

ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A
BRITISH ENTOMOLOGY.

Synopsis of Indigenous Insects:

CONTAINING
THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH
AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

HAUSTELLATA.

VOL. II.

"In his tam parvis tamque ferè nullis quæ ratio! quanta vis! quam inextricabilis perfectio!"—*Plin.*

"Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem solum."—*Linné.*

LONDON:

PRINTED FOR THE AUTHOR;

AND

PUBLISHED BY BALDWIN AND CRADOCK.

1829.

Sp. 4. oleracea. *Alis anticis castaneo-ferrugineis maculâ reniformi lutescente strigâque externâ albâ bidentatâ.* (Exp. alar. 1 unc. 6—7 lin.)

Ph. No. oleracea. *Linné.*—*Ma. oleracea. Steph. Catal. part ii. p. 83. No. 6217.*—*Albin. pl. xxvii. f. 4. a—d.*

Head and thorax castaneous, varying in intensity: anterior wings the same, sometimes a little clouded, but in general plain, with the ordinary strige obliterated: anterior stigma pale ashy-brown, small, round, sometimes the margin alone conspicuous; posterior fulvous; in some examples the rudiments of a third stigma are visible, they are sometimes fuscous, at others fulvescent; on the posterior margin is a whitish bidentate striga: posterior wings whitish-ash, with a dusky border.

Caterpillar livid, spotted with black, with a fuscous dorsal and lateral whitish line:—it is polyphagus, but prefers cabbage, lettuces, and similar plants: it is found in the autumn; the imago appearing in the spring, towards the end of May.

Very common in gardens in and about London, and throughout the south of England: “Dublin.”—*Rev. J. Bulwer.* “Kimpton.”—*Rev. G. F. Rudd.* “Netley.”—*Rev. F. W. Hope.* “Bottisham.”—*Rev. L. Jenyns.* “Alderley, Cheshire.”—*Rev. E. Stanley.*

Sp. 5. suasa. *Alis anticis fuscis subnebulosis, lineolâ basi interruptâ nigrâ, strigâque posticâ bidentatâ albâ.* (Exp. alar. 1 unc. 4—5 lin.)

No. suasa. *Wien. Verz.*—*Ma. suasa. Steph. Catal. part ii. p. 83. No. 6218.*

Head and thorax fuscous: anterior wings glossy brown, a little clouded with darker shades: with an acute black lineola at the base, and the margins of the stigmata of the same colour; the stigmata of a pale ashy-brown, and situated between two very obscure rather pale strigæ: towards the posterior margin is a white, deeply bidentate striga, with black arrow-shaped streaks on its anterior margin: the cilia and posterior wings are fuscous.

Caterpillar green, with rufescent and bluish spots and three streaks of the latter colour:—it is polyphagous, feeding upon the cabbage, dock, lettuce, plantain, trefoil, &c.: the imago appears in June.

Of this rare insect I have seen but four examples, three of which were captured near London, and one in Norfolk; my specimen, which is the only female I have seen, was taken at Birch-wood in the beginning of July, 1818: it is rather in a tattered condition.

Sp. 6. nigricans. **PLATE 24. f. 2.**—*Alis anticis subochraceo-nigricantibus, stigmatibus strigisque ordinariis pallidioribus.* (Exp. alar. 1 unc. 8 lin.)

No. nigricans. *Vieweg?*—*Ma. nigricans. Steph. Catal. part ii. p. 83. No. 6219.*

Antennæ rusty-luteous; head and thorax pale immaculate dusky-brown, with an ochraceous tinge; anterior wings the same, with obsolete paler and darker

This insect varies much in colour, and a little in the disposition of its markings. Caterpillar green, with an obscure dorsal and reddish lateral line: it feeds on various pot-herbs like *Ma. Brassicæ* and others of the genus: the imago appears in June.

A very common species, frequenting the gardens and squares of the metropolis itself, and abounding in the former situations throughout its vicinity.

Sp. 11. *Persicariæ*. *Alis anticis nigris, strigis tribus fusciscentibus, unâque posticâ punctorum fulvorum, stigmatæ reniformi niveo lunulâ fulvâ.* (Exp. alar. 1 unc. 6—8 lin.)

Ph. No. *Persicariæ*. *Linnæi*. *Don*. ix. pl. 317.—*Ma. Persicariæ*. *Step. Catal.* part ii. p. 84. No. 6225.

Head and thorax black, the latter with a few darker spots; anterior wings also black, with three rather obscure fuscous strigæ, edged with black, and a slightly waved series of fulvous spots near the hinder margin: anterior stigma rather indistinct, with a stigmatiform spot between it and the inner margin, as in the last-mentioned species; posterior stigma pure white, with a fulvous central lunule: on the costa are three or four white spots, and a minute row of the same at the base of the cilia, which are black and indented: posterior wings whitish at the base, with a central lunule, and the hinder margin deep fuscous.

Caterpillar green, with a white dorsal line, and an obscure cloud on the fourth and fifth segment; the tail conic: it feeds on the hop, elder, and other plants; and is found in the autumn: the imago appearing in the following June.

Rather uncommon: I have, however, found several specimens in a garden at Hertford in certain seasons, and occasionally at Ripley; and on Clandon-common, Surrey: it also occurs throughout the metropolitan district. "Allesley."—*Rev. W. T. Bree*. "Netley."—*Rev. F. W. Hope*. "Epping."—*Mr. H. Doubleday*.

APPENDIX.

Page 5. *HEPIALUS hectus*. It should have been remarked, Dr. Leach distinguishes this species in his MSS. as a genus, by the name *Chelonus*, which cannot be retained, as it is preoccupied. "Longnor, Salop, not abundant."—*Rev. F. W. Hope*. "Rockcliff and Castletown."—*T. C. Heysham, Esq.*

Page 5. *HEPIALUS lupulinus*. "Rickerby, &c., Cumb."—*T. C. Heysham, Esq.* "Abundant in Salop."—*Rev. F. W. Hope*.

- Page 6. *HEPIALUS humuli*. "In some seasons very abundant near Carlisle."
—*T. C. Heysham, Esq.*
- Page 6. *HEPIALUS vellela*. "Littleton Copse, 30th ult."—*Rev. G. T. Rudd.*
"Newcastle, rarely."—*W. C. Hewitson, Esq.*
- Page 7. *HEPIALUS carthus*. "Littleton Copse, with the foregoing, 29th and
30th ult."—*Rev. J. T. Rudd.*
- Page 8. *ZEUZERA Æsculi*. "Lamberhurst, Sussex."—*Rev. F. W. Hope.*
"Near Southwold, Suffolk."—*W. C. Hewitson, Esq.*
- Page 9. *COSSUS ligniperda*. "Abundant at Matlock in 1828."—*Rev. F. W.*
Hope. "Oak woods in the neighbourhood of Black Hale and Flosesh."—
T. C. Heysham, Esq. "York, Newcastle, &c."—*W. C. Hewitson, Esq.*
- Page 12. *PYGÆRA bucephala*. "Cummersdale, Rockcliff, Orton, &c."—*T. C.*
Heysham, Esq. "Common in Salop; larvæ called *Highlanders*."—*Rev. F.*
W. Hope. "Yorkshire, and Suffolk, very common."—*W. C. Hewitson, Esq.*
- Page 14. *EPISEMA cœruleocephala*. "Common at Netley in 1828."—*Rev. F.*
W. Hope.
- Page 19. *CERURA vinula*. "Harraby, Knells, Brompton, &c."—*T. C. Hey-*
sham, Esq.
- In Mr. Children's collection is a remarkable variety of this insect; having the
head and front of the thorax, the hirsuties of the legs and breast of a deep
smoky-black; with the wings considerably suffused with a similar hue, but
with the ordinary strigæ and fascia: it was found near Brighton.
- Page 21. *STAUROFUS fagi*. "The male captured several times at Burghfield,
by means of a lighted candle, in the evening."—*Rev. C. S. Bird.*
- Page 25. *LEIOCAMPA dictæa*. "Near Rockcliff."—*T. C. Heysham, Esq.*
- Page 25. *LEIOCAMPA dictæoides*. "Old Brompton."—*Mr. G. Waterhouse.*
- Page 27. *LOPHOPTERYX carmelita*. Var. β . With the anterior wings deep
fuscous, tinted with reddish; the markings as in var. α . Of this variety
there is a beautiful example in the British Museum (the one referred to in
page 28); and a very perfect anterior wing of the same variety was picked
up in Ongar-park, the 22d of April, 1828, by Mr. H. Doubleday, who kindly
transmitted it to me.
- Page 28. *PTILODONTIS palpina*. "Brompton, 1828."—*Mr. G. Waterhouse.*
- Page 33. *PERIDEA serrata*. "Dorking, in 1828."—*Mr. G. Waterhouse.*
- Page 33. *ENDROMIS versicolor*. "Bishop's Castle, and Lenley, Salop."—
Rev. F. W. Hope.
- Page 36. *SATURNIA pavonia*. "The caterpillar very abundant on Heath on
the Bishop's Castle Hills in 1826."—*Rev. F. W. Hope.* "Yorkshire, and
near Newcastle."—*W. C. Hewitson, Esq.*
- Page 38. *LASIOCAMPA rubi*. "Rockcliff Moss."—*T. C. Heysham, Esq.*
"York, &c."—*W. C. Hewitson, Esq.*

- Page 40. *LASICAMPA Quercus*. "Orton Mosses."—*T. C. Heysham, Esq.*
"Common at Netley in 1828."—*Rev. F. W. Hope*. "Collingbourne-wood
in profusion."—*Rev. G. T. Rudd*.
- Page 43. *PÆCLOCAMPA Populi*. "Very abundant near Birmingham."—*Rev.*
F. W. Hope.
- Page 45. *ERIOGASTER Lanestris*. "York."—*W. C. Hewitson, Esq.*
- Page 49. *CLISIOCAMPA Neustria*. "Davidson's Bank, near Carlisle."—*T. C.*
Heysham, Esq.
- Page 52. *ODONESTIS potatoria*. "Near Woodbank."—*T. C. Heysham, Esq.*
- Page 52. *GASTROFACHA quercifolia*. "Near Sheffield."—*Rev. F. W. Hope*.
- Page 59. *DASYCHIRA pudibunda*. "Black Hale Woods."—*T. C. Heysham,*
Esq. "Near York; larvæ on beech."—*W. C. Hewitson, Esq.*
- Page 61. *ORGYIA antiqua*. "Netley, in August."—*Rev. F. W. Hope*.
- Page 61. *ORGYIA gonostigma*. "Bagley-wood, Oxfordshire."—*Rev. F. W.*
Hope.
- Page 64. *LEUCOMA Salicis*. "Woods near Cummersdale."—*T. C. Heysham,*
Esq.
- Page 67. *HYPERCOMPA Dominula*. "Very abundant at Darent-wood last
June (1828)."—*Mr. Ingpen*.
- Page 68. *EUTHEMONIA fussula*. "Common about Birmingham, and near
Bewdley-forest."—*Rev. F. W. Hope*. "Hen-Moss and Tarn Wadling."—*T. C.*
Heysham, Esq.
- Page 69. *ARCTIA Caja*. "Dum-hill, Harkes, &c."—*T. C. Heysham, Esq.*
"Suffolk, York, Newcastle, &c."—*W. C. Hewitson, Esq.*
- Page 72. *NEMEOPHILA Plantaginis*. "Southend, &c."—*Rev. F. W. Hope*.
- Page 74. *PHRAGMATOBIA fuliginosa*. "Netley, August and September."—
Rev. F. W. Hope. "Castletown and Rockcliff."—*T. C. Heysham, Esq.*
- Page 77. *SPILOSOMA lubricipeda*. "Near Ellerby."—*T. C. Heysham, Esq.*
- Page 78. *DIAPHORA mendica*. "Near Norwood."—*Mr. Ingpen*.
- Page 82. *FUMEA muscella*. "Hornsey and Highgate-woods."—*Mr. Ingpen*.
- Page 83. *NUDARIA mundana*. "Common at Netley."—*Rev. F. W. Hope*.
- Page 90. *CALLIMORPHA Jacobææ*. "Kingmoor, Orton, &c."—*T. C. Heysham,*
Esq.
- Page 93. *DEIOPEIA pulchella*. "A specimen taken near Oxford, and now in
the Botanic-garden;—last year found at Gravesend."—*Rev. F. W. Hope*.
- Page 97. *LITHOSIA quadra*. "Once taken in Harrison-street, Gray's Inn
Road."—*Mr. Ingpen*.
- Page 98. *GNOTHRIA rubricollis*. Whether there may not be two broods of this
insect I am not positive, but it is certain that the insect is about for a long
period; having taken it myself in July, and specimens having occurred so

- early as the end of May. "Woods near Black Hale and Castletown."—*T. C. Heysham, Esq.* "Bagley-wood, end of May, very common."—*Rev. F. W. Hope.* "Taken in profusion in 1828, early in June; and this year for this fortnight past,—1st June, 1829."—*Rev. G. T. Rudd.*
- Page 102. *TRIPHLENA orbona.* "Durdan and Flosches."—*T. C. Heysham, Esq.*
- Page 103. *TRIPHLENA pronuba.* "New Moss," &c.—*T. C. Heysham, Esq.*
- Page 105. *TRIPHLENA interjecta.* "Netley, very abundant."—*Rev. F. W. Hope.*
- Page 106. *TRIPHLENA Janthina.* "Netley."—*Rev. F. W. Hope.*
- Page 107. GENUS *LYTÆA.* This genus, which now contains three indigenous species, in addition to the characters pointed out in the place cited, has the posterior wings with a dark fimbria, and a more or less distinct transverse dusky striga, with a central spot of similar hue; and all the wings very glossy; the anterior considerably rounded at the base.
- Sp. 2. *LYTÆA leucographa.* *Alis anticis fusco purpureis albo adpersis, maculis ordinariis albidis.* (Exp. alar. 1 unc. 6 lin.)
- Noctua leucographa. *Hübner, fig. 572.*—*Ly. leucographa. Steph. Catal. Appendix.*
- Head and thorax fuscous, with a mixture of fulvous or rufescent; the latter with a transverse dusky streak, followed by a reddish-brown one: anterior wings reddish-brown, varied with white and ochraceous-yellow, with fine purplish or coppery shades; at the base is a slightly bifid black streak, reaching nearly to the second striga, which is rather indistinct and very irregular; the third is considerably bent behind the posterior stigma, and is united to the second by a small black hook on the inner margin; between the posterior striga and the hinder margin is a very faint interrupted pale waved striga, bearing a row of elongate-triangular spots on its anterior edge; the space between this striga and the posterior margin is plain purplish-brown, with the nervures slightly ochreous; and on the margin are some indistinct black dots: cilia reddish-ochre: stigmata whitish, placed in a dusky or black patch: posterior wings ochreous-white, with a central lunule and two transverse strige fuscous.
- Caterpillar green, with white and brown spots.
- My specimen of this insect was taken near York. *Hübner* seems to have figured two very distinct insects under the above name.
- Sp. 3. *LYTÆA albimacula.* *Graphiphora albimacula*, page 137, which evidently associates better with this genus than with the one under which I have doubtfully placed it: it closely resembles the foregoing.
- Page 111. *CHARÆAS Graminis.* "Netley, Salop, 1827 and 1828."—*Rev. F. W. Hope.* "Denton, Holme."—*T. C. Heysham, Esq.*
- Page 116. *AGROTIS Segetum.* It appears by a letter received from Mr. Kirby, that instead of the larvæ of this insect, it was slugs that were destroyed in such abundance by Mr. Rodwell.
- Page 118. *AGROTIS valligera.* "Occasionally near Netley."—*Rev. F. W. Hope.*
- Page 120. *AGROTIS vitta.* "Alderley, Cheshire."—*Rev. E. Stanley.*

- Page 126. *AGROTIS exclamatoria*. "In the utmost profusion in July, 1827, near Netley."—*Rev. F. W. Hope*.
- Page 128. *GRAPHIPHORA rhomboidea*. As I suspect that this handsome species is perfectly distinct from the *Noctua rhomboidea* of Esper, I propose calling it *GRAPHIPHORA subrosea*.
- Page 130. *GRAPHIPHORA pyrophila*. "Flisk, not Zetland."—*Rev. Dr. Fleming*.
- Page 131. *GRAPHIPHORA augur*. "Common at Netley."—*Rev. F. W. Hope*.
- Page 133. *GRAPHIPHORA triangulum*. "Rockcliff-moss."—*T. C. Heysham, Esq.*
- Page 136. *GRAPHIPHORA plecta*. "Cambridge."—*C. Darwin, Esq.*
- Page 137. *GRAPHIPHORA albimacula*. See *Lytæa albimacula*, p. 199.
- Page 144. *ORTHOZIA miniosa*. "A single specimen at Netley."—*Rev. F. W. Hope*.
- Page 146. *ORTHOZIA Pistacina*. "Epping."—*Mr. H. Doubleday*.
- Page 149. *ORTHOZIA Upsilon*. "Epping."—*Mr. H. Doubleday*.
- Page 158. *CARADRINA cubicularis*. "Exceedingly abundant, last August, near Netley."—*Rev. F. W. Hope*.
- Page 159. *CARADRINA glareosa*. "Of this insect I have taken a fine pair at Epping; one in July, 1827, the other on the 29th August, 1828."—*Mr. H. Doubleday*.
- Page 161. *GLEBA Vaccinii*. "Kimpton."—*Rev. G. T. Rudd*.
- Page 163. *AMPHIPYRA pyramidea*. "New-moss."—*T. C. Heysham, Esq.*
- Page 165. *PYROPHILA tetra*. "Kimpton."—*Rev. G. T. Rudd*.

* * The tabular view of the Noctuidæ will be given at the end of the family.

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ERRATA.

Page 2, line 27, *for cocoons, read cocons.*

47, — 21, *for nests, read nest.*

55, — 9 and 14, *for pilosæ read pilosi.*

56, — 39, *for stronger, read fainter.*

63, — 40, *for projections, read proportions.*

88, — 7, *for either and or, read neither and nor.*

89, — 32 and 34, *for Cc., read Ca.*

90, — 3 and 4, *for Cc., read Ca.*

91, — 22, *for larger, read longer.*

110, — 29, *for Plate 20. f. 1. read Plate 20. f. 2.*

113, — 29, *for Plate 20. f. 2. read Plate 20. f. 3.*

119, — 15, *for Plate 20. f. 3. read Plate 20. f. 1.*

128, — 34, *for rhomboidea. Plate 19. f. 1. 8. read subrosca. Plate 19. f. 1. δ .*



C. M. Curtis, del.

C. Wagerstaff, sc.

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Ch. Davis del.

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Chapman sc.



















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Sp. 1. thoracicus. *Rufo-fuscus, thorace elytrorumque apicibus pallidis.* (Long corp. $\frac{4}{5}$ — $\frac{1}{2}$ lin.)

Se. thoracicus. *Steph. Catal. p. 71. No. 772.*

Rufo-fuscous, slightly glossy, smooth, with the thorax and tips of the elytra pale, the former with a dusky spot on its anterior margin: antennæ and legs pale testaceous.

Taken occasionally in damp banks near London.

APPENDIX.

Page 1. BEMBIDIIDÆ. It may be added to the first paragraph that Latreille forms this family into a distinct section from the other geodephaga.

Page 6. TACHYS immunis. "Taken occasionally on Cardew-mire, near Dalston."—*T. C. Heysham, Esq.*

Page 6. TACHYS obtusus. "On the old course of the river Eden, below Botchardby."—*T. C. Heysham, Esq.*

Page 7. PHILOCHTHUS æneus. "Under rejectamenta, on the coast, Burgh-marsh."—*T. C. Heysham, Esq.*

Page 8. PHILOCHTHUS subfenestratus. "Salt-marsh, below Rockcliff."—*T. C. Heysham, Esq.*

Page 8. PHILOCHTHUS biguttatus. "Cardew-mire, Dalston."—*T. C. Heysham, Esq.* "Devonshire, 1828."—*Messrs. Chant and Bentley.*

Page 9. PHILOCHTHUS guttula. "On the banks of the Eden, near Richardby."—*T. C. Heysham, Esq.*

Page 10. OCYS currens. "Devonshire."—*T. Marshall, Esq.*

Page 10. OCYS melanocephalus. "Pembrokeshire, 1829."—*Captain Blomer.* "Under the bark of decayed trees on the banks of the Eden, near Corby-castle, Richardby, &c.; and on the Caldew, near Dalston Hale."—*T. C. Heysham, Esq.*

Page 11. OCYS tempestivus. "Devonshire."—*Mr. Chant.* "Cambridge."—*C. Darwin, Esq.*

Page 12. PERYPHUS femoralis. "Near Belchardley, Cardew-mire, &c."—*T. C. Heysham, Esq.*

Page 12. PERYPHUS concinnus. "Devonshire."—*Messrs. Chant and Bentley.* "On the coast, Drumburgh-marsh."—*T. C. Heysham, Esq.*

Page 12. PERYPHUS saxatilis. "Banks of the Eden, near Beaumont."—*T. C. Heysham, Esq.*

— Sp. *PERYPHUS albiges*. *Æneo-viridis nitidus, antennis rufescentibus, pedibus pallidis.* (Long. corp. 2 lin.)

