exc. extreme ap.), an., and legs yel. $2\frac{1}{4}$ l. E.S.I. luridus
- Rather finely punc. E. gently p.-s. Ints. flat, each with 3 or 4 very irreg. rows of puncs. H. brassy or gr. Th. test., with a met. cloud on disc. E. test. with some dusky clouds. Legs., pal., and an., yel. Ap. of pal. often dusky. $2\frac{1}{4}$ l. E! affinis

LIMNEBIUS.

1. Not less than 1 l. E. b. or pit. b., not closely punc. Pen. j. of pal. not much thicker than ap. j.
- - - . E. dull brown, minutely and closely punc. Pen. j. of pal. abruptly and consp. thicker than ap. j. H. and th. dusky, sides of th. pale. An., pal. and legs test. $1\frac{1}{8}$ l. E. papposus

- Less than 1 l. 3
2. B. or pit. b. Sides of th. and of e. (more or less) pale. An., pal., and legs, dusky, or reddish. Rather a narrow el. species, strongly narrowed behind. E. spar. and rather dist. punc. Tib. of ♂ strongly bent and dil. ♂ $1\frac{1}{3}$ l. ♀ 1 l. E.S.I! . truncatellus
- Very like ♀ of prec. Dist. shorter, broader, and less narrowed behind. Th. less contr. in f. Punctuation not close, but varying somewhat in intensity. 1 l. E.S.I. marginalis* Steph.
3. Shining b. Obsc. and not closely punc. Not broad; narrowed behind. Mars. of th., ap. of e., the pal., and legs, reddish. $\frac{3}{4}$ l. B. nitidus
- - Without dist. puncs. Not broad; narrowed behind. Sides of th., and ap. of e., pale. Ba. part of pal., and the legs, reddish. Ap. j. of pal. pit. $\frac{1}{2}$ l. E.* picinus

CHÆTARTHRIA.

- Very conv. and strongly rounded. Very faintly punc. Shining b. Sides of th., and sides and ap. of e., pale. Legs reddish. $\frac{7}{8}$ l. B. seminulum

SPERCHEUS.

- Roughly punc. Some elev. ridges on e., especially behind. A broad rounded species. Test. brown, spotted or clouded with dusky. Legs pal., and ba. of an., reddish. Cl. of an. dusky. $3\frac{1}{4}$ l. E.* . emarginatus

HELOPHORUS. †

1. Deep. b. E. uneven, with consp. polished tubercles on the 2nd, 4th, and 6th ints. $1\frac{2}{3}$ l. Scarborough and Manchester tuberculitus
- Not as above. A short punc. str., or row of puncs., at ba. of e., between 1st and 2nd str. 2
- - - The str. unif. at ba. 5
2. Alt. ints. of e., and a ridge beside the short str., elev. into sharp high keels. 3
- - - at most gently conv. 4

*This species being omitted in Dr. Sharp's Catalogue, I append the author's name. Stephens' description is, I think, sufficient to identify the insect; I know no other to which it would apply.

†Several species in this genus have been determined as British since the publication of Dr. Sharp's Catalogue. They were introduced by Mr. Rye and myself in the E. M. M. of July, 1876. I have appended the author's name to the description of these.