Be. albiges. *Sturm?*—*Pe. assimilis.* *Steph. Nom. 4.*

Above of a rich shining brassy green: mouth pitchy: palpi dusky: antennæ rufescent, with the terminal joints dusky: thorax with a faint dorsal channel and a deep fovea on each of the hinder angles: elytra, with the suture, rather piceous; the disc brassy green; rather deeply punctate striate, the striæ fainter on the sides, and reaching to the apex of the elytra: legs very pale testaceous.

I possess specimens of this insect from the north of England, but I am not positive of its identity with the *Pe. assimilis* of Mr. Heysham's MSS., not having a typical example to guide me.

Page 13. *PERYPHUS rupestris.* "On the banks of the Esk, near James-town."
—*T. C. Heysham, Esq.*

Page 14. *PERYPHUS ustus?*—"Rare: only two specimens taken in June, 1828, near Sandsfield."—*T. C. Heysham, Esq.*

Page 14. *PERYPHUS nitidulus.* "Devonshire."—*Mr. Chant.*

Page 15. *PERYPHUS viridi-æneus.* "Banks of the Esk, near Moss-land."—*T. C. Heysham, Esq.*

Page 15. *PERYPHUS tibialis.* "Rather common on the banks of the Eden and the Esk."—*T. C. Heysham, Esq.* "Devonshire."—*Mr. Chant.*

Page 17. *PERYPHUS atro-cæruleus.* "Devonshire."—*Messrs. Chant and Bentley.* "On gravel-beds on the Caldew, near Long Island and Cummersdale."—*T. C. Heysham, Esq.*

— I regret being compelled to remain silent regarding *Peryphus viridis*, *Heysham MSS.*, of which two examples were taken by that gentleman recently near Carlisle, which I have not seen.

Page 24. *LOPHA pulicaria.* "Drumburgh-marsh, under rejectamenta."—*T. C. Heysham, Esq.*

Page 28. *TACHYPUS bipunctatus.* "Common on the banks of the Esk, below the iron bridge at Garries-town."

Page 28. *TACHYPUS striatus.* "This species has only occurred to me very sparingly: I have taken solitary specimens on the banks of the Eden near Allerby and Kinggarth, and on the Caldew in Denton Holme."—*T. C. Heysham, Esq.* "Devonshire, in July, 1828."—*Messrs. Bentley and Chant.*

Page 30. *BEMBIDIUM paludosum.* "Sheffield, August 15, 1828. It is not uncommon in Lancashire, where it is taken by Mr. Hobson."—*Rev. F. W. Hope*; who kindly furnished me with this species. "But once met with on the western extremity of Cardew-mire, in July, 1828."—*T. C. Heysham, Esq.*

Page 30. *BEMBIDIUM flavipes.* "Devonshire."—*T. Marshall, Esq.* "Rock-cliff, Cardew-mire, and Moss-land."—*T. C. Heysham, Esq.*

Page 32. Sp. 1. *NOTIOPHILUS aquaticus.* This species may be known by the stria on the elytra being rather distant, faint, and not reaching to the apex;

the elytra of an uniform tint; the disc of the thorax smooth; the legs usually deep bronzed-black, with the tibiae slightly rufescent.

"Common near Newcastle."—*G. Wailes, Esq.*

† Sp. 2. *NOTIOPHILUS rufipes*. *Curtis*, v. pl. 248.—*Cupreus, capite latissimo, fronte profundè striato, elytrorum apice pallescente, antennarum basi pedibusque pallidè ferrugineis.* (Long. corp. 2½ lin.)

Above glossy cupreous: head very broad, the forehead very deeply sulcated: thorax rather narrower than the head, the margins very deeply and coarsely punctured, the disc smooth, with the dorsal channel transversely wrinkled; on each hinder angle is a very deep fovea: elytra very smooth, with an abbreviated punctate stria near the scutellum, a rather faint one on each side of the suture, and six very deeply punctate ones closely approximating to each other towards the outer margin, which is smooth; these striae reach to the apex, which is obscurely paler than the rest of the elytra: legs bright ferruginous: base of antennae the same, the apex dusky.

"Only a single specimen has occurred to me, taken on the south side of Tarn Wadling, High Hesket."—*T. C. Heysham, Esq.* "Devonshire, 1828."—*Messrs. Bentley and Chant.*

Page 33. Sp. 3. *NOTIOPHILUS biguttatus*. This differs from the following in wanting the second dorsal impression between the second and third striae.

"Extremely common at Marton Lodge."—*L. Rudd, Esq.* "Not very common in Hants and Wilts."—*Rev. G. T. Rudd.* "Common at Newcastle."—*G. Wailes, Esq.*

† Sp. 4. *NOTIOPHILUS quadripunctatus*. *De Jean*.—*Cupreus, capite angusto, elytris tenuè punctato-striatis, plagâ longitudinali nitidissimâ, punctis tribus impressis inter striam secundam et tertiam.* (Long. corp. 2 lin.)

Of a bright shining copper: head narrow, forehead moderately sulcated: thorax with the margins punctate, the disc transversely, but faintly, rugose: elytra rather faintly punctate-striated, the striae as in the foregoing species, and between the second and third two deep impressions on the back, and one towards the apex, which is pale yellowish: base of the antennae and of the tibiae somewhat pale.

"A solitary specimen taken near the Canal reservoir."—*T. C. Heysham, Esq.* The impressed dots on the elytra differ on the two sides; whether this or *No. rufipes* be truly distinct from the other species, time alone can decide;—they appear different, Mr. Heysham having kindly sent me his specimens for examination: and I have observed other examples in collections which also seem to differ from either of the above, but time has not permitted me to investigate them properly.

Page 33. *ELAPHRUS uliginosus*. "Cambridge, in plenty, 1829."—*C. Darwin, Esq.* "Not uncommon, but local at Fyfield, Hants; the only species hitherto detected by me at Kimpton."—*Rev. G. T. Rudd.*

Page 34. *ELAPHRUS cupreus*. "Very abundant at the sides of ponds, at Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*

- Page 35. *ELAPHRUS riparius*. "Found with the last, common."—*L. Rudd, Esq.* "Abundant on the north side of Tarn Wadling."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 36. *BLETHISA multipunctata*. "In great abundance near Cambridge, in 1829."—*C. Darwin, Esq.* "Prestwick Car, common."—*G. Wailes, Esq.*
- Page 39. *HALIPLUS elevatus*. "Springly in a water meadow, Thruxton, Hants."—*Rev. G. T. Rudd.* "Near Cambridge, 1829."—*C. Darwin, Esq.*
- Page 40. *HALIPLUS ferrugineus*. "Not common, Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Scarce near Kimpton."—*Rev. G. T. Rudd.* "Ditches near Cardew-mire."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 41. *HALIPLUS obliquus*. "More plentiful than the last, but somewhat scarce at Kimpton: very common at Winterborne Stoke."—*Rev. G. T. Rudd.* "The neighbourhood of Marton Lodge, but very rare."—*L. Rudd, Esq.* "Wimbledon-common."—*Mr. G. Waterhouse.* "Newcastle."—*G. Wailes, Esq.*
- Page 41. *HALIPLUS lineato-collis*. "Plentiful at Kimpton, in gravelly streams in the spring."—*Rev. G. T. Rudd.* "Not uncommon in Yorkshire."—*L. Rudd, Esq.* "Cardew-mire."—*T. C. Heysham, Esq.*
- Page 42. *HALIPLUS ruficollis*. "Common in Yorkshire."—*L. Rudd, Esq.* "Kimpton."—*Rev. G. T. Rudd.*
- Page 43. *HALIPLUS affinis*. "Abundant in a water meadow between Monxton and Abbot's Ann, in October, 1828, but not hitherto found elsewhere in this district."—*Rev. G. T. Rudd, Kimpton.* "Newcastle."—*G. Wailes, Esq.*
- Page 44. *PÆLOBIUS Hermannii*. "In a pond on Park-house Hill, between Andover and Amesbury."—*Rev. G. T. Rudd.* "Once near Newcastle, by Mr. Hewitson."—*G. Wailes, Esq.*
- Page 45. *HYPHIDRUS ovatus*. "Common near Marton Lodge, Yorkshire;—the males in the proportion of 5 to 1."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 47. *HYGROTUS confluens*. "In profusion near Kimpton."—*Rev. G. T. Rudd.* "Not common near Marton."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 48. *HYGROTUS inequalis*. "Common in ponds at Weyhill, and in turfpits at Abbot's Ann."—*Rev. G. T. Rudd.* "Scarce near Marton."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 49. *HYGROTUS scitulus*. "Common in Yorkshire."—*L. Rudd, Esq.* "Not yet found near Kimpton."—*Rev. G. T. Rudd,* "Near Cambridge."—*C. Darwin, Esq.*
- Page 49. *HYGROTUS pictus*. "In profusion near Winterborne Stoke."—*Rev. G. T. Rudd.* "Not uncommon in Yorkshire."—*L. Rudd, Esq.* "Newcastle."—*G. Wailes, Esq.*
- Page 50. *HYDROPORUS Frater*. "Very sparingly near Marton Lodge."—*L. Rudd, Esq.*

Page 51. *HYDROFORUS areolatus*. "Cambridge."—*C. Darwin, Esq.*

Page 51. *HYDROFORUS depressus*. "In the utmost profusion in the large water meadow between Winterborne Stoke, and Berwick St. James, Wilts, Oct. 1828:—plentiful between Monxton and Abbot's Ann, Hants."—*Rev. G. T. Rudd*. "Common near Marton Lodge, Yorkshire."—*L. Rudd, Esq.*

Page 51. *HYDROFORUS 12-punctatus*. "Very rare near Kimpton."—*Rev. G. T. Rudd*. "Not common, Marton Lodge."—*L. Rudd*. "Newcastle."—*G. Wailes, Esq.*

Page 51.† Sp. 6.* *HYDROFORUS 9-lineatus*. *Supra pallidè testaceus capite saturatiore subtus niger, maculâ thoracis rhombicâ, elytrorum basi suturâ lineisque quatuor nigris.* (Long. corp. 2 lin.)

Hyd. 9-lineatus. *Rudd MSS.* Much smaller than *Hy. nigrolineatus*, which it somewhat resembles: the upper surface is pale testaceous, the head rather fulvous: on the disc of the thorax is a black rhomboid spot: elytra pale, with the suture and four distinct lines black, united at the base by a transverse streak of the same, and continued to the apex of the elytra, where the black suture and the second streak are united by a transverse narrow black line; the external line is remote from the margin, and is dilated towards its apex; body beneath black; legs pale testaceous.

"Two specimens only, one of which escaped by accident, found in the flooded gravel-pits, Weyhill, end of October, 1828."—*Rev. G. T. Rudd*.

Page 52. *HYDROFORUS lineatus*. "Southend, 1829, in great profusion."—*Rev. F. W. Hope*.

Page 53. *HYDROFORUS picipes*. "Scarce, in the gravel-pits at Weyhill."—*Rev. G. T. Rudd*. "Southend, 1829, in very great abundance."—*Rev. F. W. Hope*.

Page 53. Sp. 10.* *HYDROFORUS latus*. *Ovatus, brevis, niger, vagè punctatus, capite posticè elytrorum basi antennæ pedibusque piceo-ferrugineis.* (Long. corp. 2½ lin.)

Short, ovate, very broad: obscure black: head punctured, with the vertex transversely ferruginous: thorax with its lateral margins slightly ferruginous: the disc irregularly covered with impressed dots, with an obsolete transverse elevation: elytra with the base transversely pitchy-ferruginous: the disc irregularly and thickly punctured throughout, the lateral margins piceous: legs and antennæ rusty-piceous: body obscure black beneath.

"Marton Lodge, Yorkshire."—*L. Rudd, Esq.*—Communicated to me by my friend the Rev. G. T. Rudd:—whether the insect be the same as the *Hydroforus latus* of Curtis I am not positive, having seen but the *one specimen* here described, which was taken last autumn. When my Nomenclature was printing, I conceived that it was synonymous with *Hy. opatrinus*, but upon comparison the difference was very obvious.

Page 53.† Sp. 10.** *HYDROFORUS opatrinus*. *Oblongo-ovatus ater, subpubescens, obscurè punctatus, antennæ pedibusque piceis.* (Long. corp. 2¾ lin.)

Hyd. opatrinus. *De Jean?*—*Steph. Nomenclature*, p. 4.

Somewhat resembling *Hy. dorsalis*; but of rather a different form: deep black, slightly pubescent; the thorax somewhat cordate; with a bent transverse impression, the margins punctured; elytra oblong-ovate, with irregular punctures on the disc, which has several slightly elevated costæ: legs and antennæ pitchy-black, the latter palest. "Netley, Salop."—*Rev. F. W. Hope*.

Page 56. *HYDROFORUS deplanatus*. "Oxford."—*Rev. F. W. Hope*.

Page 56. Sp. 18. * *HYDROFORUS ferrugineus*. *Depressus piceo-ferrugineus, thoracis margine laterali rufo subdilatato, clytris planis, tenuè punctatis, piceis basi apiceque pallidioribus*. (Long. corp. 2 lin.)

Hydroforus ferrugineus. *Rudd, MSS.*—*Steph. Nomenclature*, p. 4. Depressed; of a deep pitchy ferruginous, the head and thorax brightest, the margins of the latter somewhat dilated and rufous, the disc smooth; the anterior margin with a faint series of impressed dots, and the hinder margin with a curved thickly punctured impression: elytra much depressed, piceous, with the base irregularly testaceous, and the apex pale; the disc regularly but not very deeply punctate throughout, with two longitudinal striæ of deeper impressions: body beneath black, antennæ and legs ferruginous; hinder tarsi very long. "Near Collingbourne-wood; once in 1828, and several in a stream at Kimpton during last spring."—*Rev. G. T. Rudd*.

Page 58. *HYDROFORUS geminus*. "Not plentiful, in the gravel-pit at Apple-shaw: Oct. 1828."—*Rev. G. T. Rudd*.

Page 58. *HYDROFORUS granularis*. "Somewhat common at Weyhill, and in a new-made pond at Fyfield."—*Rev. G. T. Rudd*. "Cardew-mire."—*T. C. Heysham, Esq.*

Page 58. *HYDROFORUS ovalis*. "Marton Lodge, Yorkshire."—*L. Rudd, Esq.* "Not hitherto found near Kimpton."—*Rev. G. T. Rudd*.

Page 60. *HYDROFORUS melanocephalus*. "Common every where in Hants and Wilts."—*Rev. G. T. Rudd*. "In Yorkshire."—*L. Rudd, Esq.*

Page 60. *HYDROFORUS erythrocephalus*. "Same as the last, abundantly."—*Rev. G. T. Rudd*.

Page 61. *HYDROFORUS holosericeus*. "With the preceding, abundantly."—*Rev. G. T. Rudd*.

Page 61. *HYDROFORUS pubescens*. "Common at Weyhill."—*Rev. G. T. Rudd*.

Page 64. *LACCOPHILUS minutus*. "Common at Marton."—*L. Rudd, Esq.*

Page 64. *LACCOPHILUS interruptus*. "Very abundant at Weyhill."—*Rev. G. T. Rudd*. "Newcastle."—*G. Wailes, Esq.*

Page 66. *COLYMBETES guttatus*. "In streams near Kimpton."—*Rev. G. T. Rudd*. "Cardew-mire."—*T. C. Heysham, Esq.* Newcastle."—*G. Wailes, Esq.*

Page 67. *COLYMBETES striatus*. "Not very abundant near Marton Lodge."—*L. Rudd, Esq.* "Cardew-mire."—*T. C. Heysham, Esq.* "Newcastle."—*G. Wailes, Esq.*

Page 69. *COLYMBETES pulverosus*. "Very common in the gravel-pits at Weyhill and Appleshaw, sparingly at Kimpton in streams; and in the canal at Chatford, near Andover."—*Rev. G. T. Rudd.* "In profusion near Cambridge."—*C. Darwin, Esq.*

Page 70. *COLYMBETES notatus*. "In abundance near Cambridge."—*C. Darwin, Esq.*

Page 70. *COLYMBETES exoletus*. "Abundantly near Cambridge."—*C. Darwin, Esq.*

Page 71. *COLYMBETES agilis*. "In pools on the hills near Marton Lodge, but very scarce, October, 1828."—*L. Rudd, Esq.* "In profusion near Cambridge, in 1829."—*C. Darwin, Esq.*

Page 71. *COLYMBETES adspersus*. "Plentiful near Cambridge in 1829."—*C. Darwin, Esq.*

Page 73. *COLYMBETES nebulosus*. "In profusion in the pits at Weyhill, 1828."—*Rev. G. T. Rudd.* "Not common near Marton."—*L. Rudd, Esq.* "Newcastle, very abundant."—*G. Wailes, Esq.*

Page 73. *COLYMBETES subnebulosus*. "One specimen near Marton."—*L. Rudd, Esq.*

Page 73. *COLYMBETES Sturmii*. "Not uncommon near Abbot's Ann."—*Rev. G. T. Rudd.* "Newcastle."—*G. Wailes, Esq.*

Page 73. † Sp. 18. * *COLYMBETES arcticus*. *Oblongo-ovatus, subtilissimè reticulato-strigosus, niger, thorace fasciâ pallidâ, elytris fuscis margine pallidis.* (Long. corp. $\frac{1}{2}$ lin.)

Dytiscus arcticus. *Paykul?*—*Co. arcticus?* *Steph. Nomenclature, p. 5.*

About as long but narrower than *Co. maculatus*: head finely reticulate-strigose, broadly pale rufous anteriorly, the crown black, with two oblong pale rufous spots: thorax finely reticulate-strigose, testaceous yellow, with the anterior and posterior margins black: elytra oblong-ovate, a little dilated in the middle, the apex rounded, finely and thickly reticulate-strigose, fuscous, with the lateral margins pale, the disc impunctate: body dull black beneath, with the margins of the segments narrowly testaceous; sternum ferruginous: legs pale rufo-testaceous.

It varies in having the thorax black, with the lateral margins alone irregularly pale. "Netley."—*Rev. F. W. Hope.*

Page 76. *COLYMBETES chalconotus*. "Not common near Kimpton."—*Rev. G. T. Rudd.* "Cardew-mire."—*T. C. Heysham, Esq.*

Page 77. *COLYMBETES femoralis*. "Common at Longnor, Salop, in October, 1828."—*Rev. F. W. Hope.* Specimens of this species have been in the London cabinets upwards of twenty years.

- Page 78. *COLYMBETES uliginosus*. "At Winterbourne Stoke, and in the pits at Weyhill, in October, 1828."—*Rev. G. T. Rudd*: who observes, "There is something remarkable in the appearing of this species; for although I diligently collected in the same places throughout the year 1827, it never occurred. It frequents shallow grassy ponds, or slowly running streams, and is to be found close at the edges:—it is subject to variation of sculpture, some being impunctate, except the usual striae, and the scattered dots at the apex of the elytra: it varies considerably in size," "Two specimens taken near South-end in April, 1829."—*Rev. F. W. Hope*.
- Page 79. *COLYMBETES ferrugineus*. This insect seems to be closely allied to, if not the same as, the *Dyticus castaneus* of Schönherr.
- Page 80. *COLYMBETES confinis*. "Netley."—*Rev. F. W. Hope*.
- Page 81. *COLYMBETES vittiger*? "In the flooded gravel-pits at Weyhill."—*Rev. G. T. Rudd*; who kindly furnished me with a series of the insect, which I have not yet had an opportunity of examining: it may probably be only *Co. fontinalis*.
- Page 81. *COLYMBETES guttiger*. "Common in ponds at Longnor, Salop, 1828."—*Rev. F. W. Hope*.
- Page 85. *HYDATIUS Hybneri*. "Near Cambridge, 1829."—*G. Darwin, Esq.*
- Page 86. *DYTIUS*. The *Rev. W. Kirby*, in the last edition of his interesting Introduction to Entomology, judiciously separates the two first species, as a genus, by the name *LEIONOTUS*; of which the characters will be detailed in the appendix to Captain Parry's Travels.
- Page 87. *DYTIUS (LEIONOTUS) conformis*. "Near Cambridge, not rare, 1829."—*C. Darwin, Esq.*
- Page 90. *DYTIUS punctulatus*. "Plentiful every where in Hants and Wilts."—*Rev. G. T. Rudd*. "Not of very frequent occurrence near Marton."—*L. Rudd, Esq.* "Cardew-mire."—*T. C. Heysham, Esq.*
- In the collection of the *Rev. F. W. Hope* is a singular hermaphrodite of this species.
- Page 92. *DYTIUS circumflexus*. "Kimpton."—*Rev. G. T. Rudd*.
- Page 96. *GYRINUS minutus*. "Near Marton."—*L. Rudd, Esq.*
- Page 97. *GYRINUS substriatus*. "Common in Yorkshire."—*L. Rudd, Esq.*
- Page 97. *GYRINUS lineatus*. "Marton Lodge."—*L. Rudd, Esq.*
- Page 98. *GYRINUS villosus*. "Taken in a small stream near Cummersdale."—*T. C. Heysham, Esq.*
- Page 100. *HETERO CERUS marginatus*. "Common on the banks of the Eden, below Rockcliff, as well as upon the coast."—*T. C. Heysham, Esq.*
- Page 101. *HETERO CERUS levigatus*. "Scarce near Marton."—*L. Rudd, Esq.*
- Page 103. *PARNUS prolefericornis*. "Pretty common in ditches on Cardew-mire and Tarn Wadling."—*T. C. Heysham, Esq.*
- Page 104. *PARNUS auriculatus*. "Kimpton."—*Rev. G. T. Rudd*. "Marton."—*L. Rudd, Esq.*

Page 106. *ELMIS* Volkmar. "Manchester."—*Rev. F. W. Hope.*

Page 108. *ELMIS* parallelepipedus. "Manchester."—*Rev. F. W. Hope.*

Page 108. *ELMIS* aeneus. "In a ditch on *Menyanthis trifoliata*, near Abbot's Ann."—*Rev. G. T. Rudd.*

GENUS XCV. b.—*ENICOCERUS mibi.*

Palpi short; *maxillary* rather stout; the basal joint more slender than the following, which is somewhat clavate, tumid, with the apex obtuse. *Antennae* with the basal joint elongate, slightly bent, incrassated at the apex; second joint short, somewhat quadrate: third large, cup-shaped; fourth minute, subglobose, two following gradually larger, the remainder forming an elongate five-jointed club, the first joint of which is large, subglobose, the two following smaller and of equal size; the next large, transverse, the terminal one small, semiovate, obtuse: *head* triangular: *eyes* slightly prominent: *thorax* subcordate: *elytra* broad, depressed: *legs* moderate; *tarsi* with large claws.

The singular structure of the antennae of this remarkable genus, with its broad, somewhat depressed body, large claws and abbreviated palpi well distinguish it from others of the Helophoridae, to which family it appears to belong.

Sp. 1. *ENICOCERUS viridianeus*. PLATE XV. f. 6. *Steph. Nomenclature*, p. 5. —*Viridi-aeneus, nitens; pedibus nigro-piceis geniculis tarsisque nigris, antennis pallidis.* (Long. corp. $1\frac{1}{2}$ — $1\frac{3}{4}$ lin.)

Above of a rich shining green: head with a transverse frontal channel, and two deep impressions on the vertex: thorax with its lateral margin much dilated anteriorly, the disc somewhat convex, with a dorsal channel, and an oblique deeper groove on each posterior angle; the anterior angle depressed, slightly punctate: *elytra* very deeply punctate-striate; beneath black; legs dusky piceous, with the joints and tarsi sometimes black.

The accompanying figure of this singular insect will sufficiently illustrate its peculiar characters: the insect was taken at "Hebden-bridge, Yorkshire, in October 1828."—*Mr. Gibson*; to whom I am indebted for my specimens.

Page 112. *HELOPHORUS griseus*. "Marton Lodge."—*L. Rudd, Esq.* "Common at Hants."—*Rev. G. T. Rudd.* "Scotland."—*Rev. F. W. Hope.*

Page 112. *HELOPHORUS dorsalis*. "Marton Lodge, uncommon."—*L. Rudd, Esq.* "Frequent near Kimpton."—*Rev. G. T. Rudd.* "Wimbledon-common, in 1829."—*Mr. Waterhouse.*

Page 113. Place division B, above *HELOPHORUS tuberculatus*.

Page 113. *HELOPHORUS fennicus*. "Cardew-mire."—*T. C. Heysham, Esq.*

Page 114. *HELOPHORUS nubilus*. "Cardew-mire."—*T. C. Heysham, Esq.*

Page 117.† Sp. 10. *OCTHEBIUS hibernicus*. *Cupreus, subpubescens, capite trifoveolato.* (Long. corp. 1 lin.)

Octhebius hibernicus. *Curtis*, vi. pl. 250.—"Dull cupreous, sometimes inclining to black; sparingly covered with long whitish hairs: palpi and antennae ochraceous, rather fuscous at their tips. Head and thorax punctured, the

former with three foveæ on the crown, one close to the base; the latter with the anterior margins and the posterior angles membranous and transparent; a deep channel between two long foveæ on the back, and a large depression on each of the angles. Elytra not striated, but covered with large deep punctures, appearing rather regular under a weak lens, but scattered under a high power; legs ferruginous, the tarsi piceous at their tips.—*Curtis. l. c.*

Taken at Belfast in Ireland, by Mr. Haliday.

- Page 121. *LIMNEBIUS picinus*. "Wimbledon-common."—*Mr. Waterhouse*.
- Page 122. *LIMNEBIUS nitidus*. "Wimbledon-common."—*Mr. Waterhouse*.
- Page 122. *HYDROBUS piceus*. "Newcastle."—*G. Wailes, Esq.*
- Page 127. *HYDROBIUS picipes*.—*Hydrobius chalconotus*. *Curtis, vi. pl.*
- Page 135. *HYDROBIUS æneus*. "Wimbledon-common in April last, several specimens."—*Mr. Waterhouse*.
- Page 137. *CERCYON littorale*. "Beneath rejectamenta, Sidmouth, 1828."—*T. Marshall, Esq.*
- Page 154. *SPHERIDIUM Scarabæoides*. "Met with occasionally in the wood near Black Hale, and Great Orton."—*T. C. Heysham, Esq.*
- Page 155. *SPHERIDIUM bipunctatum*. "Rockliff-moss."—*T. C. Heysham, Esq.*
- Page 157. ANISOTOMIDÆ. An inspection of Paykul's *Fauna Suecica*, vol. iii. p. 435—437. (published in 1800), Fabricius's *Systema Eleutheratorum*, vol. i. p. 92—106. (published in 1801), or Schonherr's *Synonymia Insectorum*, vol. i. p. 100—109. (published in 1806), while it tends to show the opinions of those writers upon the evident affinity between the various members of this group, as quoted in the synonyms to my Catalogue, will at the same time exemplify the originality of Sturm's arrangement, published in 1807, and the historical correctness of those who, in order to oppugn particular views, care not how far they mislead their readers. Sturm's arrangement in this, as in other places, being merely a copy of that of the *Systema Eleutheratorum*, with the adoption of some few genera, proposed subsequently to the publication of that work.
- Page 159. *PHALACHUS maritimus*. Upon a re-examination of this insect I have my doubts whether it be placed in its proper location; as in many points it approximates to the Byrrhidae, though in others it departs therefrom.
- Page 168. *EPHISTEMUS Gyrinoides*. "Abundant in wood, fresh from the saw-pit."—*Rev. F. W. Hope*.
- Page 169. *EPHISTEMUS confinis*. "Old Brompton, several specimens, in 1829."—*Mr. Waterhouse*.
- Page 171. For *LEIODES brunnea*, read *Le. Gyllenhalii*; and page 175, for *LEIODES Sturnii*, read *Le. brunnea*: the description, &c. of Sturm having appeared in 1807, and that of Gyllenhal in 1810.

. I have recently obtained several evidently distinct species of *Hydræna*, *Hydrobius*, &c.; as well as of *Hydradephaga* and *Bembidiidae*, which, from want of time, it is impossible for me to introduce into the present Appendix.

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ERRATA.

- Page 52, line 23, for *striae*, read *stria*.
 64, — 14, for *Haliprus*, read *Haliphus*.
 75, — 4, for above, read alone.
 87, — 40, for *Ahrens*, read *Ahrens*.
 91, — 24, for *tarsi*, read *tiblae*.
 96, — 30, for Plate XIII. f. 1., read Plate XIII. f. 2.
 97, — 27, for Plate XIII. f. 2., read Plate XIII. f. 1.
 114, — 10, for *apical*, read *apical*.
 117, — 16, for *Dogean*, read *De Jean*.
 121, — 1, 3, for *nigricans*, read *nigrinus*.
 137, — 35, for *Nothiophili*, read *Notiophili*.
 138, — 17, for *immaculate*, read *immature*.
 148, — 3, for *nigra*, read *rufa*.
 159, — 1, for *maxillæ*, read *mandibles*.
 —, — 34, 35, for *in*, read *on*.
 162, — 39, for *Mrs.*, read *Mrs.*
 170, — 27, for *gloss*, read *glass*.
 —, — 33, for *three*, read *the*.

END OF VOL. II.

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C. Wagn. sc.





1



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4



5



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Edinburgh.





ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A

Synopsis of Indigenous Insects;

CONTAINING

THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH

AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

MANDIBULATA.

VOL. III.

"In his tam parvis tamque ferè nullis quæ ratio! quanta vis! quam inextricabilis
perfectio!"—*Plin.*

"Finis Creationis Telluris est gloria Dei, ex opera Naturæ, per Hominem
solum."—*Linné.*

LONDON:

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AND

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1830.

ILLUSTRATIONS

OF

BRITISH ENTOMOLOGY.

Subsectio 4.—NECROPHAGA, *Mac Leay*,

INCLUDES such Rypophagous insects as have the

Mandibles generally exerted and elongate: the *maxillary palpi* with the basal joint minute or evanescent, thence appearing three-jointed; the *maxilla* with a double membranaceous process, the outer lobe often slender, sublinear; rarely articulated: the *elytra* frequently abbreviated; the *body* more or less elongate, depressed: the legs all gressorial: the *tarsi* with the number of articulations various, but most frequently pentamerous:

And the principal object of whose existence seems to be that of cleansing the surface of the earth from the remains of animal impurities, as that of the preceding section appears to be from vegetable remains; the conterminous genera in both sections subsisting upon putrid fungi or similar vegetable productions, while some few of the Silphidæ prey upon larvæ and living terrestrial Mollusca.

<i>Antennarum capitulo plerumque</i>	{ 4-vel 5-articulato.	<i>Mandibulae</i> {	ad apicem plerumque bidentate: 17. SCAPHIDIDÆ.	
		integro: . . .	18. SILPHIDÆ.	
<i>Mandibulae</i>	{ 2-vel 3-articulato.	<i>Tarsi</i> {	elongate, ad apicem sepius emarginate: { articulo 3-o plerumque dilatato-bifido: 19. NITIDULIDÆ.	
			articulo omnibus integris: . . .	20. ENGIDÆ.*
			breves, crasse: . . .	21. DERMESTIDÆ.

* In some of the Engidæ, a family that probably requires subdivision, the capitulum of the antennæ consists of more than three joints; while others' MANDIBULATA. VOL. III. 30TH APRIL, 1830. B

Castaneous-brown, clothed with short flavescent-griseous down, finely but irregularly punctulate; head black; thorax slightly compressed anteriorly, dilated and nearly as wide again, with a straight margin, posteriorly: elytra twice as long as the thorax, rather narrow, and perceptibly narrowed from the base to the apex, which is rounded; near the suture is a single stria, and another on the margin; legs pitchy-brown.

A rare species, which has been only three or four times met with in the north of England, whence I have recently obtained a specimen, among some minute insects taken at hazard by a friend.

GENUS CXIX.—PTOMAPHAGUS, *Illiger*.

Palpi, maxillary with the last joint subulate, conic; labial with the last joint obtuse; antennæ straight, clavate, not longer than the thorax, with a five-jointed club; thorax with the hinder angles acute; elytra not striated; anterior femora in both sexes similar and short; the intermediate tarsi with the first joint rarely dilated.

This and the two following genera are perhaps rather too finely discriminated; but nevertheless, as there are several species of each, and their numbers are daily becoming augmented, it is far better to keep them separated than to reunite them notwithstanding their trifling distinctions, which are perhaps of equal value with those existing amongst several other groups of Coleoptera, especially amongst the Bembidiidæ: the present genus may be known from the following by the absence of striae on the elytra, and from *Choleva* by the acute posterior angles of the thorax, and shorter and more distinctly thickened antennæ.

Sp. 1. *truncatus*. *Quadrato-oblongus, supra striis levissimis transversis aceductus; elytris apice subtruncatis.* (Long. corp. $\frac{3}{4}$ —1 $\frac{1}{2}$ lin.)

Ph. *truncatus*.—*Illiger*. *Steph. Catal.* 72. No. 777.

Somewhat quadrate-oblong, rather broadest anteriorly, black, and clothed with a dense griseous down, upon the removal of which the surface appears transversely, but finely aceducted: antennæ with the base ferruginous, the eighth joint three times shorter and more slender than the adjoining ones, the terminal ovate-acute: elytra black or pitchy, sometimes luteous or reddish; the aceducted striae rather oblique, with a sutural and marginal stria, the apex obliquely truncate: legs black, the tibiae and tarsi generally blackish-brown or pitchy.

The parallel sided body, transversely aceducted surface and subtruncate elytra distinguish this variable species from its congeners.

The most abundant species of the family; frequenting dry bones,

putrid fungi and vegetable remains: throughout the metropolitan district. "Bottisham."—*Rev. L. Jenyns*. "Norwich."—*A. H. Davis, Esq.* "Netley."—*Rev. F. W. Hope*. "Glanvilles Wootton."—*J. C. Dale, Esq.*—"Taken by Dr. Leach on the Craig, and by Mr. Jeffreys on Kilvey-hill" (near Swansea).—*L. W. Dillwyn, Esq.*

Sp. 2. *velox*. *Ovalis, fusco-cinnamomeus, capite nigro, antennis subclavatis, thoracis longitudine, pedibusque dilutioribus.* (Long. corp. $1\frac{1}{2}$ lin.)

Ch. *velox*. *Spence*.—Pt. *velox*. *Steph. Catal. 72. No. 778.*

Body oval, the sides being a little rounded, above of a rusty-brown or cinnamon colour, beneath darker, with a yellow-grisescence down: head black: antennæ ferruginous, as long as the thorax, subclavate, the eighth joint scarcely differing either in length or breadth from the rest of the club, the terminal subovate: thorax with the disc sometimes black: elytra rounded at the apex: legs, labrum, and palpi ferruginous.

The rounded apex of the elytra and body distinguish this from the foregoing species, and the scarcely clavate antennæ with equal eighth joint from the following.

Rare: found in the metropolitan district; Norfolk, Devonshire, and Yorkshire.

Sp. 3. *fumatus*. *Oblongo-ovalis, niger, antennis thoracis longitudine, basi, elytris, pedibusque obscure rufo-ferrugineis.* (Long. corp. $1\frac{1}{2}$ lin.)

Ch. *fumata*. *Spence*.—Pt. *fumatus*. *Steph. Catal. 72. No. 779.*

Oblong-oval, black, clothed with a dense fusco-griseous down: antennæ fuscous; with the two or three first joints rufo-ferruginous, the eighth shorter than the adjoining: thorax transversely subquadrate: elytra obscure fusco-rufo-fescent, the apex rounded; legs and palpi rufo-ferruginous.

More frequent than the preceding; but nevertheless somewhat uncommon: found in the neighbourhood of London, in Yorkshire, Norfolk, &c. "In moss from Humby, Lincolnshire."—*A. H. Davis, Esq.* "In putrid fungi in the woods about Penllergare."—*L. W. Dillwyn, Esq.*

Sp. 4. *Watsoni*. *Oblongo-ovalis, niger, antennis crassis thorace brevioribus, basi, elytris, pedibusque rufo-brunneis; thorace brevissimo.* (Long. corp. $1\frac{1}{2}$ lin.)

Ch. *Watsoni*. *Spence*.—Pt. *Watsoni*. *Steph. Catal. 72. No. 780.*

Oblong-oval, black, clothed with a slightly dense griseo-fulvescent down: labrum rusty-brown; palpi ferruginous; antennæ brown, with their three basal joints reddish-brown, the terminal pale; thorax black, the posterior angles reddish; elytra red-brown, the apex somewhat acute; legs red-brown, anterior, except the coxæ, palest.

The shorter and thicker antennæ and more acute apex to the elytra distinguish this species from *Ph. fumata*.

Also an uncommon species: found near Hull, and in the metropolitan district. "Bottisham."—*Rev. L. Jenyns*.

Sp. 5. *anisotomoides*. *Ovalis, convexus, nitidus, subpilosus, fusco-piceus, antennis pedibusque pallidè ferrugineis; thorace posticè recto.* (Long. corp. $\frac{5}{8}$ — $\frac{3}{4}$ lin.)

Ch. *anisotomoides*. *Spence*.—Pt. *anisotomoides*. *Steph. Catal.* 72. No. 781.

Glossy, oval, pitchy-black, clothed with very short grisescent down; labrum and palpi ferruginous; antennæ pale flavescent, as long as the thorax, somewhat capitate-clavate, the eighth joint much less than the adjoining, the terminal large, subglobose and somewhat mucronate; thorax with the hinder margin generally palest, and straight: elytra ovate-convex; legs pale-ferruginous.

Sometimes entirely of a pale testaceous.

The great convexity of the body, and straightly truncate hinder margin of the thorax, distinguish this species from the rest of the genus.

Not very abundant; found near London, Hull, in Devonshire, Norfolk, &c. "Bottisham."—*Rev. L. Jenyns*. "Moss from Humby."—*A. H. Davis, Esq.* "Shropshire."—*C. Darwin, Esq.*

Sp. 6. *Wilkinii*. *Oblongus, fusco-piceus, antennis pedibusque flavo-ferrugineis; thorace posticè recto.* (Long. corp. $1\frac{1}{4}$ lin.)

Ch. *Wilkinii*. *Spence*.—Pt. *Wilkinii*. *Steph. Catal.* 72. No. 782.

Oblong or sublinear, pitchy-brown, clothed with very short grisescent down: palpi yellow ferruginous; antennæ the length of the thorax and of a yellow-ferruginous; thorax with the hinder margin straight: elytra oblong, the sides nearly straight, the apex rounded: legs yellow-ferruginous.

Resembles *Pt. velox*, but is "distinguished from that by its proportionably much larger and narrower body," which also well distinguishes it from the preceding (*Pt. anisotomoides*), with which it agrees in the structure of its antennæ and thorax.

Inhabits the county of Norfolk, and has been taken near London, and in other parts; but uncommon. "Salop."—*C. Darwin, Esq.*

† Sp. 7. *Davisii*. *Oblongo-ovalis, posticè angustiori, subpubescens, fusco-brunneus, thorace magno, convexo, antennis rufo-testaceis, clavâ magnâ.* (Long. corp. $\frac{3}{4}$ lin.)

Pt. *Davisii mihi*.

Oblong-ovate, rather narrowed behind, slightly pubescent, of a fuscous-brown; the thorax very large, convex, thickly but finely punctured, the hinder margin straight: elytra paler, and clothed with a longer protuberance than the thorax, rather acuminate at the apex, which is somewhat acute and paler than the

base, near the suture is a single obscure stria; legs pitchy-brown, with the tarsi paler: palpi and antennæ rufo-testaceous, the latter with the basal joint large, and the club very broad and distinct, the terminal joint obtuse.

The great bulk and convexity of the thorax of this species, with its acuminate elytra and broad clava of the antennæ, well distinguish it from its congeners.

I have seen one specimen only of this species, which was found in moss, "from near Humby in Lincolnshire, in December last."—*A. H. Davis, Esq.*

GENUS CXX.—CATOPS, *Paykul*.

Palpi, maxillary with the last joint subulate, conic; labial with the last joint obtuse: antennæ straight, clavate, not longer than the thorax, the club five-jointed: thorax with the hinder angles acute: elytra more or less striated: anterior femora in the males generally somewhat incrassated towards the apex; the intermediate tarsi with the basal joint dilated.

Catops is known from Ptomaphagus by the greater width of its body, the more or less evidently striated elytra, and other less visible characters; and from Choleva by the abbreviated, more incrassated, antennæ, acute posterior angles of the thorax, &c.

A. Thorax with the hinder margin cut out near the angles.

Sp. 1. *fornicatus*. *Oblongo-ovalis niger, antennis thorace longioribus, pedibusque ferrugineis.* (Long. corp. $2\frac{1}{2}$ lin.)

De. fornicatus. De Geer?—*Ca. fornicatus. Steph. Catal. 73. No. 783.*

Oblong-oval, black, clothed with a griseo-fulvescent down: palpi ferruginous: antennæ ferruginous, with the apex sometimes brownish, subclavate, rather longer than the thorax, the eighth joint rather shorter and narrower than the adjoining, the terminal more robust than the rest, globose-ovate, with the apex obtusely mucronate: thorax transversely quadrate, the hinder margin a little dilated in the middle, and distinctly cut out near the angles on each side: elytra obsolete striated, the stria running from the base to the apex: legs pitchy-ferruginous.

Var. β . *Steph. Catal. l. c.*—Of a pitchy-brown, with the labrum, antennæ, and legs ferruginous.