3. Broad. H. and th. test. r. E. test. yel. Pal., an. and legs reddish. E. more or less spotted with b. H. and th. gran. Mars. of th. elev. and serr. Surface of th. with numerous irreg. furrow and ridges. E. very strongly p.-s. $2\frac{1}{3}$ l. B. rugosus
- Resembles prec. Narrower. H. dusky. Th. with 6 less irreg. longi. ridges. Puncs. in str. of e. not so large. $1\frac{3}{4}$ l. B. nubilus
4. H. and th. cop. or gr., closely and consp. granulose. Th. with a well def. furrow in the centre, and two on each side, besides an irreg. furrow along the side mars. The mar. furrow is not well def. and is of uneven width. The sides of the th. are rounded in fr. and contr. behind the mid., making the th. appear cordate. An., pal., legs, and e., test. E. with some b. marks. Behind the ba. the e. are transversely impressed; they are p.-s., and the ints. are gently conv., the alt. ints. most so. The r.-m. of the e. is narrow. The fr. tib. have a fringe of bristles on their ex. mar., in which several bristles are very consp. larger than the rest. The 2nd (longest) j. of the hi. tar. is less than twice as long as the 3rd. The ap. of the last seg. of the h.-b. is minutely serrated on the u.-s. $3-3\frac{1}{3}$ l. E.S.I. aquaticus
- Very like prec. Smaller and often darker in colour. Th. with sides test rounded in fr. and less contr. behind, its surface less closely granulose. E. with the tr. impression less dist. The alt. ints. of the c. are not dist. more elev. than the rest. Hi. tar. with 2nd j. about twice as long as 3rd. The fringe on the fr. tib. is nearly unif., and the ap. of the last seg. of h.-b. is smooth. $2\frac{1}{2}-3$ l. E.I. æqualis Thoms.
- Resembles *aquaticus*. Mar. furrow on th. wide cons. and unif. (as wide as ints. of str, on e.) Sides of th. gently and unif. contr. backw. from in fr. of mid. Alt. ints. of e. consp. elev. R.-m. of e. wide, (the space beyond the last str. being as wide as the prec. ints.) $2\frac{1}{2}$ l. E.^{s.c.} intermedius
5. Spaces between the furrow on th. dist. gran 6
- These spaces not dist. gran., shining; the furrows nearly straight. H. shining, faintly gran. E. deeply p.-s.; ints. conv. H. and th. cop. E. dark test. Legs, an. and pal. pale test. Ap. of tr. and of pal. dusky. $1\frac{1}{3}$ l. E.^s nanus
6. Int. between 1st and 2nd punc. str. on c. not dist. narrower in fr. than the puncs. in those str. 7

- H. and th. cop. E. test. with some b. spots. An. and pal. dusky. Legs test. Ap j. of pal. short and thick. E. very strongly p.-s.; the puncs. in 1st and 2nd str. in fr. broader than the space between those str. Ints. (especially between 2nd and 3d str.) much elev. $1\frac{2}{3}$ l. B.ⁿ. arverniscus
7. The longi. furrow at the ba. of the h. widens forwards, towards its junction with the bent furrow that runs tr. across the h. 8
- - - is narrow and of even width. H. and th. brassy. E. brown, with darker marks. An., pal., and legs test. Sides of th. regularly rounded. Interm. furrows on th. gently bent. E. strongly p.-s.; the puncs. in the str. large and not close. Ints. (especially 2nd, 4th, and 6th) narrow and elev. Sides of e. strongly dil.; the space beyond the last str. about as wide as prec. ints. Pal. long. $1\frac{1}{8}$ l. S-I. strigifrons Thoms.
8. Ap. j. of pal. el., and blunt at ap., widest in fr. of mid., not much thicker than prec. j. 9
- - - short, pointed at ap., widest at or behind mid., cons thicker than prec. j., gen. dusky brown. H. and th. cop. or gr. E. dusky or test., with b. marks. Pal. gen. dusky. Legs test. Interm. furrows on th. angulated. E. strongly p.-s.; the punces. in the str. large and not close. Ints. rather wide, and not flat, the alt. ints. rather dist. elev. A rather broad species. $1\frac{1}{4}$ l. E. S. I!! granularis
9. H. and th. cop. or gr. E. test. or brown, gen. with some b. marks. 10
- Narrow, el. E. strongly p.-s.; the puncs. in the str. large and not close. Ints. little elev. H. and th. cop. or gr. E. brassy brown, each with some rather obs. round pale spots. Pal., legs, ba. of an., and ap. of e., test. $1\frac{3}{4}$ l. E. dorsalis
10. Mar. furrow on th. not sharply def. and not of unif. width. 11
- - -, sharply def., and (unif.) wide. H. and th. gr. E. very pale test., with a few dark marks. Pal., an., and legs, test. Ints. of e. dist. conv. $2\frac{1}{4}$ l. E.^{n.w.} Mulsanti
11. Ints. of e. quite flat, each with a single well def. row of fine puncs. H. and th. cop. or gr. An., pal., and legs, test. E. test. with b. marks. E. p.-s.; the puncs. in the str. close and not large. $1\frac{1}{4}$ - $1\frac{2}{3}$ l. E. griseus