Var. γ . Yellow-luteous, with the head rather obscure.

Body more oblong than in the rest of the genus.

The most abundant species of the genus near London; and not uncommon in other parts of the country. "Bottisham, several specimens extracted from a decayed cheese."—*Rev. L. Jenyns.* "Carfin, Scotland."—*Rev. F. W. Hopc.*

Sp. 2. *sericeus*. *Ovatus, gibboso-convexus, fusco-piccus, antennis thorace paulo longioribus, pedibusque piceo-ferrugineis.* (Long. corp. $2\frac{1}{4}$ lin.)

Ca. *sericeus*. *Paykul.*—*Steph. Catal.* 73. No. 784.

Ovate, gibbous-convex, sparingly clothed with variable fulvescent, glaucous, or griseous down: palpi pitchy-ferruginous: antennæ rather longer than the thorax, ferruginous, the base and apex paler: thorax quadrate-transverse, the basal excisions less evident than in the preceding insect: elytra very broad, obsoletely striated, the striæ (beneath a lens) reaching from the base to the apex: legs pitchy-ferruginous.

Sometimes entirely of a yellow-testaceous hue.

Antennæ rather shorter and more slender at the apex than in the preceding species: and the body much broader and more convex than in its congeners generally: the eighth joint of the antennæ not very evidently less than the following.

Found near London and in Devonshire. “Southend.”—*Rev. F. W. Hope*. “Not uncommon (near Swansea).”—*L. W. Diltheyn, Esq.* “Cambridge and Salop.”—*C. Darwin, Esq.*

Sp. 3. *clavicornis*. *Oblongo-ovalis, niger, antennis basi, tibiis tarsisque ferrugineis; capite anticè abbreviato.* (Long. corp. $1\frac{3}{4}$ —2 lin.)

Mo. *clavicornis*. *Forster.*—Ca. *clavicornis*. *Steph. Catal.* 73. No. 785.

Oblong-oval, black, clothed with a fulvescent down: head rather short between the antennæ: palpi ferruginous; antennæ ferruginous at the base, the apex fuscous-black; the eighth joint minute: thorax transversely subquadrate: elytra with very obsolete striæ reaching from the base nearly to the apex, the latter rounded: legs rufo-ferruginous, sometimes pitchy-black; the tibiæ and tarsi rufo-ferruginous.

Differs from Ca. *sericeus* by having the apex of the elytra more rounded than in that insect; and from the other species of the genus by the shortness of the fore part of the head.

Not uncommon near London, also found in Devonshire; near Bristol; the New Forest, &c. “Bottisham.”—*Rev. L. Jenyns*. “Carfin, Scotland.”—*Rev. F. W. Hope*.

Sp. 4. *festinans*. *Oblongo-ovatus, niger, antennis basi, labro, elytris, pedibusque rufo-testaceis, thorace anticè angustiore.* (Long. corp. 2 lin.)

Ch. *festinans*. *Spence.*—Ca. *festinans*. *Steph. Catal.* 73. No. 786.

Oblong-ovate, clothed with a rather dense pubescence; labrum and palpi ferruginous: antennæ with the six basal joints ferruginous, the rest fuscous: thorax black-brown, fusco-testaceous at the edges; rather short, the hinder margin with the excisions somewhat obsolete: elytra reddish, or rufo-testaceous, obsoletely striated, the striæ reaching from the base nearly to the apex.

“From the preceding species this differs in colour, in having the thorax shorter

—the specimen described by Mr. Spence; the other taken near London.

Sp. 13. *dissimulator*. *Ovalis, niger, antennis, thoracis longitudine, basi apiceque tibiis tarsisque rufo-ferrugineis.* (Long. corp. 2 lin.)

Ch. *dissimulator*. *Spence*.—Ca. *dissimulator*. *Steph. Catal. 73. No. 795.*

Oblong-oval, black, clothed with a dense fulvescent-griseous down; palpi rufo-ferruginous: antennæ as long as the thorax, fuscous, with the two basal joints and the terminal ferruginous: thorax subquadrate-transverse; elytra not striated, a single stria near the suture excepted: anterior legs rufo-ferruginous; posterior black, with the tibiæ and tarsi rufo-ferruginous.

"This insect," says Mr. Spence, from whose valuable monograph of this and the kindred genera I have extracted the leading characters of the species therein described, "affords a striking example of the necessity of attending, in these obscure genera, to minute characters, such as those upon which the families (sections) are here separated. In colour and general appearance it so exactly resembles Ca. *clavicornis*, that an entomologist not versed in the genus would decidedly pronounce them the same." The form of the thorax, and other characters, render the distinction very evident.

One of my specimens was captured near London, the other I obtained from Bristol.

GENUS CXXI.—CHOLEVA, *Latreille*

Palpi, maxillary with the last joint subulate, conic; *labial* with the last joint obtuse: *antennæ* straight subfiliform, longer than the thorax, the club five-jointed, the joints somewhat elongated: thorax with the hinder angles obtuse: *elytra* oblong, striated: *legs* rather long, posterior as long as the body; *anterior femora* of similar form in both sexes; *posterior trochanters* of the male with a curved tooth on the lower margin, simple in the female; the *intermediate tarsi* with the basal joint filiform in both sexes; the *anterior* with the three basal joints dilated in the male.

Choleva is distinguished externally from *Catops* by its more elongate form, and by the length and slenderness of its antennæ and legs, the obtuse angles of the thorax, and in other less evident characters.

Sp. 1. *angustata*. *Angustato-oblonga, thorace posticè angustiore, medio subfoveolato.* (Long. corp. 2½ lin.)

Cistela *angustata*. *Fabricius*.—*Steph. Catal. 74. No. 796.*—Ch. *oblonga*. *Sa-mouelle, pl. 4. f. 9.*

Narrow-oblong, with an obscure fulvescent pubescence: head black, shining,

smooth: labrum and palpi pale-ferruginous: antennæ ferruginous, the joints of nearly equal length, the second and eighth shortest: thorax piceous, with the sides and posterior angles paler, sometimes black, or pitchy-black; quadrate-orbicular, the base and apex of nearly equal width; the middle broader: elytra generally obscure-reddish, or black, or pitchy-black, or piceous, oblong, the apex obtusely rounded, each with seven obsolete striae: legs ferruginous: abdomen black, with the terminal segments rather pale at the apex.

Very variable in colour; when recently emerged from the pupa, it is entirely of a pale-testaceous or yellow.

Extremely common throughout the metropolitan district, and in other parts adjacent thereto. "Bottisham, very common."—*Rev. L. Jenyns*. "Carfin, Scotland."—*Rev. F. W. Hope*. "Epping."—*Mr. Doubleday*. "Under stones on Crwmllyn Burrows and elsewhere."—*L. W. Dillwyn, Esq.* "Carlisle."—*T. C. Heysham, Esq.* "Leamington."—*Mr. Westwood*. "Netley."—*Rev. F. W. Hope*. "North Wales."—*C. Darwin, Esq.*

Sp. 2. *agilis*. *Oblongo-ovalis, nigra, supra piceo-brunnea, antennis pedibusque ferrugineis; thorace posticè latiore.* (Long. corp. $2\frac{1}{4}$ lin.)

Pt. *agilis*. *Illiger*.—Ch. *agilis*. *Steph. Catal. 74. No. 797.*

Body shorter and broader than in the preceding; clothed with a denser griseo-fulvescent pubescence: head pitchy-black, smooth: labrum, mandibles, and palpi yellow: antennæ ferruginous, with the apex darker: thorax pitchy-brown, with the disc darker, subconvex, transverse-quadrate, the base rather broader than the apex, the hinder margin straight: elytra ovate-oblong, pitchy-brown, with seven very obsolete striae: body beneath pitchy-black; legs ferruginous.

Like the preceding, this species varies considerably in colour, and the immature specimens are of a testaceous-yellow.

Less common than the last, but occasionally found not only throughout the metropolitan district, but in other parts. "Moss from Humby, Dec. 1829."—*A. H. Davis, Esq.* "Netley."—*Rev. F. W. Hope*. "North Wales."—*C. Darwin, Esq.*

Sp. 3. *gausapata*. *Oblongo-ovalis, piceo-nigra pube densiori vestito, antennis pedibusque piceo-ferrugineis, thorace posticè latiore.* (Long. corp. $2\frac{1}{4}$ lin.)

Cl. *gausapata*. *Spence MSS.?*—Cl. *gomphosata*. *Steph. Catal. 74. No. 798.*

Size of the last; oblong-oval, above deep pitchy-black, clothed with a dense changeable fulvescent pubescence: labrum and palpi pitchy-fulvous; thorax with its margins slightly testaceous, the disc pitchy-black; slightly convex,

transverse-quadrate, the hinder margin rather broader than the apex, the sides gradually rounded: elytra oblong-ovate, with very obsolete striæ: body beneath pitchy-black; legs and antennæ ferruginous.

Whether this be the true *Ch. gausapata*, Spence's MSS. (inadvertently called *gomphosata* in my Catalogue), I am unable to determine—the insect above described is clearly distinct from either of its congeners, and may be known by the greater density of the pubescence with which it is clothed, and its darker hue.

Found near London; in Devonshire, and, I believe, in Yorkshire and Norfolk.

FAMILY XVIII.—SILPHIDÆ, *Leach*.

Antennæ about as long as the thorax, gradually thickening towards their extremities, or terminated by a perfoliate club, the latter generally 4 or 5-jointed, rarely 3-jointed. *Palpi* filiform, the *maxillary* rather longer than the *labial*: the terminal joint rather slender, cylindrical: *mandibles* with their apex entire: *body* ovate, depressed: *head* inflected, much narrower than the body, contracted posteriorly, and forming a neck; *thorax* large, peltate, more or less semicircular or orbicular: *elytra* covering the greater portion of the abdomen, or truncated, with the outer margin generally channelled: *abdomen* with its apex rather acute, especially in the female: *legs* not much elongated: *tarsi* five-jointed, the anterior more or less dilated in the males.

The Silphidæ, which form the typical group of the Necrophaga, delight in prowling amongst carrion, carcasses, or any putrefying animal matter, upon which they subsist (whence they contract a most disagreeable fœtid odour), but some few attack living caterpillars or terrestrial mollusca; they are consequently of great utility in the economy of nature, by thus removing those animal nuisances which would otherwise tend to infect the atmosphere and render it unwholesome.

The larvæ inhabit the same materials, and are frequently observed in company with the perfect insect: the body is elongate, very much depressed, generally black, composed of twelve segments, terminating on the sides in a sharp angle; the anterior segment is largest: the head is small, furnished with two strong jaws; the antennæ short, filiform, triarticulate: the legs six in number, short, three-jointed, the terminal one with a hook at its tip; the last segment of the body has two conical appendages: they are very active, and change to pupa beneath the ground.

The genera which are reputed to inhabit Britain may be detected by the following concise characters;

Elytra	{ truncata.	{ Antennæ.	capitulo subgloboso, 4-articulato:	122. NECROPHORUS.
			gradatim extorsum crassiores:	123. NECRODES.
	{ haud truncata.	{ Antennæ.	{ abruptly clavate:	124. OICEOPTOMA.
				{ gradatim clavate, capitulo
{ Palpi articulo ultimo	{ crassiore.	{ Antennarum capitulo	5-articulato:	
			3-articulato:	126. PHOSPHUGA.
			3-articulato:	128. PELTIS.

GENUS CXXII.—NECROPHORUS, Fabricius.

Antennæ rather longer than the head, slender at the base, and terminating suddenly in a large ovate perfoliate club, composed of four coarctate joints, the last of which is acuminate: *head* with a distinct neck: *thorax* suborbiculate, rounded behind, transversely truncate anteriorly: *elytra* truncated in a slight line, with a marginal channel, not carinated; *body* oblong, much longer than broad: *tibiæ* short, robust; *posterior trochanters* sometimes with a spine at the apex; *anterior tarsi* dilated and furnished with long cilia in the males.

This conspicuous genus may be readily known by the large subglobose quadriarticulate clava of the antennæ, combined with the truncate elytra, irregular suborbicular thorax, short robust legs, oblong body, and distinct neck:—their wings are exceedingly long, and during flight the insects carry their elytra erect, the upper surfaces being opposed to each other. The species frequent the same haunts as the rest of the family, but, unlike their allies, they bury the animals upon which they, or rather their progeny, subsist—whence the names of several of the species—three or four specimens sufficing for the interment of a small quadruped, bird, &c., which they will perform in an incredible short space of time, by digging away the earth around and under the animal till it falls into the prepared hollow, and covering the body with the displaced mould:—some of the species are found also in fungi: they are very subject to be infested with acari.

A. With the posterior tibiæ straight; the trochanters simple.

a. With the thorax very much dilated anteriorly.

Sp. 1. germanicus. *Niger, clypeo medio membranaceo, flavo, elytrorum margine rufo, antennarum clavâ atrâ.* (Long. corp. 13—16 lin.)

Si. germanica. Linné.—*Ne. germanicus*. Curtis, ii. pl. 71.—*Steph. Catal.* 74. No. 799.

Black, with a large triangular membranaceous testaceous-yellow spot on the forehead, and the outer margin of the elytra broadly rufo-ferruginous: the clava of the antennæ black.

Towards the apex of the elytra is sometimes a rufous spot; probably immature.

Known from *Ne. Humator* by the black club of the antennæ, the rufous margin to the elytra, the anteriorly dilated thorax, and by its superior size.

Very rare in Britain; but rather widely dispersed: I possess a specimen from Moushold Heath, near Norwich. "Lord Abingdon's woods, near Oxford."—*Rev. F. W. Hope*. "On the banks of the Thames, above Windsor."—*Dr. Leach*.

Sp. 2. *Sepultor*. PLATE XVI. f. 1. *Niger, antennarum capitulo elytrorumque fasciâ duplici aurantiaciâ, posteriore interruptâ, thoracis limbo latâ flavo-aureâ tectâ.* (Long. corp. 7—10½ lin.)

Ne. Sepultor. Gyllenhal.—*Ne. anglicus*. *Steph. Catal.* 74. No. 800.

Black, head with a triangular luteous spot on the elytra: antennæ with the club orange: thorax densely clothed with a rich golden-yellow down, on its margin, especially anteriorly: elytra with two orange fasciæ, varying considerably in different individuals; the anterior one generally broad, and continuous; the posterior narrow, interrupted at the suture, and very frequently divided into two very unequal parts by the black ground of the elytra, which leaves a small spot between the outer portion and the suture.

The width of the orange fasciæ on the elytra varies considerably, as do also their form and integrity.

Ne. Vespillo is the only other species of the genus which has the anterior margin of the thorax pubescent, but the straight posterior tibiæ of *Ne. Sepultor* at once distinguish it from the aforementioned species, in which the elytra also are pubescent.

Rare; found in Battersea-fields and on Hampstead-heath, and other parts of the metropolitan district. "Twice taken at Ealing; not uncommon at Netley."—*Rev. F. W. Hope*. "In carrion, not uncommon (near Swansea)."—*L. W. Dillwyn, Esq.*

b. *With the thorax not much dilated anteriorly.*

Sp. 3. *Humator*. *Niger, immaculatus, antennarum capitulo aurantiaco.* (Long. corp. 9—14. lin.)

Si. Humator. Olivier.—Don. xv. pl. 537. f. 1.—*Ne. Humator*. *Steph. Catal.* 74. No. 801.

Entirely of a deep glossy-black, with the three terminal joints of the antennæ of an orange or testaceous-yellow, and the deflexed margin of the elytra

sometimes of a dusky or obscure brown; the cilia on the tarsi are also of an orange hue.

Var. β . *Ne. bimaculatus*. *Entomological Transactions*, i. 82. pl. 2. fig. sup.—Black, with a patch on the forehead, the outer margin of the elytra and two spots towards the apex ferruginous.

Very variable both in size and colour; in some examples the elytra are entirely brown, arising doubtless from immaturity.

The most abundant species of the genus in Britain, occurring in plenty throughout the metropolitan district. “Bottisham, common in the spring; appearing by the end of March.”—*Rev. L. Jenyns*. “Netley, Barmouth, &c.”—*Rev. F. W. Hope*. “Epping.”—*Mr. Doubleday*. “Glanville’s Wootton.”—*J. C. Dale, Esq.* “Common (near Swansea).”—*L. W. Dillwyn, Esq.* “Carlisle.”—*T. C. Heysham, Esq.*

Sp. 4. *vestigator*. *Niger, antennarum capitulo elytrorumque fasciâ duplici aurantiacis, posteriore subinterruptâ, thorace supra nudo*. (Long. corp. 7 lin. —1 unc.)

Ne. vestigator. *Herschel*.—*Steph. Catal.* 75. No. 802.

Black; the antennæ with the three last joints orange; the elytra with two transverse fulvous-orange bands, the anterior of which is continuous and in general nearly of an uniform width, or slightly narrowed towards the suture, and its edges sinuate-dentate; the posterior one is abbreviated and irregularly sinuated towards the suture, and is connected to the anterior one by the luteous reflexed margin of the elytra; the tarsal cilia are also orange or flavescens; thorax naked.

Also very variable, with regard to size and the width of the orange fasciæ on the elytra, but of the latter the anterior one is generally much wider than the posterior.

The naked thorax and straight hinder tibiæ distinguish this insect from *Ne. Vespillo*, and the former character from *Ne. Sepultor*; from the following the continuous anterior fasciæ on the elytra and their greater width distinguish it.

Less common than *Ne. Vespillo*; found throughout the metropolitan district, in Norfolk, &c. “Bottisham and elsewhere, common; chiefly in the carcasses of the larger animals about midsummer.”—*Rev. L. Jenyns*. “Very abundant at Netley.”—*Rev. F. W. Hope*.—“Milford Haven and Dartmoor.”—*Dr. Leach*. “Common (near Swansea).”—*L. W. Dillwyn, Esq.* “Carlisle.”—*T. C. Heysham, Esq.*

Sp. 5. *interruptus*. PLATE XVI. f. 2. *Niger, antennarum capitulo elytrorumque fasciis duabus interruptis aurantiacis, thorace supra nudo*. (Long. corp. 8—9½ lin.)

Ne. interruptus, *miki*.—*Ne. Sepultor*. *De Jean?*—*Steph. Catal.* 75. No. 803.*
Ne. Vespillo. *Samouelle*, *pl.* 2. *f.* 6.

Glossy-black; antennæ with the terminal joints orange; the elytra with two irregular transverse bright fulvous-orange bands, interrupted at the suture, and united exteriorly by the luteo-fulvous margin of the elytra; thorax naked.

The interrupted and clear fulvous-orange fasciæ on the elytra, with the usually smaller size of the insect, at once distinguish this species from the foregoing, with which it has hitherto been confounded. My friend Professor Henslow first called my attention to the point of its distinction from *Ne. vestigator*; and from an attentive examination of a numerous series of examples, I am satisfied that it is not a variety of that insect, from which, exclusively of the above characters, it also differs in having the interrupted fasciæ on the elytra either of a nearly similar width, or the posterior one the broadest, whereas the contrary is the case with the preceding species.

Much less abundant than the last: found in various places within the metropolitan district; in Norfolk, the New Forest, &c. "Found with the preceding, but occurs much less frequently."
 —*Rev. L. Jenyns and C. Darwin, Esq.* "Once found at Ealing."
 —*Rev. F. W. Hope.*

Sp. 6. *Mortuorum*. *Niger*, *elytris fasciâ latâ crenulatâ, maculâque reniformi apicis aurantiacis, antennarum clavâ nigrâ*. (*Long. corp.* 5—9 lin.)

Ne. Mortuorum. *Fabricius*.—*Steph. Catal.* 75. No. 804.—*Si. Mortuorum*.
Don. xv. pl. 537. *f.* 2.

Black; the elytra with a broad crenulated orange fascia at the base, and a reniform or lunate spot at the apex, not connected to the anterior, as in the two last-mentioned species, by a luteous margin to the elytra, the base and middle of the reflexed margin alone being of that colour: antennæ with the capitulum black.

The black club to the antenna, and the simple spot towards the apex of the elytra, are the most conspicuous marks of distinction between this and its fasciated congeners.

Not so abundant as *Ne. Vespillo*, but found throughout the metropolitan district. "Not yet observed by me in Cambridge-

* During the progress of the early portion of my Systematic Catalogue through the press, I obtained a hasty view of Gyllenhal's fourth volume, previously to the receipt of my own copy, which did not arrive till nearly half the Catalogue was printed:—the references thereto are consequently less definite than they might otherwise have been; and in this, as in one or two other instances hereafter to be pointed out, appear to be erroneous.

GENUS CXXIX.—*THYMALUS*, Latreille.

Antennæ rather short, the basal joint elongate, clavate, third and fourth joints equal, gradually thickened to the extremity, the three last joints forming an elongate, compressed, perfoliate club, with the terminal joint orbicular: *palpi* subclavate; terminal joint subovate: *head* very small, concealed by the anterior margin of the *thorax*; which is slightly emarginate, the posterior truncate, and the sides broadly margined and depressed: *elytra* large, entire, subovate, pubescent, deeply margined on the sides, covering the abdomen: *body* convex, subhemispheric: *legs* short, simple: *tarsi* pentamerous, simple.