- - - gently conv. H. and th. dull brassy. E. brassy or brassy brown. An., pal. and legs test.; b. half of fem. dusky. Central fov. of th. with a dist. pit. in fr. E. p.-s.; the puncts. in the str. close and not large. A narrow el. species. Th. not conv. $1\frac{2}{3}$ l. S. I. planicollis Thoms.
- - - - . H. and th. dull brassy. E. obsc. brassy test. An., pal., and legs, test. Th. somewhat conv. longi. E. p.-s.; the puncts. in the str. large and not close. $1\frac{2}{3}$ l. B. æneipennis
- - - narrow and elev. H. and th. cop. or gr. E. test. with some b. marks. An., pal., and legs, test. Interm. furrows on th. only slightly bent. E. p.-s.; the puncts. in the str. close and not large. A narrow species; pointed behind. $1\frac{1}{8}$ l. I. brevicollis Thoms.
- - - - . Coloured much as *æneipennis*, but less brassy. Th. conv. longi. E. not dil. behind mid., p.-s.; the puncts. in the str. strong and not very close. Th. as wide as the e. Ap. j. of pal. sometimes b. $1\frac{7}{8}$ l. E.^s. laticollis Thoms.

HYDROCHUS.

1. Some of the ints. of e. strongly elev. 2
 The ints. hardly elev. E. fully twice as long as together wide, with rows of large puncts. H. and th. strongly punc. Surface of th. uneven. Brassy or gr. Legs, pal. and an. more or less r. $1\frac{3}{4}$ l. B. angustatus
2. Sut. and alt. ints. regularly elev. 3
 - - 2nd, 3rd, 4th, 6th, and 8th ints. of e. elev.: 2nd and 4th only in fr., 3rd only behind. Th. with 5 deep fov. Otherwise resembles *angustatus*. $1\frac{7}{8}$ l. elongatus
3. E. consp. less than twice as long as together wide; widest behind mid.; with rows of strong puncts. H. and th. strongly punc. Th. with 5 consp. fov. B. Tib., tar., an. and pal. often pit. r. $1\frac{3}{8}$ l. E.^s. S. brevis
 Very like prec. E. parallel, quite twice as long as together wide. $1\frac{1}{2}$ l. E.^r. carinatus

OCHTHEBIUS.

1. The 5th int. of e. not consp. elev.. . . . 2
 Brassy or gr. Legs r. Th. contr. behind; with some furrows. E. strongly p.-s.; 5th and 7th ints. consp. elev. A wide species; sides strongly rounded. 1 l. B.^x exsculptus

2. E. p.-s., or with very regular rows of puncts. 3
 Narrow, el. Shining brassy. Legs, an. and pal. r.
 Densely pub. H. and th. ind. punc., with some
 furrows. E. coarsely punc., the puncts not in rows.
 Ba. ang. of th. transparent. $1\frac{1}{3}$ l. E.I.^c . punctatus
- 3 Less than $\frac{3}{4}$ l. 4
 Not less than $\frac{3}{4}$ l. 6
4. E. coarsely p.-s.; the ints. not wider than the puncts. 5
 Brassy b. Mars. of th. and ap. of e. often paler.
 Legs r. Pal. pit. or r. Th. with some tr. furrows,
 contr. behind, punc.; its hi. ang. transparent. E.
 with rows of fine puncts. in faint str. $\frac{2}{3}$ l. E.^a ! . margipallens
5. Dull. Th. strongly contr. behind, not very tr., thickly
 punc., dil. on sides, with a central channel and 4
 fov. Pit. Legs brown. $\frac{2}{3}$ l. E.^{s.c.} Poweri
 Shining. Th. hardly contr. behind, very tr., not dist.
 punc. dil. on sides with 2 tr. furrows. Brassy b.
 Legs, pal. and an. dark brown. $\frac{2}{3}$ l. E.^{s.c.} exaratus
6. Th. not dist. punc. 7
 -dist. and strongly punc. (with a dist. central channel). 8
7. El. Brassy brown. H. and th. greenish. An., pal.,
 legs, and gen. mars. and ap. of e. test. Th. not
 much contr. behind, its hi. ang. transparent; with-
 out a central channel; with 2 tr. fov. E. p.-s. 1 l.
 B.^c marinus
 Brassy. Legs pal. and an. r. Th. not much contr.
 behind, with a central channel and some dist. fov.;
 its hi. ang. transparent. E. pub., with rows of fine
 puncts. $\frac{1}{2}$ l. E.^c æratus
8. Th. not dist. contr. behind. 9
 -dist. contr. behind. 10
9. Th. very strongly furrowed, its sides widely dil. E. with
 rows of large puncts, in faint str. Pit. r. H. and
 th. often darker than E. Legs r. An. and pal.
 dusky. Sides of th. often obsc. r. 1 l. E.S.I. bicolon
 Resembles prec. Shorter and wider. E. more strongly
 str. Sides (at least) of th. broadly and consp. r.
 E. often r.-brown. An. and pal. r. $\frac{1}{2}$ l. E.S. rufimarginatus
10. Rather el. Th. with a deep furrow on each side, its
 hi. ang. transparent. E. p.-s.; the str. almost
 deep on the sides; ints. wrinkled. Pit. brass, or
 greenish. Legs and ba. of an. and of pal. r. Ap.
 of e. often test. 1 l. E.S.I. pygmæus
 Th. with 2 tr. furrows, and a deep fov. in fr. on each
 side, its hi. ang. transparent. E. with rows of
 fine puncts. obs. on sides. H. and th. gr., the latter
 with pale mars. E. test., palest at ap. An., pal.,
 and legs test. 1 l. E.^s æneus

HYDRÆNA.

1. E. each with about 10 well def. rows of puncs. 2
 - - - only about 6 well def. rows of puncs; the puncs.
 near mar. not forming rows. 6
- 2 E. with rows of fine puncs.; ints. not sharply elev. Th.
 dist. tr. 3
 Narrow el. D. with rows of very large deep puncs.;
 the ints. very narrow and sharply ridged. Th. not
 dist. tr., thickly and unif. punc. H. dusky; th.
 dusky pale at fr. and ba. E. dull test. Legs, pal.,
 and an., test. 1 l. B. testacea
3. Less than 1 l. 4
 Not less than 1 l. 5
4. Short, broad; e. almost twice as wide as th. Th. thickly
 punc. on sides, more spar. on disc. B. or pit. E.
 often brown. Pal., an., and legs, test. $\frac{3}{4}$ l. B.ⁿ nigritia
 Narrow el.; e. dist. less than twice as wide as th.
 Th. thickly and unif. punc. H. b Th. dusky fr.
 and ba. test. E. pale. Pal., an., and legs, pale,
 $\frac{3}{4}$ l. E.ⁿ *palustris*
5. Not very narrow; e. dist. less than twice as wide as th.
 Th. thickly punc.; often a little less so on disc. H.
 dusky. Th. dusky, often paler at fr. and ba. E.
 pit. or brown. Pal., an., and legs, pale. $1\frac{1}{8}$ l.
 E.S.I. ! riparia
 Very like prec. Gen. of a paler color. Consp. longer,
 narrower, and more parallel. E. very little wider
 than th.; more than twice as long as together wide.
 $1\frac{1}{6}$ l. E.S.I. *angustata*
6. The rows of puncs. on e. reach the ba. 7
 - - - - - are dist. only on disc. Th. punc., gently
 tr. H. dusky. Th. dusky, fr. and ba. test. E.
 test. brown; sut. pit. Pal., an. and legs, test.
 $\frac{7}{8}$ l. B.ⁿ pulchella
7. Ap. j. of pal. with a consp. blunt tooth on in. side.
 Legs of ♂ simple. Th. gently tr., thickly punc. exc.
 on disc. E. rather parallel, hardly wider than th.
 Shining brown. H. and (often) disc. of th. darker.
 Pal., an., and legs, test. $\frac{3}{4}$ l. B.ⁿ atricapilla
 - - - simple. Fem. of ♂ thickened. Hi. tib. of ♂
 with a bunch of hairs. Th. not tr., with a very
 deep fov. on each side, punc. thickly on sides, spar.
 on disc. E. very parallel, toothed at ap. $1\frac{1}{8}$ l.
 B.ⁿ gracilis
 - - - - - Legs of ♂ simple. Th. tr., much narrowed
 behind, spar. punc. on disc., hardly punc. on sides, e.
 (with rounded sides) cons. wider than th. Mars.
 of e. strongly dil. R.-brown. H. pit. An., pal.,
 and legs, test. $\frac{3}{4}$ l. B.ⁿ pygmaea

Second Family—SPHÆRIDIADÆ. (5 genera).