This genus serves beautifully to unite the Nitidulidæ with the preceding family, to the last genus of which it is so closely allied that most writers have hitherto included them under one name; but from *Peltis*, *Thymalus* differs by its convex, subhemispheric form, shorter antennæ, with its club more coarctate, and dissimilar habit, which is so analogous to that of a *Cassida*, that several authors have placed the only known species in that genus.

Sp. 1. *limbatus*. *Æneo-brunnea, pubescens, limbo sanguineo, elytris punctato-striatis.* (Long. corp. $2\frac{1}{2}$ —3 lin.)

Cassida limbata. Fabricius.—*Th. limbatus.* Curtis, i. pt. 39. *Steph. Catal.* 97. No. 824.

Brassy-brown, pubescent; head ferruginous, punctured; eyes black; thorax rufoferruginous, finely and thickly punctate, with the disc somewhat convex behind, and glossed with æreous; *elytra* broader than the thorax, very convex, deeply, coarsely, and somewhat irregularly punctate-striate, the margin obscure sanguineous, or rufo-ferruginous; body with legs and antennæ ferruginous; the former punctured.

Discovered several years since in some abundance in the New-forest, by Mr. D. Bydder, and since observed in the same neighbourhood by others. "Near Westerham, in Kent, on a flower."—*Mr. Ingpen.* "Leeds, by Mr. Denny, who took several."—*A. H. Davis, Esq.* "Under the bark of an oak near Danygraig, by Mr. Millard, and also under bark in Clive-wood."—*L. W. Dillwyn, Esq.*

GENUS CXXX.—*NITIDULA Auctorum.*

Antennæ very short, the basal joint orbicular, dilated, the third longer than the fourth, the apex terminating in a large, abrupt, broad, coarctate, perfoliate, three-jointed club: *palpi* nearly equal, short, filiform: *head* small, inserted up

to the eyes in the *thorax*, the latter more or less emarginate on its anterior edge, the sides depressed, deeply margined; *elytra* broad, entire, rarely truncate, subovate, glabrous, deeply margined, and in general concealing the extremity of the abdomen: *body* ovate, or elliptic, broad, obtuse, somewhat depressed: *legs* short; *tibiæ* broad, the anterior elongate-triangular; *tarsi* pentamerous, with the third joint dilated and bifid, the following minute, indistinct.

From *Thymalus*, this genus may be known by its more depressed peltate body, but more especially by the structure of its antennæ, of which the basal joint is generally orbicular and considerably dilated, the third joint longer than the fourth, and the capitulum is abrupt, and composed of three broad, coarctate, joints; the tarsi have the third joint dilated and bilobed, and the tibiæ are broad. The species frequent putrid animal and vegetable substances, old bonés, &c., and some few delight in revelling amongst flowers.

A. Thorax with the disc unequal, foveolated.

Sp. 1. *marginata*. *Ovata, ferruginea, elytrorum disco convexo sulcato fusco, parci ferrugineo maculato.* (Long. corp. 2—2½ lin.)

Ni. *marginata*. *Fabricius.—Steph. Catal. 78. No. 825.*

Ovate, ferruginous: head rather dull, finely punctured, eyes prominent, black, thorax with the disc very convex, not foveolated, dull fusco-ferruginous, thickly but very finely punctate; *elytra* ovate, subacuminated behind; the sides deeply margined and ferruginous, the disc convex, thickly punctured, with four sulci, of a dull fusco-ferruginous, with two small spots at the base, and a larger common, truncate, one in the middle, of a brighter ferruginous; body beneath and legs ferruginous.

Very rare: it has been once taken at Birchwood, and two or three times at Coombe. I once captured a single specimen in May, beneath the bark of an old birch, at the latter place, in company with the two following species, which were in plenty. "Netley, under injured bark of oaks."—*Rev. F. W. Hope*. "Bristol."—*Dr. Leach*.

Sp. 2. *punctatissima*. *Ovata, subconvexa, obscuri ferruginea, creberrime punctulata, thorace inæquali elytrisq. nigro variegatis.* (Long. corp. 3—3½ lin.)

Ni. *punctatissima*. *Illiger.—Steph. Catal. 78. No. 826.*

Ovate, somewhat convex, dull ferruginous; head unequal, much punctured, obscure dusky between the antennæ posteriorly; eyes prominent, black; thorax deeply notched in front, broader and truncate behind; the sides obscure ferruginous, punctulated; the disc rather convex, unequal, foveolated, obsoletely variegated with black: *elytra* broad, ovate, rounded behind; the disc slightly convex, much punctured, of an obscure ferruginous, variegated with obsolete, irregular, confluent, black marks; and a little beyond

the middle an undated, abbreviated, paler fascia, somewhat variable in different individuals, and on the disc are the rudiments of elevated striz; body beneath ferruginous; legs rufo-ferruginous.

Much larger than the following species, from which it seems to differ in being shorter and more convex, in proportion to its size.

Not very abundant; found beneath the bark and in holes of decayed oaks, birches, &c., which have been perforated by Cossi, &c., at Coombe. "Shropshire."—*C. Darwin, Esq.* "Netley."—*Rev. F. W. Hope.*

Sp. 3. *grisea*. *Oblongo-ovata, griseo-ferruginea, thorace inequali, elytrisque nigro lineatis maculatisque.* (Long. corp. $1\frac{1}{2}$ — $2\frac{1}{4}$ lin.)

Si. *grisea*. *Linné*.—*Linn. Trans.* ii. 86. pl. 5. f. 6—11.—*Ni. grisea*. *Steph. Catal.* 78. No. 827.

Oblong-ovate; head depressed, ferruginous, punctured; eyes prominent, black; thorax with the disc elevated, unequal, foveolated, griseo-ferruginous, with various, more or less confluent, black marks, elytra oblong-ovate, griseo-testaceous, with obscure elevated costæ, on which are interrupted black lines, which become united and confluent behind the middle, forming a black lobe; body beneath pitchy, with the apex paler; legs pale ferruginous.

Very variable in the colour of the upper surface, and in the extent of the confluent black marks thereon, which are sometimes nearly evanescent; the under side is occasionally of a pale griseous:—from the preceding insect, this chiefly differs in being more oblong, less convex, and of smaller size.

Not uncommon beneath the bark of trees throughout the metropolitan district; also found in Norfolk, Suffolk, &c. "Bottisham."—*Rev. L. Jenyns.* "Under bark of willows, Plaistow-marshes."—*Mr. Inghen.* "Netley, Clinque, &c."—*Rev. F. W. Hope.* "Epping."—*Mr. Doubleday.* "Kew."—*Rev. T. T. Haverfield.* "Walthamstow, common."—*A. Cooper, Esq.* "Glanvilles Wootton and Hurne."—*J. C. Dale, Esq.* "In the Penllergare woods."—*L. W. Dillwyn, Esq.*

Sp. 4. *depressa*. *Ovata, depressa, brunneo-ferruginea, thoracis disco subfoveolato utrinque nebulo incluso, elytris obsolete nigro-maculatis.* (Long. corp. $1\frac{1}{4}$ — 2 lin.)

Si. *depressa*. *Linné*.—*Ni. depressa*. *Steph. Catal.* 78. No. 828.

Ovate, depressed, ferruginous-brown, with the head of a dusky hue, punctured, and with the mouth ferruginous: thorax with the sides much dilated, ferruginous, a distinct curved impression on the disc, the latter dusky, with two obsolete foveolæ behind, the entire surface very thickly punctured; elytra broad, ovate, slightly convex, deeply margined, thickly and finely punctured, dull ferruginous, with obsolete black, oblong streaks, and a little

Not uncommon near London: also found in Norfolk, Suffolk, Devonshire, &c., in flowers. "Near Swansea."—*L. W. Dillwyn, Esq.*

Sp. 15. *obsoleta*. *Ovata, depressa, subpubescens, ferruginea, thorace profunde emarginato, lateribus rotundato, elytris apice truncatis.* (Long. corp. $1\frac{1}{4}$ — $1\frac{1}{2}$ lin.)

Ni. *obsoleta*. *Illiger*.—*Steph. Catal.* 79. No. 839.

Ovate, depressed, obtuse, slightly pubescent, ferrugineo-testaceous; eyes black: thorax with the anterior margin broadly and deeply emarginate, the sides greatly rounded, even to the hinder angle, rather convex above, the sides but slightly depressed: elytra broad, slightly convex, impressed about the middle of the back, the apex truncate, with the angles rounded; body beneath convex, finely punctured: legs short, stout, pale testaceous.

Var. α . With the body beneath and the disc of the thorax and elytra obscure fuscous-brown, the elytra with a paler somewhat rounded spot behind.

Var. β . Paler, with the disc of the elytra obscure, a round dot behind, and a streak anteriorly within the margin, paler.

Var. γ . Entirely pale testaceous, with the eyes black.

Var. λ . Ferruginous, with the body beneath, the disc of the thorax, and each elytron with a posterior blotch, narrowed anteriorly, dull fuscous.

Var. ι . The same, with the body ferruginous, and the disc of the thorax less clouded.

Common beneath the bark of trees, of birch especially, also in flowers, throughout the metropolitan district, in Norfolk, &c. "Bottisham."—*Rev. L. Jenyns*. "Carfin, Lanarkshire."—*Rev. F. W. Hope*. "Glanvilles Wootton."—*J. C. Dale, Esq.* "Cambridgeshire and North Wales."—*C. Darwin, Esq.*

Sp. 16. *variegata*. *Convexior, ovata, rufo-ferruginea, thorace emarginato, lateribus explanato, elytris truncatis, puncto medio nigro.* (Long. corp. $1\frac{1}{2}$ lin.)

Ni. *variegata*. *Herbst?*—*Steph. Catal.* 79. No. 840.

Smaller and more convex than the last-mentioned, with the markings different; ovate rufo-ferruginous, thickly and rather deeply punctured; head depressed, with black eyes: thorax with the anterior margin broadly and deeply emarginated, with the sides rounded, rufo-ferruginous, with the disc darker; the scutellum rufo-ferruginous: elytra ovate, deeply margined, the disc slightly convex, clothed with short, pale, shining hairs, with a round black spot in the middle of each elytron, and sometimes a larger fuscous transverse mark within the apex; body beneath glossy picco-rufous: legs pale reddish.

Rather scarce: found near London, beneath bark, especially of firs and larches. "Near Swansea, not common."—*L. W. Dillwyn, Esq.*

Sp. 17. *impressa*. *Ovata, subconvexa, flavo-testacea, thorace anticè emarginato, elytris subtruncatis, suturâ nigrâ.* (Long. corp. $1\frac{1}{2}$ lin.)

Nl. *impressa*. Kirby MSS.?—Steph. Catal. 79. No. 841.

Ovate, slightly convex, testaceous-yellow, rather glossy, finely punctured: head with a deep impression between the eyes, the latter black: thorax with the anterior margin broadly, but not very deeply, emarginate, the sides rounded to the hinder angles: elytra rather broad, deeply margined, the disc slightly convex, the suture fuscous or black, the apex slightly truncate, with the angles rounded: body pale testaceous beneath, with the legs paler.

The short, ovate, subconvex form, with the subtruncate elytra and dark suture, are the chief characters of this species.

Under bark, near London, and in Suffolk.

Sp. 18. *pusilla*. *Oblongo-ovata, depressa, ferruginea, thorace subquadrato emarginato, elytris apice rotundatis.* (Long. corp. $1\frac{1}{2}$ lin.)

Nl. *pusilla*. Illiger?—Steph. Catal. 79. No. 842.

Oblong-ovate, depressed, ferruginous: head thickly punctate; eyes globose, black; thorax subquadrate, with the sides nearly straight, the anterior margin broadly emarginate, the disc rather convex, thickly but very finely punctate, and slightly pubescent: elytra oblong-ovate, a little convex, thickly and finely punctured, pubescent, the apex rounded, and slightly gaping towards the suture: body beneath deep ferruginous; legs rufo-testaceous.

The broad form, with the subquadrate emarginate thorax and rounded apex to the elytra, serve to mark this insect.

Under bark, throughout the metropolitan district, but not common; also in flowers. “Netley, on flowers.”—*Rev. F. W. Hope*.

Sp. 19. *pygmæa*. *Ovata, subdepressa, rufo-brunnea, punctatissima, marginibus testaceis, thorace latè emarginato, elytris apice rotundatis.* (Long. corp. $1\frac{1}{2}$ lin.)

Nl. *pygmæa*. Gyllenhal.—Steph. Catal. 79. No. 843.

Ovate, somewhat depressed, rufo-brunneous, very much and thickly punctured: head unequal, with the eyes globose, black; thorax with the anterior margins broadly emarginate, the sides nearly straight, the margins broadly flattened, and testaceous, the disc subconvex: elytra broad, ovate-convex, slightly pubescent, dull brown, with the margin narrowly pale testaceous, the apex obtuse, rounded: body beneath dusky-brown, much punctured; legs pale testaceous.

Differs from the foregoing in having the thorax more broadly emarginate, the surface deeply punctured, the colour deeper, with the margins pale.

Also found near London, beneath bark; not common.

Sp. 20. *truncata*. *Ovata, subconvexa, punctulatissima, testacea, capite thoraceque obscurioribus, elytris apice subtruncatis.* (Long. corp. 1 lin.)

Nl. *truncata*. Kirby MSS.?—Steph. Catal. 79. No. 844.

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Ovate, subconvex, finely punctured: head dusky testaceous; eyes black; thorax subquadrate; narrowly emarginate anteriorly, the sides slightly rounded and but little margined; the disc rather convex, fuscous, the margins paler: elytra ovate, pale testaceous, slightly pubescent, with the apex a little truncate, the angles rounded: body beneath fulvo-testaceous; legs pale testaceous.

The small size of this species, with its ovate form, obscure head and thorax, and subtruncate elytra, distinguish this from the foregoing; as the dark head and thorax do from the following.

Found in Suffolk, Norfolk, near London, and in the New-forest, beneath the bark of trees.

Sp. 21. affinis. *Brevis, ovata, subconvexa, testacea, villosula, thoracis lateribus submarginatis.* (Long. corp. 1 lin.)

Ni. affinis. *Marsham MSS.?*—*Steph. Catal.* 79. No. 845.

Short, ovate, subconvex, testaceous, villose: head fulvo-testaceous, with the eyes black; thorax rather glossy, fulvescent, the disc slightly convex, the sides but little margined, the margins pale testaceous; the anterior edge slightly emarginate: elytra short, ovate, immaculate pale testaceous, villose, the apex somewhat obliquely truncate, the angles slightly rounded; body beneath dusky picuous, legs testaceous.

The slightly margined thorax, which, with the head, is fulvescent, separates this from its allies.

From the Marshamian collection; I possess one specimen only: the insect has, I believe, been captured in Suffolk, and near London.

Sp. 22. melanocephala. *Brevis, ovata, subconvexa, rufo-nigra, antennis, elytris pedibusque sordidè testaceis.* (Long. corp. 1 lin.)

Ni. melanocephala. *Marsham.*—*Steph. Catal.* 79. No. 846.

Short, ovate, slightly convex: head and thorax of a dull rufous or pitchy-black, scutellum the same; antennæ and elytra testaceous, the latter obliquely subtruncate, with the angles somewhat acute; the body beneath pitchy-black; acute at the apex: legs pale testaceous.

Known by the dark head and thorax, obliquely truncate elytra, and acute somewhat-prominent abdomen.

Not common: found near London under bark. "Moss from Humby, Dec. 1829.—Do. Seven Oaks."—*A. H. Davis, Esq.*

Sp. 23. limbata. *Ovata, subconvexa, ferruginea, corpore subtus, thoracis elytrorumque disco postico fuscis, elytris apice rotundatis.* (Long. corp. 1—1½ lin.)

Ni. limbata. *Fabricius.*—*Steph. Catal.* 79. No. 847.

Ovate, subconvex, ferruginous: head convex, thickly punctured, fusco-ferruginous, with the eyes black: antennæ ferruginous, with a large black club:

thorax short, broad, thickly punctured, deeply and broadly emarginate anteriorly, truncate posteriorly, with the sides rounded, the margins considerably expanded and rufo-ferruginous; the disc convex, dusky, with a transverse impression behind: scutellum short, ferruginous: elytra broad, ovate, the apex rounded, the margin broad, reflexed; the disc convex, punctured, fuscous-black, with the limb broadly rufo-ferruginous: body pitchy-black beneath, with the apex rufescent: legs rufo-ferruginous.

Variable: in some examples the disc of the thorax and of the elytra are nearly concolorous: others have the latter with a dusky cloud towards the apex only.

The great width of the insect, with its clouded and rounded apex to the elytra, distinguish this insect.

Rather uncommon; found in grassy banks near Hertford and elsewhere: also in Norfolk and Suffolk. "Netley, in moss during winter."—*Rev. F. W. Hope*. "Taken by Mr. Spence, near Hull, in 1805."—*Marsham MSS*. "North Wales."—*C. Darwin, Esq.*

† Sp. 24. rufomarginata. *Ovata, subconvexa, nigra, thoracis elytrorumque marginibus rufis.* (Long. corp. 1 lin.)

Ni. rufomarginata. *Davis MSS.*

Ovate, subconvex, black, with the margins of the thorax and of the elytra rufous. Closely allied to the last, but of a deeper hue and broader in proportion. I have had but a casual inspection of the only example that has hitherto occurred; but the above short characters will be sufficient to recognize the insect; which was kindly submitted to my notice by its active and zealous possessor, A. H. Davis, Esq.

A single example taken near "Seven Oaks."—*A. H. Davis, Esq.*

Sp. 25. decemguttata. *Oblongo-ovata, subconvexa, fusco-ferruginea, thoracis margine elytrorumque guttis decem pallidis.* (Long. corp. 1—1½ lin.)

Ni. decemguttata. *Fabricius.—Steph. Catal. 79. No. 849.*

Oblong-ovate, somewhat convex, fusco-ferruginous: head deeply punctured: eyes black, prominent: thorax short, deeply emarginate anteriorly, truncate posteriorly, above thickly and rather deeply punctured, with the lateral margins and a dorsal line, the latter expanded posteriorly, pale grisco-ferruginous: elytra oblong-ovate, with the tip obtuse, rather obliquely truncate, the sutural angle rounded; the disc of each elytron with five pale spots, placed, one on the shoulder, the second large ovate, near the scutellum, the third, angulated, in the middle of the lateral margin, the fourth, slightly wedge-shaped, a little behind the middle near the suture, and the fifth, oblong, near the apex of the margin and frequently confluent with the third: body beneath fusco-testaceous: legs pale testaceous.

The male has the posterior femora slightly dentate.

flowers of umbelliferous plants, and occasionally under logs of wood on the sea-shore (near Swansea).—*L. W. Dillwyn, Esq.*

Sp. 2. silaceus. *Flavo-testaceus, subpubescens, clytris abdomineque saturatioribus, thorace transverso rectangulo.* (Long. corp. $2\frac{1}{4}$ —3 lin.)

Ips. silaceus. *Herbst.*—An. Silaceus. *Steph. Catal.* 86. No. 937.

Testaceous-yellow, slightly pubescent: head rather porrect, rounded anteriorly, very finely punctured; eyes black; thorax transverse, rectangular, slightly convex, faintly punctulate, pale ochraceous: elytra very obscurely punctulate, deep testaceous, with a single obsolete abbreviated stria near the suture: body beneath glossy ferruginous, punctate: legs pale yellow, with the base of the tibiæ rather obscure. The opposite sex has the intermediate joints of the antennæ of dusky-brown, the base and apex being pale; the base of the tibiæ black, and the tarsi quadriarticulate.

Larger, with the head and thorax less distinctly punctate and of a paler hue than the preceding species.

Less abundant than the last, like which it frequents flowers in various places throughout the metropolitan district.

Sp. 3. glaber? *Rufo-testaceus, glaber, subdepressus, thorace transverso, anticis sub-emarginato.* (Long. corp. $1\frac{1}{2}$ lin.)

Cr. glaber. *Gyllenhal?*—An. glaber. *Steph. Catal.* 86. No. 938.

Rufo-testaceous, glabrous, slightly depressed: head smooth rufo-ferruginous; eyes black: thorax somewhat emarginate anteriorly, truncate posteriorly, the lateral margins rounded and slightly wavy, the disc convex, smooth, glossy rufo-ferruginous: elytra moderately convex, impunctate.

Differs from its congeners by having the surface glabrous, and scarcely punctured; and the anterior margin of the thorax somewhat emarginate.

Whether this be the An. similis or castanea of Curtis, or what those species are, I am not aware.

Rare: found within the metropolitan district.