1. More than $1\frac{3}{4}$ l. A str. close to the sut. exists only in the hi. part of e. 2
 Not more than $1\frac{3}{4}$ l. Sutural str. not as above. [An. 9 j. Sc. much shorter and narrower than cl. of an.] 3
2. An. 9 j. Sc. shorter but (at ba.) wider than cl. of an. Very conv. strongly and unif. but not very closely punc. Cyclonotum
 - only 8 j. Sc. narrower but not shorter than cl. of an.; not very conv. Finely and closely punc. e. very obsc. str. Sphæridium
3. Outer edge of fr. tib. pretty regularly rounded off towards ap. 4
 - - - - with a large and consp. notch near ap. Space between mid. legs flat. Megasternum
4. E. deeply p.-s. with strongly conv. ints. Space between mid. legs flat. Cryptopleurum
 Not as above. Space between mid. legs forming an elev. ridge. Cercyon

CYCLONOTUM.

Shining b. Legs, pal. and an. r. or pit. $1\frac{7}{8}$ l. B.! orbiculare

SPHÆRIDIDIUM.

- h. Ap. of e. broadly and consp. test. 2
 Unif. punc. B. Legs. and (often) some obsc. marks near ba. and ap. of e., r. Side mars. of th. and of e. more or less test. Hi. angs. of th. test. $2\frac{1}{8}$ l. B.! marginatum
2. E. with some rows of puncs. larger than the rest. B. Side mars. of th. and of e. (narrowly) ap. of e. (very broadly) and the legs, test. A large spot near ba. of e. (gen.) r. Hi. angs. of th. ac. $2\frac{1}{3}$ l. E.! . bipustulatum
 Very like prec. E. unif. punc. Colors gen. brighter. Th. rectang. at ba. 3 l. E.S.I!! , . scarabæoides

CERCYON.

1. Ba. of th. without a consp. fov. in the centre 2
 - - - with a consp. fov. in centre. Pit. b. Legs, ap. of e. and (often) disc. of e., more or less r. E. strongly p.-s. Ints. thickly punc. and conv. behind. A wide conv. species with rounded sides; narrowed behind. $1\frac{3}{8}$ l. E.S.I! hæmorrhoidale
2. Th. (across ba.) depressed backw. and e. (across fr.) depressed forw., so as to form a tr. furrow where they meet. Rather broad conv., little contr. behind. E. strongly p.-s.; ints. thickly punc., more or less conv. behind. Pit. b. Pal., ba. of an., tar., and ap. of e., r. or test. $1\frac{1}{2}$ l. B. . . . hæmorrhoum

- Not as above. Ints. of e. strongly punc. in fr., only very obsc. behind. A rather narrow species. E. finely p.-s. H. and th. b. E. b. pit. or r., with paler ap. Legs r. Pal. pit. l. B.! *pygmæum*
- - - - - pretty thickly, unif. and quite dist. punc. 3
- - - - - spar. and not very dist. punc. [short, very conv. species, with rounded sides.] 12
3. Ba. of th. not mar. More than $\frac{3}{4}$ l. Pal. b. or pit. b. * 4
- - - - - Not as above. 6
- Side mar. of th. carried delicately round the ba. H., th. (exc. side mars.), cl. of an., ap. j. of pal., sut., a large spot about centre of sut., and the u.-s., b. Rest of the insect test. or pale. E. strongly p.-s.; ints. thickly and dist. punc. $1\frac{1}{4}$ l. B.! *unipunctatum*
- Ba. of th. not mar. Ba. of pal. and of an. pale; ap. of both b. H., th., and e., deep b. Sides of th. pale. Sides and ap. of e. consp. test. Legs r. A moderately broad species with sides dist. rounded. E. p.-s.; ints. strongly punc. $1\frac{1}{4}$ l. B. *aquaticum*
4. Moderately wide species. 5
- Short, and very broad and conv. B. or pit. Legs and ap. of e. r. E. finely p.-s.; ints. finely and thickly punc. $1\frac{2}{3}$ l. B. *obsoletum*
5. Mar. of e. emarginate near ap., so that the ap. appears prod. E. finely p.-s.; ints. finely and thickly punc. Widest in fr. of mid., narrowed behind. H. and th. b. E. pit.: ap. and some obsc. marks near ba. r. Legs reddish. $1\frac{1}{4}$ — $\frac{1}{2}$ l. E.S.I.!! *flavipes*
- Resembles *flavipes* in shape and punctuation. E. test. or r. with a large b. triangular blotch at ba. of sut. $1\frac{1}{3}$ l. E.S.I.!! *melanocephalum*
6. El. species, not very conv., with rather parallel sides, and the e. not wider in fr. of mid. than at mid. 7
- Not as above. 9
7. The punc. str. on e. are faint near mars. and obsc. near ap. 8
- E. strongly p.-s., very deeply behind. Ints. finely and not closely punc., elev. behind. H. and cl. of an. dusky. Th. pit. or r. E. vary from dull r. with test. ap. to b. with test ap. In some specimens the e. are test. with dusky clouds; in others b. with pale mars. and spots. Ap. always test. Legs and pal. test. or dusky r. $1\frac{1}{3}$ — $1\frac{2}{3}$ l. E.S.I.^c! *littorale*

* In some specimens of *littorale* and *depressum* (which occur in sea-weed) the pal. are pit. r. They might possibly be confused with this group.

8. Shining pit. b. Mars. of th. and e. (gen.) pale. Ap. of e. test. cl. of an dusky. Pal., legs, and rest of an. r. E. finely p.-s.; ints. finely and spar. punc. $1\frac{1}{4}$ l. E.S.^c depressum
- H. th. (exc. mars., which are often pale), and cl. of an. dusky. Pal., e. and rest of an. test. Legs pit. r. E. finely p.-s.; ints. very finely and spar. punc. $1\frac{1}{8}$ l. B.! quisquiliun
9. Elev. space between mid. legs oval, not very narrow, and separated from the elev. space behind it. Str. of e. strong and deep near ap. 10
- - - - el., narrow and joined to the elev. space behind it. E. with rows of puncs. in str. which are faint to ap. Ints. strongly but not closely punc. Broad. Sides rounded. B. Pal. and legs and ap. of e. r. 1 l. B.! anale
10. Less than $1\frac{1}{4}$ l. 11
- Broad. Contr. behind. Consp. widest in fr. of mid. of e. Str. on e. faint in fr., deep behind; ints. thickly and strongly punc. H., and th. (exc. mars.), b. or pit. b. E. pit.; ap. and (gen.) some marks near ba. r. An., pal., legs, and mars. of th. test. or r. $1\frac{1}{2}$ l. E.S.I. laterale
11. Rather narrow and el. Very conv. E. p.-s.; ints. strongly and thickly punc. H. and th. b.; side mars. of th. often paler. E. pit. b.; its side mars., sut., and ap. test. An., pal., and legs test. $\frac{3}{4}$ l. B. terminatum
- Short, broad and flat. E. strongly p.-s.; ints. very finely and closely punc. H. dusky. Th. pit. or r.; gen. palest on sides. E. test. obsc. clouded with fuscous. An., pal., and legs test. or r. $\frac{3}{4}$ l. B. nigriceps
12. E. unic. or only very ind. paler near ap. Space between mid. legs oval. 13
- Space between mid. legs el. and narrow. E. finely p.-s., the str. deeper near ap.; ints. not shining and only very obs. punc. H., th. and e. b. or pit. b., exc. ap. of e. which is test. An. pal. and legs more or less r. $\frac{5}{8}$ l. B. lugubre
13. Very like prec. E. more shining. The puncs. in the str. on e. wider apart. The 2nd j. of the pal. is more thickened. $\frac{5}{8}$ l. E. granarium
- Very like the 2 prec. Pal. with 2nd j. much thickened. E. not shining; puncs. in str. close. Differs from prec. 2 in being less contr. behind, and

having the punc. str. on e. obs. near ap. $1\frac{1}{3}$ l.
E.S.I.

minutum

MEGASTERNUM.

Short and conv. ; sides rounded. Shining. E. with
rows of puncs., which are confused near ap. ; ints.
finely and not closely punc. B., pit. or r. An.,
pal., and legs r. $\frac{3}{4}$ l. E.S.I.!

boletophagum

CRYPTOPLEURUM.

Broad ; much contr. behind. E. strongly p.-s. ; inst.
elev. and strongly punc. H. and th. pit. Pal. and
an. pit. b. or pit. r. E. pit. or r. ; ap. always r.
1 l. B.!

atomarium