GENUS CXLIII.—CRYPTOPHAGUS, *Herbst.*

Antenna somewhat approximating, stout, as long as the thorax; the basal joint large, globose; second smaller, also globose; third longer than either of the others, clavate; the five following smaller than the second, subglobose; the remaining three forming the club, the two first joints of which are cup-shaped, the third conical. *Palpi* short, filiform; the terminal joint elongate, ovate: *head* trigonate, inserted up to the *eyes*, which are small: *thorax* transverse, truncate behind, the lateral margins more or less dentate or crenate: *scutellum* broad, short, transverse: *body* ovate, convex: *elytra* elongate-ovate: *tarsi* simple, five-jointed, the posterior pair in one sex four-jointed only.

Sp. 13. Caricis. *Oblongus, niger, holosericeo pubescens, antennis pedibusque rufotestaceis, thorace longiori.* (Long. corp. 1—1½ lin.)

Ips Caricis. Olivier.—Cr. Caricis. *Steph. Catal.* 86. No. 934.

Oblong, black, thickly clothed with an ashy-greenish silken pubescence: head triangular, thickly punctured: thorax rather long, the base and apex truncate, the posterior angles slightly acuminate; the lateral margins regularly dilated and rounded, and rather obsolete crenulated; the disc very convex, black, finely punctured, and densely pubescent: elytra rather long, the apex rounded, very convex, thickly but irregularly punctate: body pitchy-black beneath, punctulate, the apex pale testaceous: legs short, pale rufo-testaceous; tarsi fuscous.

From the following this is distinguished by having the tarsi and legs concolorous, the thorax more elongate, the antennæ rather shorter; and by its smaller size.

Found in marshy places, but not common. “Taken by Dr. Leach on Crwmllyn Burrows.”—*L. W. Dillwyn, Esq.*

Sp. 14. Typhæ. *Oblongus, niger, holosericeo pubescens; antennis pedibusque pallidi testaceis unicoloribus, thorace breviori transverso.* (Long. corp. 1—1½ lin.)

Cr. Typhæ. Fallen.—*Steph. Catal.* 86. No. 935.

Oblong, black, clothed with a silken down, with the antennæ, legs and tarsi of a pale testaceous; the thorax short, transverse, anteriorly truncate, posteriorly subsinuated; the angles slightly prominent: elytra fuscous-black, clothed with cinereous down: body beneath pitchy-testaceous, with the apex paler.

Distinguished from the foregoing by having the thorax shorter, the antennæ rather longer and more slender, the elytra clothed with a cinereous down, and the legs and tarsi of one colour, pale testaceous.

Found in marshy places throughout the metropolitan district, but not very abundant. “On the flowers of *Caltha palustris*, and on other aquatic plants, not uncommon, particularly about Crwmllyn Bog.”—*L. W. Dillwyn, Esq.* “Aquatic plants, Copenhagen-fields, June.”—*Mr. Inghen.* “Cambridgeshire and North Wales.”—*C. Darwin, Esq.*

GENUS CXLIV.—BYTURUS, Latreille.

Antennæ shorter than the thorax, the two first joints robust, the first slightly elongate, the second ovate, the three following short, obconic, of equal length, the three next shorter, slightly stouter, the remainder forming an elongate club, the two first joints of which are transverse-trigonate, the last larger and subacuminate. *Palpi* filiform: *head* trigonate, narrowed anteriorly: *eyes* large, globose: *thorax* subtrapeziform, broader behind, with the angles distinct,

Allied to the foregoing, but narrower and more glossy; pitchy-black, punctulated, the punctures rather shallow; the thorax rather oblong, with two approximating deeply impressed foveæ behind: elytra very obsoletely striated: antennæ and legs ferruginous.

Found near London. "Taken in Suffolk in May, by Mr. Kirby."—*Marsham MSS.*

Sp. 3. *pallida*. *Angustata, pallidè testacea, subnitida, capite piceo, antennis pedibusque pallidis.* (Long. corp. $\frac{3}{4}$ —1 lin.)

Mo. *pallida mihi*.—*Steph. Catal.* 92. No. 981.

Narrow, pale testaceous, slightly glossy: the head pitchy, the antennæ and legs pale.

The form of the preceding, but somewhat larger: it may however be an immature state thereof; its principal difference consisting in the pale colour.

Found near London, and in Norfolk.

GENUS CLXI.—CRYPTA, *Kirby MSS.*

Antennæ considerably longer than the head and thorax combined, the basal joint robust, large, cylindric; second short, subglobose; the third to the tenth nearly of equal length and very slightly increasing in bulk towards the apex; the eleventh rather larger ovate-acuminate. *Palpi* with the terminal joint securiform: *mandibles* rather prominent: *head* broad, porrect and attenuated in front: *eyes* large, prominent: *thorax* subcylindric, slightly margined on the sides: *elytra* entire, rounded at the apex: *body* slightly convex, elongate-ovate: *legs* rather short, stout; *femora* slightly incrassated; *tarsi* somewhat dilated.

The securiform palpi of this genus at once distinguishes it from all the other genera of the present section of the family; and its gradually thickened and scarcely clavate antennæ also form a peculiarity.

Sp. 1. *bipunctata*. *Testacea, capite abdomine punctoque versus apicem elytrorum nigris.* (Long. corp. 2—2½ lin.)

An. *bipunctatus*. *Fabricius*.—Cr. *bipunctata*. *Steph. Catal.* 92. No. 982.

Testaceous: head black or pitchy: thorax rather finely punctured, immaculate: elytra rather obsoletely striated, the interstices transversely punctulated, with a round black spot on the disc a little behind the middle and towards the outer margin; the portion of the suture between which is also black: abdomen black: legs and antennæ testaceous, the tip of the latter dusky or black. The thorax is frequently reddish or rufo-ferruginous.

Not very abundant; found in Devonshire, Somersetshire; I believe in Norfolk, and within the metropolitan district, having taken

it several times at Hertford in the month of June. "Near Cambridge."—*C. Darwin, Esq.*

GENUS CLXII.—*SYLVANUS*, *Latreille*.

Antennæ as long as the thorax, rather stout, eleven-jointed, the basal joint large, clavate, the two next smaller, obconic, the five following very short, subturbinate; the ninth and tenth stout, truncate, perfoliate; the eleventh equally stout, rounded. *Palpi* very short, unequal, subfiliform; the terminal joint larger and subcylindric: *head* prominent and narrowed anteriorly: *eyes* slightly prominent: *thorax* elongate, its sides more or less dentate, somewhat remote from the *elytra*, which are rounded at the apex: *body* elongate, narrow, sublinear, depressed: *legs* short; *femora* stout; *tarsi* four-jointed.

Sylvanus has the club of the antennæ triarticulate, and by that character, united to the equal length of the second and third joints of the antennæ, filiform palpi, and elongate more or less crenate or denticulate thorax, it may be distinguished from the other genera of this group.

A. With the sides of the thorax considerably denticulate.

Sp. 1. *Surinamensis*. *Fusco-testaceus, pubescens, thorace sulcato, utrinque sex dentato, elytris punctato-striatis, interstitiis alternis elevatioribus*. (Long. corp. $1\frac{1}{2}$ lin.)

De. *Surinamensis*. *Linne*.—*Sy. Surinamensis*. *Steph. Catal.* 92. No. 983. note.

Fusco-testaceous, pubescent, the thorax with three longitudinal elevated lines, the lateral margins with six stout denticulations: *elytra* punctate-striate, the alternate interstices elevated: legs testaceous.

Found not uncommonly in brown sugar, whence I infer that it is merely an imported species; its native country, according to the Linnean name, being Surinam.

Sp. 2. *dentatus*. *Rufescens, elytris lineis elevatis tribus obsolete, thorace punctis duobus impressis, lateribus dentatis*. (Long. corp. 2 lin.)

Cor. *dentata*. *Marsham*.—*Sy. dentatus*. *Steph. Catal.* 92. No. 984. note.

Obscure reddish: antennæ, head, and thorax, dusky; *elytra* brighter, with three elevated obsolete striae, between which are other slender ones: thorax with the lateral margins crenate-dentate, and two impressed foveæ near the base: posterior femora with a strong tooth.

Taken in similar situations with the last; consequently a doubtful native.

nished by their antennæ, form of body, &c.:—the species inhabit dung.

Sp. 1. *striatus*. *Ater, thorace elytrisque lineis elevatis sex, antennis nigris, capitulo fusco.* (Long. corp. $\frac{2}{3}$ —1 lin.)

Hi. *striatus*. *Forster.*—On. *striatus*. *Steph. Catal.* 100. No. 1044.

Deep black, slightly shining: head and thorax broad, with four elevated lines in the middle, and two abbreviated ones on each side at the base: elytra with the suture and six distinctly elevated lines; the interstices delicately striated and obsoletely punctate: breast and abdomen thickly and deeply punctate: antennæ and legs black, the club of the former dusky.

Much less than the following, and differs not only in the sculpture of the upper surface, but also in the colour of the antennæ.

Common in Battersea-fields, and in other places within the metropolitan district. “Netley, abundantly.”—*Rev. F. W. Hope*. “In horse and cow dung, not uncommon (near Swansea).”—*L. W. Dillwyn, Esq.* “York and Newcastle.”—*W. C. Hewitson, Esq.* “Dalston, Rockcliff, and Common.”—*T. C. Heysham, Esq.*

Sp. 2. *sulcatus*. *Ater, obscurus, thorace lineis elevatis quinque, elytris tribus, interstitiis punctatis, antennarum capitulo subferrugineo.* (Long. corp. $1\frac{1}{4}$ — $1\frac{3}{4}$ lin.)

Hi. *sulcatus*. *Fabricius.*—On. *sulcatus*. *Steph. Catal.* 100. No. 1045.

Dull black: head and thorax punctate, the latter with five elevated lines, the central one furcate before and channelled at the base: elytra with the suture and three lines on each very much elevated, the interstices with four finely elevated ridges, the alternate ones sparingly punctate: breast and abdomen punctate: mouth and antennæ dull ferruginous, the basal joint of the latter black: legs pitchy-black.

Larger than the foregoing, from which it differs in having five elevated lines on the thorax and three only on the elytra; it also differs in sculpture and colour.

Rare: it has been taken in several parts of Norfolk, and in the west of England. “Kingsbridge, Devon.”—*Dr. Leach*.

GENUS CLXXXIII.—HISTER *Auctorum*.

Antennæ shorter than the thorax, with the basal joint very large, robust, incurved, and incrassated at the apex, which is emarginate; the second slender, recurved, larger than the two following, which are short obconic; the four next very short, transverse, the seventh and eighth being broadest; the remainder forming a subglobose, compressed, triarticulate, club. *Palpi* short, filiform, unequal, with the terminal joint elongate, subfusiform, truncate: *head* small; *thorax* transverse, deeply emarginate anteriorly: *elytra* con-

siderably abbreviated: *body* convex above: *sternum* dilated anteriorly: *legs* short: *femora* compressed, simple: *tibiæ* much compressed; the four posterior furnished with two series of spines: *tarsi* short, simple.

The genus *Hister*, which from the species feigning death when alarmed have been termed Mimic beetles, differs from the other genera of this family by having two series of spines on the four posterior tibiæ, combined with a considerable convexity of body, slightly narrowed thorax anteriorly:—from *Dendrophilus*, by having the antennæ differently constructed, the second joint being curved, and the seventh and eighth very short and broad, &c.:—the species inhabit dung, dead animals, rotten vegetable matter and refuse of all kinds.

A. With the elytra striated; the external striæ entire.

a. With two longitudinal striæ on the sides of the thorax.

1. The elytra with a marginal stria.

Sp. 1. Marsham. PLATE XVIII. f. 5.—*Elongatus, subdepressus, ater, nitidus, elytris striis quatuor integris, tibiis anticis tridentatis, posticis spinosissimis.* (Long. corp. 3½ lin.)

Hi. Marsham. *Steph. Catal.* 100. No. 1046.

Elongate, deep, very glossy, black: head and thorax impunctate, the former with a slightly curved impressed line on the forehead, the latter with two faint striæ on the margin, the inner one nearly touching the base: elytra elongate, very smooth, with six obsoletely punctured striæ, of which the one nearest the suture is abbreviated anteriorly, being about half the length of the elytra; the four following run the entire length, the first being nearly straight and the others slightly curved; and on the outer angle of the elytra is a sixth abbreviated rather faint impunctate one: exposed segments of the abdomen, especially the anal one, much punctate: legs slightly piceous, with the four posterior tarsi thickly furnished with castaneous spines.

The elongate form of this species, with its dissimilarity of sculpture, and the densely spinose posterior tibiæ, at once point out its distinction from its congeners.

The only example of this insect which I have seen, I obtained from the Marshamian cabinet, in which it was placed as the other sex of *Hi. unicolor*.

Sp. 2. merdarius. *Ater, nitidus, elytris externè quinque striatis, thoracis lateribus punctatis, antennarum clavâ ferrugineâ.* (Long. corp. 3 lin.)

Hi. merdarius. *Ent. Hefte.*—*Steph. Catal.* 100. No. 1047.

Oblong-quadrate, shining black: thorax scarcely narrowed anteriorly; the space between the two lateral striæ thickly punctured: elytra rather deeply striated, the striæ slightly punctate, and the two on each nearest the suture abbre-

with the margin punctate; elytra punctate, opaque, each with the shoulders, apex, and margin, with two discoidal spots, one large, suboval, placed towards the suture, the other shorter, small, external, and towards the base very smooth and very shining; abdomen punctate; legs piceous, punctate.

Known by its æneous tinge, with the disc of the thorax, a large patch on the anterior part of the elytra, and another smaller one adjoining externally, being very glossy and smooth.

Rare: it has occurred on the Welsh coast. "South Wales, near Swansea, by Mr. Millard."—*Dr. Leach*.

Sp. 24. *quadristriatus*. *Ovatus, convexus, ater, creberrimè rugoso-punctatis, thoracis disco elytrorumque plagâ anticâ ovali ad suturam levissimis, tibiis anticis validè quadridentatis*. (Long. corp. $1\frac{1}{2}$ lin.)

Hi. *quadristriatus*. *Paykul.*—*Steph. Catal.* 102. No. 1070.

Ovate, convex, bluish-black, very thickly rugose-punctate: thorax with the anterior and lateral margin ruggedly-strigose, the hinder margin punctate, leaving a narrow smooth space behind the middle: elytra with an oval space on the disc towards the scutellum, very smooth and glossy, the rest of the surface extremely, and deeply, rugose-punctate, with four very obsolete abbreviated striae at the base, and a single entire one on the suture, recurved at the scutellum, bounding the smooth discoidal spot, and terminating on its outer edge: legs black, with the anterior tibiae strongly quadridentate.

The very rugose-punctate surface of the elytra, with the obsolete abbreviated striae thereon, combined with the bluish hue, and the strongly denticulated anterior tibiae, characterize this insect.

Decidedly uncommon: it has, however, been captured on several parts of the coast. "Barmouth."—*Rev. F. W. Hope*, and *C. Darwin, Esq.*

Sp. 25. *æneus*. *Ovatus, æneus, creberrimè punctatus, thoracis disco, elytrorumque maculâ baseos duplicatâ levissimis nitidis, tibiis anticis serratis*. (Long. corp. $1-1\frac{1}{2}$ lin.)

Hi. *æneus*. *Fabricius.*—*Steph. Catal.* 102. No. 1071.

Ovate, æneous, or blackish, shining: forehead thickly punctured: thorax with the disc smooth, the lateral margins broadly, and the anterior and posterior narrowly, but thickly punctate: elytra broad, with the posterior half and margin very thickly punctate, the humeral callous smooth, and a large very smooth glossy space near the scutellum; parallel with the suture is an entire simple stria, which is recurved at the base, and continued obliquely over the smooth space on the disc, which it divides in two, the outer division being smallest, having a very short rudimentary stria at the base, and bounded by another stria nearly half the length of the elytra, and in the punctate space beyond is an obsolete fourth one, the part adjoining which is singularly strigose-punctate: legs piceous, with the anterior tibiae serrate.

Sp. 1. *vulgaris*. *Niger*, *thorace anticâ tricorâ, medio breviori, lateralibus porrectis elongatis, elytris striatis*: *fœmina, thorace submutico*. (Long. corp. 5—10 lin.)

Sc. Typhœus. *Linné*.—*Ty. vulgaris*. *Samouelle*, *pl. 1. f. 1.*—*Steph. Catal.* 106. No. 1104.

Entirely black, shining: head depressed, villose at the sides: clypeus angulated, margined, with a longitudinal elevated ridge: thorax smooth in the middle, with the sides punctated and foveolated, the male with two porrect acute horns at the anterior angle, reaching over, and as long as, the head, and an intermediate shorter ascending one in the middle: elytra striated: female with the lateral horn on the thorax very short, and in place of the central one a transverse elongate ridge.

Very variable in size and in the length of the thoracic horns, as well as in sculpture and colour. In some examples the lateral horns in the male are considerably longer than the head, and have a distinct tooth above; while others are nearly obliterated and perfectly simple: some examples have the sides of the thorax very rugose; while others are simply punctate: others again have the elytra castaneous and rather deeply sulcate: but as all intermediate shades occur, they must all be considered as belonging to one species.

Taken most commonly on heaths and commons within the metropolitan district, in April and May, and found in numbers lying dead about the end of June or July. "Far from common in Cambridgeshire."—*Rev. L. Jenyns*. "Hill-ends, Cardew Nock, &c."—*T. C. Heysham, Esq.* "Stockton Common near York, burrowing in sand."—*W. C. Hewitson, Esq.* "Lundy Island."—*G. Waring, Esq.* "Epping."—*Mr. Doubleday*.

GENUS CXCIV.—GEOTRUPES, Latreille.

Antennæ rather slender, basal joint long, triangular, slightly pilose; second short, globose; third elongate; fourth shorter than the fifth, which is slightly elongate; the three following transverse, cupshaped; the remainder forming an oval trilamellate club. *Palpi maxillary* with the third and fourth joints of equal length, the latter cylindrical: *head* triangular: *clypeus* rhomboidal: *thorax* broad, convex, unarmed: *elytra* large, oval: *body* convex, robust: *legs* stout: *femora* short, sometimes spinose: *tibiæ* curved, more or less compressed, the anterior dentated externally, the others notched: *tarsi* with the basal joint shortest.

Latreille—than whom no one is more competent to decide upon a point relative to the structure of insects, and "whose accuracy is beyond all praise" in the details thereof, but who is not in-

frequently at fault when he ventures an opinion regarding the diversity of species—says “Magnitudine, colore admodum variat *Ge. stercorarius*. Majores nostri suprâ nigri, marginibus thoracis et elytrorum corporeque infrâ violaceo-cœruleis, &c.—Alii minores, colore suprâ intense viridi, infrâ aurato-viridis, &c.—Has meras varietates ut species distinxit Dom. Marsham, in *Entomologia Britannica*; *Sc. stercorarius*, spiniger, foveatus, mutator:—which opinion given nearly a quarter of a century since has been recently assumed as a proof of the identity of certain Marshamian species of this genus with *Ge. stercorarius*, in spite of the subsequent observations of Molinowsky, in the first vol. of the *Transactions of the Natural History Society of Halle*, and of the palpable diversity of the insects in question, a point which I have attempted to render evident in the subjoined pages, by submitting the dictum of Latreille to the test of experience, truth alone being my object; while a retrograde movement, solely to follow the views of a distinguished writer, must inevitably lead to error and its consequences.

The short third joint of the antennæ and basal joint of the tarsi, as well as the smooth unarmed thorax, will at once enable any person to detect the insects of the present genus, which are usually found in meadows, fields and wastes, where cattle are pastured; their use in the economy of nature being to devour the dung of herbivorous animals—they abound most in the spring and autumn, and very frequently are observed of an evening flying towards sunset, with a loud hum:—they are much infected with acari.

Sp. 1. *vernalis*. *Subhemisphericus violaceo-niger, nitidus; antennarum capitulo fusco, thorace clytrisque lævibus, glabris.* (Long. corp. 6—9 lin.)

Sc. vernalis. Linné.—Donovan, xvi. pl. 547. f. 1.—*Geo. vernalis*. Steph. Catal. 107. No. 1105.

Subhemispheric: glossy violet-black; with the club of the antennæ fuscous: clypeus rugose, with the vertex slightly prominent: thorax very finely and faintly punctate on the disc, rather coarsely so on the lateral margin, near which on each side is a deep fovea: elytra very glossy, smooth, but with a lens they appear faintly punctate striate, and obsoletely strigose between the striæ: body beneath pubescent, deep violet or greenish: posterior femora denticulated in the male.

Very variable in size and colour, specimens occurring of a rich violet-blue, greenish or nearly black.

Somewhat local; but found in sandy situations in several places

within the metropolitan district:—in plenty on Wimbledon common; also near Ripley, Hertford, Croydon, in the New Forest, in Devonshire, and abundantly in Suffolk, near Woodbridge. “Baron Wood.”—*T. C. Heysham, Esq.* “Epping.”—*Mr. Doubleday.*

Sp. 2. *laevis. Subhemisphaericus, atro-violaceus, nitidus, thorace confertissimè punctulato, elytris laevissimis, irregularitèr obsoleti punctato-striatis.* (Long. corp. 6—9 lin.)

Sc. *laevis. Haworth.*—Ge. *laevis. Steph. Catal. 107. No. 1106. Curtis, vii. pl. 266.*

Subhemispheric, deep violet or black, shining; vertex slightly prominent; clypeus rugose; thorax very thickly and rather deeply punctured throughout, with a fovea on each side near the lateral margin; elytra very smooth and glossy, with several obsolete irregular faintly punctured striae; body beneath pubescent, violet, sometimes greenish; posterior femora serrated on the inner margin in the males; club of the antennae black, with its apex sometimes ferruginous.

Variable both in size and colour, like its congeners.

Not very uncommon on heaths near London, but more abundant in the mountainous districts of Wales and Cumberland; also found in the New Forest. “Barmouth and North Wales.”—*Rev. F. W. Hope and C. Darwin, Esq.* “In abundance on the mountains near West Water in Cumberland, and in Borrowdale.”—*W. C. Hewitson, Esq.* “Common on heaths in the neighbourhood of Nottingham, from March to October.”—*Dr. Howitt.*

Sp. 3. *sylvaticus. Subhemisphaericus, supra niger, violaceo marginatus, infra violaceus aut aurato-viridis, vertice tuberculo acuto, thoracis disco punctis sparsis, elytris striatis, interstitiis transversim strigosis.* (Long. corp. 6—10 lin.)

Sc. *sylvaticus. Paykul.*—*Don. xvi. pl. 347. f. 2.*—Ge. *sylvaticus. Steph. Catal. 107. No. 1107.*

Subhemispheric; above blue-black, margined with violaceous; beneath violaceous or golden green; clypeus rugose, with an acute tubercle on the vertex; thorax sprinkled with distinct, somewhat remote punctures on the disc, somewhat rugose on the lateral margins, with a punctate fovea towards the edge; elytra rather faintly striated, the interstices transversely strigose; antennae somewhat piceous, with the club fuscous; tarsi piceous; posterior femora in the male with a single denticulation on the inner edge.

Extremely variable in size, and in colour; some examples being of a rich purplish violet above, and others nearly black; and the under surface being occasionally of a rich coppery-purple, or golden-green.

The most abundant species of this genus within the metropolitan

Elongate: black, tinged with brassy, and very finely granulated: head and thorax slightly punctate, the latter with a transverse impression before and another more obsolete behind the middle: elytra unequal at the base, with several irregular punctate striæ, and an obscure longitudinal impression on the disc.

This remarkable, though minute, insect has been very frequently captured in the broom field near the gravel-pit at Coombe-wood, in the spring, within these few years; and it has also occurred in other places, but sparingly. "Southend."—*Rev. F. W. Hope*. "Bath, by Dr. Davies; and Kingsbridge, Devonshire, by J. Cranch."—*Dr. Leach*. "Grassy places, Coombe-wood."—*Messrs. Ingall, Ingpen, and Westwood*.

GENUS CCXVII.—TRACHYS, *Fabricius*.

Antennæ short, with the two basal joints robust; the four following slender, equal, subovate; the four next produced on the inner edge, the terminal one obliquely ovate. *Labrum* transverse, obscurely emarginate: *palpi* very short, equal: *head* broad, emarginate: *thorax* transverse, sinuated behind: *elytra* broad, nearly triangular, attenuated to the apex: *scutellum* minute: *body* short, obtuse anteriorly, attenuated behind, depressed: *legs* slender; *tarsi* with dilated joints, the terminal joint with two claws.

Trachys may be at once known from the other Buprestidæ by the width and brevity of the body, which is greatly depressed, the robustness of the two basal joints of the antennæ, which are very short, and have the apical half above serrated, somewhat as in *Aphanisticus*, the palpi very short, labrum transverse, &c.

Sp. 1. *pygmæa*. *Capite thoraceque lavisibus ancis, elytris caruleis æqualibus rudè punctatis, corpore nigro-æneo, fronte excavato.* (Long. corp. $1\frac{1}{2}$ lin.)

Tr. *pygmæa*. *Fabricius*.—*Steph. Catal.* 120. No. 1222.—*Bu. pygmæa*. *Don.* viii. pl. 282.

Head and thorax brilliant glossy-copper, impunctate: forehead excavated: elytra of a rich blue, rudely punctate, the punctures somewhat disposed in striæ towards the suture: body beneath black-brass, a little glossy and finely rugose: legs and antennæ æneous.

Very rare in Britain: three or four examples only have as yet occurred, and of these two in the neighbourhood of Coombe-wood. "Cambridge."—*C. Darwin, Esq.*

nishing in length, the fourth being the longest; the eleventh abruptly acuminate, giving the appearance of a twelfth joint. *Palpi* short, comparatively slender: *head* small, deeply inserted in the *thorax*, which is narrowed in front, with the sides rounded; the posterior angles, which are robust, elongated, carinated, and acute; the disc very convex: *eyes* small: *body* convex, attenuated behind: *legs* moderate; *tarsi* simple.

Ludius is distinguished by the remarkable peculiarity of the terminal joint of the antennæ, which is so abruptly acuminate as to give the appearance of a twelfth joint; the second and third joints are very small, and the remainder, with the exception of the basal one, very acutely serrated.

Sp. 1. *ferrugineus*. *Supra ferrugineus, subtus niger, thoracis margine postico nigro, elytris obsolete striatis.* (Long. corp. 9—11 lin.)

EL. *ferrugineus*. Linné.—Don. x. pl. 356. f. 1.—Lu. *ferrugineus*. Steph. Catal. 124. No. 1263.

Head black, thickly punctulate: thorax very thickly punctured, rufo-ferruginous, with the posterior margin and angles black, the disc sparingly covered with short flavescens hairs; scutellum black: elytra rufo-ferruginous, rather obsolete striated, the interstices very thickly and somewhat finely punctate: body beneath black: antennæ and legs pitchy-black; the tip of the tarsi smooth and pale obscure rufescent.

† Var. β . With the thorax entirely of a deep fuscous-black.

This gigantic species is extremely rare in Britain; it has however been occasionally captured within the metropolitan district. "Windsor and Darent-wood."—*Dr. Leach*. "Clengre, Gloucestershire."—*Rev. F. W. Hope*. "Has once occurred at Botfisham, in a decayed walnut tree."—*Rev. L. Jenyns*. "Taken in a willow (near Swansea)."—*L. W. Dilkyn, Esq.*

GENUS CCXXVI.—CTENICERUS, Latreille.

Antennæ moderate, the basal joint slightly bent, robust, subclavate; the second minute, subglobose; the remainder to the tenth more or less obconic, the inner edge being considerably produced and acute, forming a serrated edge, the apical joint elongate, acuminate; in some males the antennæ are considerably elongated; and the third to the tenth joints are furnished within, each with a long subclavate appendage. *Palpi* somewhat elongate: *eyes* not prominent: *head* small, deeply inserted in the *thorax*, which is rather elongate, depressed, broadest behind, with acute posterior spines: *body* elongate, slightly convex, usually adorned with rich metallic colours; attenuated behind: *legs* slender; *tarsi* simple.

This genus, termed *Cleniocerus* by Dr. Leach, in allusion to the conspicuous antennæ of some of the males, may be readily known from all the preceding ones in the family, by having the second joint of the antennæ alone minute and nodose, the third being nearly as long and of similar form with the fourth; the terminal one elongate; the thorax considerably longer than broad, a little depressed, the body usually adorned with rich metallic hues, and the antennæ more deeply serrated; by several of which characters it may also be distinguished from the following genera.

A. With the antennæ pectinated in the males; serrated in the females.

† Sp. 1. *aulicus*. *Obscurè viridi-æneus, elytris testaceis immaculatis.* (Long. corp. 7—8 lin.)

El. *aulicus*. *Panzer.*—Cl. *aulicus*. *Steph. Catal.* 124. No. 1264.

Head and thorax obscure brassy-green, the former depressed and punctulated, the latter slightly pubescent: scutellum concolorous with the elytra, which are pale immaculate-testaceous, striate-punctate, with a slight impression on each side at the base: legs and body beneath dull blackish-brass: antennæ black.

In the British Museum is a pair of this insect, said to have been taken by Dr. Leach in Devonshire, about four years since; but doubts have recently been started by Mr. Curtis, with his wonted caprice, as to its indigenous origin; and also of several other species reported to have been captured about the same period, some being admitted and others doubted.

Sp. 2. *pectinicornis*. *Elongatus viridi-æneus nitidus, thorace sulcato, elytris punctato-striatis.* (Long. corp. 7—8 lin.)

El. *pectinicornis*. *Linné.—Don. x. pl. 356. f. 2.*—Cl. *pectinicornis*. *Steph. Catal.* 124. No. 1265.

Above of a rich shining brassy-green: head rather obscure, punctate: thorax with a dorsal channel, the posterior angles stout, elongate, carinated above: scutellum fuscous; elytra rich green, tinted with æneous, rather deeply punctate-striate, the interstices finely punctured and slightly pubescent: body beneath more obscure, pubescent: legs and antennæ black, the latter in the male elongate, deeply pectinated; in the female short, serrated.

Found chiefly I believe in hilly and mountainous districts; abundant on the Malvern Hills, and in many parts of the north of England. "North Wales."—*Rev. F. W. Hope*. "Near York and Newcastle; also near Wastwater, Cumberland: females rare."

—*W. C. Hewitson, Esq.* “Marton-Lodge, in plenty.”—*Rev. G. T. Rudd.* “Bewdley-Forest.”—*W. Raddon, Esq.*

Sp. 3. cupreus. *Elongatus, subtus nigro-æneus, supra rufo-purpureo- aut viridicupreus, elytrorum basi sæpè flavâ, his tenè striatis, thorace profundè canaliculato.* (Long. corp. 5—7½ lin.)

El. cupreus. *Fabricius.*—*Don.* xv. pl. 508.—Cl. cupreus. *Steph. Catal.* 125. No. 1266.—Var. El. chalybeus. *Sowerby, i. pl.* 72.

Beneath black-brass or cupreous, above various tints of red-purple or green-copper, or dusky; thorax elongate, thickly and rather coarsely punctate, with the posterior angles elongate, carinate: elytra rather faintly striate, the interstices obscurely punctured, the base more or less yellow or ochreous, but frequently concolorous with the apex: antennæ and legs black, the latter slightly æneous.

Scarcely two examples of this protean species occur precisely alike in the colour of the upper surface, which in different individuals partakes of nearly every colour of the rainbow; a great proportion have the base of the elytra flavescens, in some instances the colour occupying two-thirds of the surface, while in others it gradually vanishes, till at length the entire disc is concolorous with the apex; every possible shade and proportion occurs, so that it becomes impossible to discriminate the varieties.

Inhabits similar places with the former; females generally rare; at least fifty males to one female having usually occurred; but in August, 1829, out of scores of specimens now under my inspection, captured by the *Rev. F. W. Hope* and *C. Darwin, Esq.*, in North Wales, scarcely a single male was observed. “*Holme-Hill.*”—*T. C. Heysham, Esq.* “*Moushold-Heath, Norwich.*”—*W. C. Hewitson, Esq.* “*Cheltenham, and Allesley.*”—*Rev. W. T. Bree.* “*In profusion near Marton-Lodge.*”—*Rev. G. T. Rudd.*

‡ Sp. 4. castaneus. *Niger, thorace pube fulvescente mutabili tecto, elytris flavis apice summo nigris.* (Long. corp. 5 lin.)

El. castaneus. *Linné.*—Cl. castaneus. *Steph. Catal.* 125. No. 1267.

Body beneath, head, antennæ, and legs black: thorax also black, thickly clothed with a short fulvescent down: scutellum black: elytra testaceous-yellow, with the apex black, the disc striated, the interstices punctured.

I believe that hitherto a single elytron only of this insect has been found in Britain, and that was picked up by the late *W. Hooker, Esq.* on Moushold-heath, near Norwich.

B. With the antennæ serrated in the males, simple in the females.

Sp. 5. sanguinicollis. *Niger pubescens, thorace toto sanguineo.* (Long. corp. 4 lin.)

metropolitan district; in Devonshire, the New Forest, Norfolk, &c. "Southend."—*Rev. F. W. Hope*. "Rose Castle."—*T. C. Heysham, Esq.* "Bottisham, common."—*Rev. L. Jenyns*. Var. β . "Has been taken in the neighbourhood (of Swansea), but is far from common."—*L. W. Dillwyn, Esq.*

GENUS CCXXXII.—*CAMPYLUS*, *Fischer*.

Antenna rather long, slender, serrated; the basal joint moderately robust; the second abbreviated, subglobose; the third to the tenth nearly of equal length, obconic, elongate; the terminal one slender, longer than the preceding, acuminate. *Palpi* short: *head* exserted, subquadrate; the frontal margin elevated: *eyes* large, globose, prominent: *thorax* scarcely broader in front than the head; the sides a little dilated anteriorly, then contracted towards the hinder angles, which are stout, elevated, somewhat bent outwardly and acute: *body* linear, slightly pubescent: *elytra* elongate, rounded at the apex: *legs* elongate, slender; *tarsi* with simple joints; the fourth somewhat abbreviated.

The large projecting eyes of this genus, with the exserted head, prominent, elevated, acute posterior angles of the thorax, linear body, and elongate antennæ, well characterize it, and distinguish it from its allies: the only indigenous species is extremely variable in colour; it occurs upon trees.

Sp. 1. *linearis*. *Thorace cruce impressâ, elytris striato-punctatis: abdomine nigro margine anoque testaceis.* (Long. corp. $5\frac{1}{2}$ —7 lin.)

El. *linearis*. *Linn.*.—Ca. *dispar*. *Steph. Catal.* 127. No. 1294.

Body beneath black, with the margin and apex, and sometimes the breast, testaceous; above extremely variable in colour: head deeply punctured, black, with the mouth testaceous, or pale testaceous, with the eyes deep brunneous: thorax in both sexes punctate, with a deep dorsal channel, and a transverse impression a little behind the middle, the superficies bright testaceous-red, sometimes with a deep black discoidal spot, or the disc fuscous, with the hinder angles above pale testaceous: scutellum oblong, testaceous or black: *elytra* punctate-striate, linear, dilated, and rather convex in the female, slightly pubescent, pale testaceous, with the suture sometimes more or less fuscous, this latter colour occasionally predominating over the entire surface, especially in the females, leaving only the margin itself bright testaceous: legs testaceous, with the femora more or less fuscous: antennæ black, varied with testaceous at the base.

One of the most inconstant species of this most variable family. That the above variations, which, in fact, are mere shades of colour, the fovea and sculpture of

each sex not undergoing the slightest change, positively belong to one species, the fact of my having repeatedly taken the insects in copulâ proves indisputably; a point I am here induced to notice from a difference of opinion prevailing amongst entomologists who have not had the opportunity of capturing the insects in plenty.

Extremely abundant in certain years in Coombe-wood, towards the end of June; I have also taken the insect in the hedges about Darenth and Birch woods, and occasionally at Ripley, Dover, and Hertford: it also occurs in Norfolk. "Baron-wood."—*T. C. Heysham, Esq.* "Woods near Cambridge."—*C. Darwin, Esq.* "Epping."—*Mr. Doubleday.* "Stockton-common, near York; and near Newcastle."—*W. C. Hewitson, Esq.* "In moist woods about Penllergare, and woody parts of Crwmlyn-bog."—*L. W. Dillwyn, Esq.* "Common near Kimpton."—*Rev. G. T. Rudd.*

SUBSECTION IV.

Antennæ 11- rarely 10-jointed, mostly elongated, more or less serrated, or pectinated; occasionally with the three terminal joints more robust (sometimes considerably, and suddenly, elongated): or clavate, the club composed of compactly united articulations: *head* nutant, in some instances somewhat produced into a rostrum anteriorly, in general deeply inserted in the *thorax*, which is more or less semicircular or subquadrate, sometimes cylindrical or subcordate: *body* soft and depressed, or of a firm consistence and more or less cylindrical and elongate: *legs* rather long; *tarsi* five- or four-jointed, the penultimate joint frequently bilobed.

There is considerable diversity of appearance amongst the insects of this subdivision; nevertheless, although they seem to form a group sufficiently natural to allow of being associated together, it appears useful to divide them into the subjoined families, concisely distinguished by the following external characters:

Antennæ	{	filiformes vel setaceæ. <i>Tarsi</i> art ^o penultimo	{	bifido: <i>Palpi maxillares</i>	{	filiformes; <i>lobiales</i>	haud bifurcati: 34. CEBRIONIDÆ.		
							furcati: 35. CYPHONIDÆ.		
							{	apice crassiores. <i>Antennarum basi</i>	validè approximati: 36. LAMPYRIDÆ.
									haud approximati: 37. TELEPHORIDÆ.
							{	extrosim crassiores,	{
art-æ 3-æ ultimis subitò longioribus: 39. TILLIDÆ.									
articulo ultimo magno: 39. TILLIDÆ.									
{	clavata, clava subsolida:	{	{	40. PTINIDÆ.					
				41. BOSTRICHIDÆ.					

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ERRATA.

- Page 6, line 18, for equal, read subequal.
 21, — 17, for Curtisia, read Curtisii.
 50, — 5 from bottom, for larger, read longer.
 59, in table, for ula, read Mandibula.
 —, — 11 from bottom, for min ut, read minute.
 84, — 3, for Heniault, read Hainault.
 113, — 10 from bottom, for Kybes, read Kyber.
 120, — 15, for Megatoma, read Ctesias.
 134, — 3 from bottom, for fasciolated, read fasciculated.
 157, — 4, for His. smaragdulus, read Hi. smaragdulus.
 169, — 5 from bottom, for clytra, read labrum.
 193, — 21 and 23, for sticticus, read sticticus.
 278, — last line, for fovea, read foveæ.
 291, — 9 from bottom, for festiva, read festivus.
 317, — 12, dele griscis.
 351, — 18 from bottom, for tercbraus, read tercbans.
 — bottom line, for violacea, read violaceus.

END OF VOL. III.



M. Smith del.

London, Publ. by J. S. Colburn, & Chapman, 1827.

C. Knapp del.



C. M. Curtis del.

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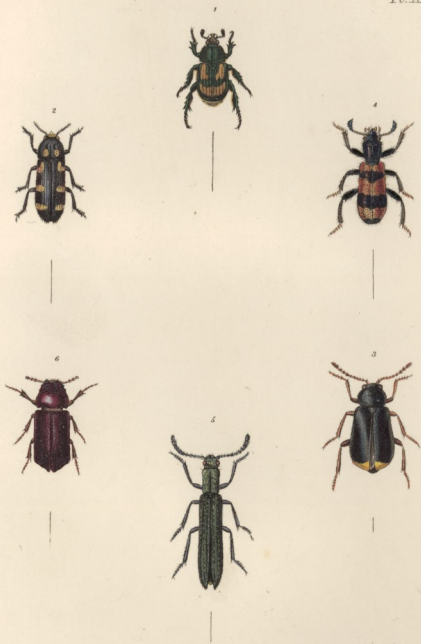
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ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A

Synopsis of Indigenous Insects:

CONTAINING

THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH

AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

MANDIBULATA.

VOL. IV.

"In his tam parvis tamque ferè nullis que ratio! quanta vis! quam inextricabilis
perfectio!"—*Plin.*

"Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem
solum."—*Linne.*

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1831.

Sp. 2. *maurus*. *Niger, subopacus, elytris punctato-striatis*. (Long. corp. 4—5 lin.)

Cu. *maurus*. *Marsham*.—*Li. maurus*. *Steph. Catal.* 172. No. 1751.

Black, somewhat opaque, without scales: head with a deep impression between the eyes: thorax somewhat rough, with a small abbreviated central carina: elytra distantly punctate-striate, of an uniform dullish-black: antennæ and legs also black.

Taken in the hedges near Coombe and Darenth Woods, not very abundantly. "On the sand-hills, and not uncommon among grass and the roots of grass about Crwmllyn and Sketty Burrows: Mr. Millard has most commonly found it at the roots of the sea pink at Tenby."—*L. W. Dillwyn, Esq.*

GENUS CCCXXI.—OTIORHYNCHUS, *Germar*.

Antennæ geniculated, long, generally slender, rarely stout, 19-jointed, the scape reaching beyond the eyes; funiculus with its two basal joints rather long, obconic; the remainder rather short and obconic, or robust and lenticular; the club narrow oblong, or subovate, acuminate. *Rostrum* incrassate at the apex, dilated, emarginated, the apex divaricating: *eyes* rounded, moderately or but little prominent: *thorax* with the sides rounded, convex above: *elytra* united, ovate or oblong-ovate: *body* apterous: *scutellum* minute: *abdomen* concave towards the base in the males: *legs* moderate, stout: *femora* clavate, sometimes dentate, at others unarmed; *tibiæ* sometimes crenulated within, the apex dilated, truncate, furnished with a minute horizontal denticulation, or unarmed.

Otiorynchus to the present day contains a multitude of dissimilar insects, which however may generally be known by having the groove for the antennæ nearly straight, the rostrum somewhat longer than the head, dilated at its apex and furnished on each side with a kind of lobe or winglet; the body usually ovate, glabrous, and always apterous.

A. With the femora dentate. a. *Body ovate.*

Sp. 1. *Ligustici*. *Niger, griseo-squamosus, thorace granulato, elytris scabris, versis margines punctato-striatis*. (Long. corp. 6—7 lin.)

Cu. *Ligustici*. *Linné*.—*Otia Ligustici*. *Steph. Catal.* 172. No. 1752.

Black, clothed with griseous scales and scattered hairs: head rugose-punctate: antennæ pitchy-black: thorax with the sides considerably rounded, the disc a little convex, with an obsolete longitudinal dorsal impression, and having

Sp. 8. *ovatus*. *Niger, subnitidus, antennis pedibusque rufo-ferrugineis, fronte rostroque subtilissimè coriaceis, thorace subgloboso, rugoso, femoribus validè dentatis.* (Long. corp. 2—3 lin.)

Cu. *ovatus*. *Marsham. Otio. ovatus. Steph. Catal. 173. No. 1759.*

Black, slightly glossy: head with the vertex smooth, the forehead and rostrum flat and finely rugulose-punctate, with a few cinereous hairs: eyes brown: antennæ rufo-ferruginous: thorax very convex, subglobose, thickly crowded with elevated tubercles, frequently united and forming longitudinal wrinkles in the middle of the back, and having a few ashy-hairs: elytra above convex, with the back slightly depressed anteriorly, coarsely punctate-striate, with the interstices rugose-granulate and sparingly pubescent: legs rather long, stout, rufo-ferruginous: femora clavate, especially the anterior; all with a stout, elongate, acute tooth.

Extremely abundant in hedges, &c. throughout the vicinity of London; also in Devonshire and near Bristol. “On thistles on Crwmllyn-burrows.”—*L. W. Dillwyn, Esq.*

Sp. 9. *pabulinus*. *Fusco-ferrugineus, elytris subglobosis punctato-striatis, antennis pedibusque testaceis.* (Long. corp. 2—3 lin.)

Cu. *pabulinus*. *Panzer.—Otio. pabulinus. Steph. Catal. 173. No. 1760.*

Dusky-ferruginous, slightly shining: head dull, ferruginous, punctate: eyes black: thorax globose, with numerous more or less crowded shining elevated tubercles, and a little sprinkling of downy pubescence: elytra subglobose, gibbous, punctate-striated, the apex slightly acuminate: legs testaceous, rather long, stout: femora clavate, acutely and strongly dentate: body beneath glossy ferruginous: antennæ testaceous.

Probably an immature state of the foregoing species, but its form and sculpture appear slightly dissimilar.

Taken within the metropolitan district.

Sp. 10. *Dillwynii*. *Niger obscurus, antennis pedibusque fæcis, elytris punctato-striatis, fronte rostroque subrugosis, thorace subgloboso, medio rugoso.* (Long. corp. 3 lin.)

Pach. *Dillwynii*. *Kirby MSS.—Otio. Dillwynii. Steph. Catal. 173. No. 1761.*

Black, obscure: head obsoletely punctured, and transversely wrinkled between the eyes: rostrum longitudinally rugose: thorax very thickly granulated, subglobose, with the centre distinctly rugose: elytra punctate-striate, the punctures rather large and deep, the interstices convex, and slightly scabrous, especially on the sides: legs and antennæ pitchy-black: femora rather acutely dentate.

The only examples I have seen of this insect were captured in the vicinity of Swansea; where they were discovered by my friend, *L. W. Dillwyn, Esq.*, to whom the species is dedicated

B. Femora unarmed. a. Elytra not distinctly striated.

Sp. 11. Lima. *Oblongo-ovatus niger totus, punctis prominulis scaber.* (Long. corp. 8 lin.)

Cu. Lima. Marsham.—Otio. Lima. Steph. Catal. 173. No. 1762.

Oblong-ovate, entirely black; covered throughout with scabrous elevated points, placed somewhat regularly on the thorax, and disposed in slightly transverse wrinkles on the elytra, especially on the sides: rostrum with a longitudinal carina: abdomen ovate, rather acute behind.

Of this very remarkable insect I have hitherto seen but one specimen, which I obtained from the Marshamian collection; of its locality I am not aware.

Sp. 12. *tenebricosus. Niger, subnitidus, pedibus elongatis rufo-piceis, elytris oblongo-ovatis, obsolete striatis, apice attenuatis, thorace angusto.* (Long. corp. 4—6 lin.)

Cu. *tenebricosus. Herbst.*—Otio. *tenebricosus. Steph. Catal. 173. No. 1763.*
Cur. maritimus, var. *Donovan, xv. pl. 533. f. 2.*

Black, slightly shining: head and thorax finely coriaceous; the latter narrow, subcylindric, with the sides very slightly dilated, the disc very convex, and in recent perfect specimens, sparingly clothed with a few delicate hairs: elytra oblong-ovate, attenuated posteriorly, but the extreme apex rounded: above very convex, with some very obsolete striae composed of minute punctures, the interstices transversely, but obsoletely, rugulose, and in fine specimens more or less clothed with cinereous hairs, sometimes united into minute patches: legs elongate, rufo-ferruginous or rufo-piceous, with the tarsi dusky; the femora slender at the base and clavate towards the apex; antennæ black; rostrum thickly rugose-punctate, with a carina in the middle, obsoletely bifid in front, the apex of the rostrum deeply emarginate.

Slightly variable in colour, being sometimes rufo-piceous, with the legs paler:—the result of immaturity.

Very abundant in hedges, &c. throughout the metropolitan district, and not uncommon in the metropolis itself: also found in Devonshire, Norfolk, Suffolk, &c. “On the sand-hills (near Swansea), common.”—*L. W. Dillwyn, Esq.*

Sp. 13. *atroapterus. Niger subnitidus pedibus rufo-piceis, thorace lateribus dilatato, elytris ovatis, obtusis, obsolete sulcatis, granulatis.* (Long. corp. 4 lin.)

Cu. *atroapterus. De Geer.*—Otio. *atroapterus. Steph. Catal. 173. No. 1764.*

Black, slightly shining: head short, finely punctured, with a small impression between the eyes: thorax with the sides rounded and dilated, above convex and slightly pulvinate, with a transverse impression at the base and apex,

the disc finely punctured, and having some minute griseous hairs: *elytra* ovate, obtuse, very convex, *obsoletely sulcate*, and the entire surface covered with minute elevations, and some delicate cinereous hairs: legs rather long, stout, rufo-piceous: femora very stout: rostrum thickly rugose-punctate, with an elevated carina not reaching to the apex, which latter is scarcely emarginated: antennæ black.

Common on most of the coasts of England, and on those of Wales. "Babbicombe-cliffs, in abundance."—*Marsham MSS.* "Not uncommon on the sand-hills (near Swansea)."—*L. W. Dillwyn, Esq.* "Tynemouth."—*G. Wailes, Esq.* "Barmouth."—*Rev. F. W. Hope and C. Darwin, Esq.*

Sp. 14. ater. *Niger, pedibus rufis, tarsi genibusque nigris, thorace angusto, elytris rugosis, obsoletissime sulcato-punctatis.* (Long. corp. $3\frac{1}{2}$ lin.)

Cu. ater. *Herbst.*—*Otio. ater.* *Steph. Catal. p. 173. No. 1765.*—*Cu. maritimus.* *Donovan, xv. pl. 533. f. 1.*

Black; head very finely punctured, with the forehead depressed: rostrum thickly and finely punctulate, with the apex a little emarginate, above with an elevated carina, bifid at the tip: thorax narrow, finely rugose-punctate, with a delicate pubescence on the sides: *elytra* very *obsoletely sulcate*, the sulci with slightly impressed broad punctures, and the interstices narrow and transversely rugose, especially towards the sides: legs rather long, stout, rufescent; femora stout, clavate, with the apex black; tarsi also black: antennæ black, with ashly down.

Less abundant than the last, but found also on several of the coasts. "On the coast of Cornwall, by Mip-hill."—*Marsham MSS.* "Common on the sand-hills (near Swansea)."—*L. W. Dillwyn, Esq.* "Sea-shore, Cramond."—*Rev. W. Little.*

Sp. 15. lævigatus. *Niger nitidus, antennis pedibusque piccis, thorace subtilitèr punctulato, elytris subtilissime punctato-striatis posterius angustatis, rostro non carinato.* (Long. corp. $3\frac{1}{2}$ lin.)

Cu. lævigatus. *Fabricius.*—*Otio. lævigatus.* *Steph. Catal. p. 173. No. 1776.*

Black, shining: head glabrous, finely punctate: suture thickly rugose-punctate, not carinated, with the apex emarginated: thorax rounded and dilated on the sides, the disc very convex, glossy, glabrous, thickly punctate, the sides and beneath finely granulated: *elytra* very convex, shining, and glabrous, very delicately punctate-striate, with the interstices flat and very obscurely, but thickly and irregularly punctured: legs elongate, black, or dull rufo-piceous; tibiae curved and scabrous: tarsi slightly pubescent.

Apparently rare: I possess three examples from the coast of

nearly so, aphidivorous:—some few subsist upon fungi, and others (as those of the *Halticæ*) are extremely injurious to the agriculturist by destroying the seminal leaves of the plants immediately they appear above the surface, sometimes devastating whole acres by their numbers.

Subsection I.—EUPODA, *Latreille*.

Body generally elongate: *antennæ* not longer than the head and thorax, sub-filiform, the terminal joints sometimes a little incrassated: *labium* mostly entire: *mandibles* entire at the apex or bifid: *maxilla* with the outer lobe thickened and entire: *eyes* simple, sometimes a little emarginate: *head* deeply inserted in the *thorax*, the latter mostly cylindric, or subquadrate, narrower than the *elytra*, which are elongate, sometimes depressed: *legs* moderate: *femora*, especially the posterior, more or less clavate, and elongate, sometimes dentate: *tibiæ* simple, with spurs at the apex: *tarsi* tetramerous, rather short, the penultimate joint bilobed, the lobes elongate.

The indigenous species of this subsection compose

FAMILY XLIX.—CRIO CERIDÆ, *Leach*.

Which may be distinguished by the above characters, and contains the following British genera:

<i>Antennæ</i> articulis fere omnibus elongatis.			
<i>Elytra</i> haud mucronata:	.	.	386. DONACIA.
mucronata:	.	.	387. MACROPALÆA.
articulis brevibus.			
<i>Palpi</i> maxillares filiformes:	.	.	389. CRIOCERIS.
extrorsum crassioecs.			
<i>Thorax</i> glaber, haud tuberculatus:	.	.	388. ORSODACHNA.
utrinque tuberculatus:	.	.	390. ZEUGOPHORA.

GENUS CCCLXXXVI.—DONACIA, *Fabricius*.

Antennæ approximating, with nearly all the articulations elongate; much longer than broad, subcylindric, or conic-cylindric, with the basal joint longer and stouter, and obconic, the second abbreviated. *Palpi* four, filiform: *mandibles* bifid at the apex: *maxilla* membranaceous, bilobed: *labium* with the superior margin entire: *head* porrect, united to the thorax by a distinct neck: *eyes* prominent, semiglobose, entire: *elytra* subtrigonal, narrowed behind, and often truncate at the apex: *femora* elongate-clavate, especially the posterior, which are frequently dentate: *tarsi* short: *body* generally adorned with brilliant metallic colours.

Also very abundant throughout the south of England. "Ely."
Rev. L. Jenyns. "Epping."—*Mr. Doubleday*.

b. With the legs pale.

Sp. 15. *rustica*. *Nigro-fusca aut virescenti-anea, antennis ano pedibusque rufis, elytris crenato-striatis, apice rotundatis.* (Long. corp. 3—4 lin.)

Do. rustica. *Schüppel*.—*Steph. Catal.* 208. No. 2110.

Male fuscous-black: *female* greenish-brass; both sexes with the antennæ rufous: mouth also rufous: thorax rather broad, finely punctulated, the anterior angle rounded, the disc with a dorsal furrow, and a fovea on each side: elytra punctate-striate, with the interstices transversely rugose: apex of abdomen and legs rufous; posterior femora with an acute tooth, stoutest and longest in the male.

Not very common, but found in various parts of England, in the neighbourhood of London, Whittlesea-mere, Devonshire, near Bristol, &c. "Battersea-fields."—*Mr. Ingpén*. "Cambridge."—*Mr. G. Waterhouse*. "Weston."—*Rev. A. H. Matthews*.

Sp. 16. *nigra*. *Antennis ano pedibusque rufis, capite atro-aneo, thorace carule-scente subcordato, elytris atro-aneis, punctato-striatis, interstitiis transversim rugosis, femoribus posticis obtuse dentatis.* (Long. corp. 5—6 lin.)

Do. nigra. *Fabricius*.—*Steph. Catal.* 208. No. 2111.

Head brassy-black: thorax subcordate, bronzed blue, with the anterior angles slightly prominent; the disc with a dorsal channel, becoming obsolete in front, and terminating in a fovea behind: elytra rather deeply punctate-striated, the interstices a little raised and rather deeply wrinkled transversely, the apex of each rounded, brassy-black, or a little tinted with bluish on the lateral margins: legs rather long, rufous: antennæ also rufous, as well as the apex of the abdomen, and the margins of each segment.

Also moderately common: found occasionally in the marshes about Woolwich and Battersea, Fulham, &c. "Southend."—*Rev. F. W. Hope*. "Near Cambridge."—*C. Darwin, Esq.* "Epping."—*Mr. Doubleday*. "Whittlesea."—*Rev. A. H. Matthews*.

B. With the posterior femora simple.

Sp. 17. *Menyanthidis*. *Elongata, supra viridi-anea nitida, subtus argenteo-sericea, antennis extrorsum pedibusque rufo-ferrugineis, elytris crenato-striatis, interstitiis transversim rugosis.* (Long. corp. 5—6½ lin.)

Do. Menyanthidis. *Fabricius*.—*Steph. Catal.* 208. No. 2112.—*Le. simplex Martyn, C. pl.* 28. f. 25.

Elongate, slightly depressed; above of a shining brassy-green, beneath clothed with a silvery down: head finely punctured, with a deep frontal channel: thorax with a deep impression on the middle of each side, an obsolete dorsal

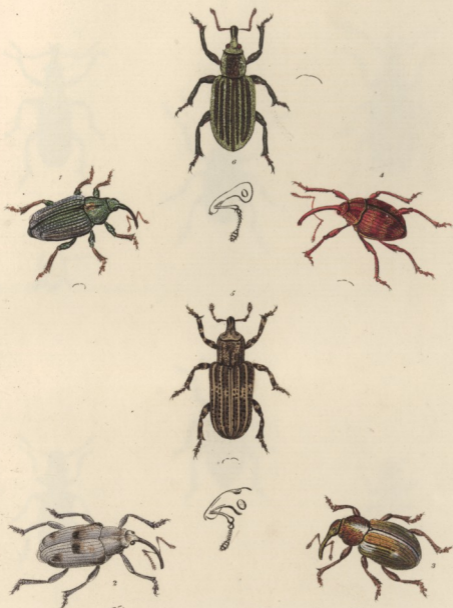
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ERRATA.

- Page 1, line 4 from bottom, for *Brachelytra*, read *Brachelytra*.
 3, — 39, for *biungulato*, read *biungulato*.
 3, — 36, for *CEUTORHYNCHA*, read *CEUTORHYNCHUS*.
 3, — 43, for *canaliculum*, read *canaliculam*.
 4, — 31, for 2-tio, read 3-tio.
 5, — 7, for *NEMOIC*, read *NEMOICUS*.
 6, — 6, for third, read second.
 9, — 13, for *indigneous*, read *indigenous*.
 92, — 3, for joints, read joint.
 159, — 4, for 1672*, read 1862*.
 176, — 1, for *caliginosus*, read *caliginosum*.
 179, — 4, for *piloso-subricans*, read *piloso-subricansum*.
 207, — 19, for *PHLOEBIUS*, read *PHLOBOBIUS*.
 228, — 10, } for *APLOCNEMIA*, read *APHELOCNEMIA*.
 236, — 10, }
 267, — 23, for *MACROPALEA*, read *MACROPLEA*.
 277, — 17, for *hos*, read *has*.
 283, — 14, for *ODONTOCNEMA*, read *CHETOCNEMA*.
 285, — 33, for 4-maculate, f. 5, read 4-maculate, f. 6.
 286, — 25, for f. 6, read f. 5.
 357, — 26, for with the elytra, read with the thorax.
 363, — 17, for *obscura* read *obscurus*.
 364, — 14, for *rugose* read *rugosæ*.

END OF VOL. IV.



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W. Woodcut.



L. Woodward del.

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G. Scudder sc.



3



7



2



4



5



6



L. Waterwood del.

London. Published by J. E. Stodart, St. Oct. 1831

C. Weyland sc.

ILLUSTRATIONS
OF
BRITISH ENTOMOLOGY;

OR, A

Synopsis of Indigenous Insects:

CONTAINING

THEIR GENERIC AND SPECIFIC DISTINCTIONS;

WITH

AN ACCOUNT OF THEIR METAMORPHOSES, TIMES OF
APPEARANCE, LOCALITIES, FOOD, AND ECONOMY,
AS FAR AS PRACTICABLE.

BY JAMES FRANCIS STEPHENS, F.L.S.

MEMBER OF THE ZOOLOGICAL SOCIETY, ETC.

EMBELLISHED WITH COLOURED FIGURES OF THE RARER AND
MORE INTERESTING SPECIES.

MANDIBULATA.

VOL. V.

"In his tam parvis tamque ferè nullis quæ ratio! quanta vis! quam inextricabilis
perfectio!"—*Plin.*

"Finis Creationis Telluris est gloria DEI, ex opera Naturæ, per Hominem
solum."—*Linné.*

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1832.

the anterior tarsi dilated, compressed, and with very minute acetabuli beneath: stature moderate, slightly convex, colour generally obscure. Erichson divides this genus into five sections, viz.:-

§ 1. With the basal joint of the posterior tarsi ciliated beneath in the males. (Species 11 to 16 of 2d edit. of Nomenclature.)

Sp. 16. Col. cyaneus. *Steph. Nomen. 2d edit. col. 17.*—*Oblongo-ovatus niger, subdepressus, elytris lævissimis strigis tribus irregularibus punctorum impressorum, internè nigro-cyaneis, margine piceo, tibiis tarsisque piceo-ferrugineis.* (Long. corp. $3\frac{1}{4}$ lin.)

Oblong-ovate, slightly depressed, black; elytra very smooth, with three striæ composed of very irregularly-placed punctures, and at the apex some scattered ones; the disc within bright blackish-blue, shaded off towards the margins to pitchy; tibiæ and tarsi pitchy-red.

Taken near London.

§ 2. With the two basal joints of the posterior tarsi ciliated beneath in the males. (Species 17 to 19 Nomen. 2d edit.)

Sp. 19. Col. branchiatus. *Loudon, Mag. Hist. Nat. (Babington) v. v. p. 329.*—*Steph. Nomen. 2d edit. col. 17.*—*Oblongo-ovatus, subconvexus, niger, subtilissimè punctato-strigosus, antennis ferrugineis, pedibus fuscis, elytrisque lineolâ obsolete fenestratâ.* (Long. corp. 3 lin.)

Oblong-ovate, slightly convex, black; the surface very finely punctate-strigose; antennæ ferruginous; legs fuscous; elytra with an obsolete transparent line.

Taken in North Wales by C. Darwin, Esq.

§ 3. With the three basal joints of the posterior tarsi ciliated beneath in the males. (Sp. 20 to 24 Nomen. 2d edit.)

§ 4. With the four basal joints of the posterior tarsi dilated beneath in the males. (Sp. 25 to 31 Nomen. 2d edit.)

Page 79. Sp. 30. Col. ferrugineus. This insect has been taken near "Caernarvon."—*C. C. Babington, Esq.*

§ 5. With all the joints of the tarsi ciliated beneath in the males. (Sp. 32 to 36 Nomen. 2d edit.)

Page 80. Sp. 36. Col. Snowdonius. *Entom. Mag. (Newman) v. i. p. 55.*—*Nigro-æneus, lævis, capite posticè punctis duobus ferrugineis, antennis pedibusque piccis.* (Long. corp. 6 lin.)

Blackish-brass, smooth; head behind with two rusty dots; antennæ and legs pitchy; elytra finely strigose, with three obscure elevated lines.

Probably a variety of *Co. bipustulatus*.

Taken on Snowdon by Mr. Newman, who kindly supplied me with the species.

— ILYBIUS, *Erichson.*

Labial palpi with the second joint nearly equal in length with the third;

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