

VIII. *Characters of undescribed Lucanidæ, collected in China, by R. Fortune, Esq.* By W. WILSON SAUNDERS, Esq., F.R.S., &c.

[Read 3rd April, 1854.]

THE *Lucanidæ* formed a very marked portion of the *Coleoptera* collected in China by Mr. Fortune during his last interesting travels through the tea districts of that country. Looking to the number of species he procured, it would appear that the tea districts of China are very rich in this remarkable family, and bear in this respect a strong resemblance to the high lands of India, and especially Assam, from whence Entomologists have derived so many fine species, and which seems to be quite the head quarters of the family *Lucanidæ*. Some of the species collected by Mr. Fortune are identical with species already described from India, while others appear to be altogether new to Entomology; and it is the object of the present paper to place before the Entomological Society the characters of these latter, with figures, from the pencil of Mr. Westwood. From Mr. Fortune's exertions during his present travels in China it is to be hoped that the list of new species of *Lucanidæ* will be considerably augmented, although the first lot of insects which have been received from him does not contain any novelties in this family. It has, however, been instructive in furnishing long series of specimens illustrating species which had before been found only very sparingly. In determining the species I have received great assistance from my friend F. S. Parry, Esq., and for which I have great pleasure in tendering him my best thanks.

SPECIES DESCRIBED.

LUCANUS, Lin.

1. *L. Fortunei* ♂ and ♀, Parry, MSS.

CLADOGNATHUS, Burm.

2. *C. gracilis* ♂, W. W. Saunders.

ODONTOLABRIS, Hope.

3. *O. nitidus* ♂, W. W. Saunders.
4. *O. sinicus* ♂ and ♀, Reiche, MSS.
5. *O. emarginatus* ♂ and ♀, Reiche, MSS.

PLATYPROSAPUS, Hope.

6. *P. platymelus* ♂, W. W. Saunders.
7. *P. Hopei* ♂, W. W. Saunders.

DORCUS, MacLeay.

8. *D. striato-punctatus* ♂, W. W. Saunders.
9. *D. vicinus* , W. W. Saunders.
10. *D. obscurus* ♀, W. W. Saunders.
11.? *D. lateralis* ♀, W. W. Saunders.
12.? *D. striatus* ♀, W. W. Saunders.

ÆGUS, MacLeay.

13. *Æ. lævicolle* ♂, W. W. Saunders.
14. *Æ. punctiger* ♂, W. W. Saunders.

All the species described in this paper are in the Collection at the British Museum, and most of them will also be found in the Collection of F. S. Parry, Esq., as well as in my own Collection.

Sp. 1. *Lucanus Fortunei*, Parry, MSS. (Pl. III. figs. 1 and 2.)

Dark chesnut. ♂ with the head much enlarged, transverse, subquadrangular, flattened above, broader than the thorax, having the anterior margin nearly straight, the lateral and posterior margins emarginate, the anterior angles produced into a truncated point, and the posterior angles much rounded; the upper surface minutely granulated. Mandibles long, and curved inwards; armed on the inner edge with a number of minute teeth, and two larger teeth, one near the apex, pointing downwards, and the other a little beyond, having a horizontal direction. Antennæ long and slender, abruptly clavate; clava 4-jointed. Thorax transverse, subquadrate, darker chesnut than the rest of the body, rugose punctate. Scutellum small, broad at the base, rounded at the apex. Elytra broader than the thorax, subovate, finely punctured, with the suture shining; underside of the body subpubescent, finely punctured. Legs long and slender. The posterior and middle femora longitudinally margined in front with red brown; the anterior tibiæ with four to five teeth externally; the middle and posterior tibiæ with two slight teeth similarly situated.

Length 2 inches, head $\frac{6}{10}$ inch broad. Mandibles $\frac{6}{18}$ inch long.

♀ of the same colour as the ♂, with the head small, transverse, subquadrate, rugose punctate above. Mandibles short, curved, stout, with a broad projecting tooth internally, near the apex. Thorax transverse, with the lateral margins rounded, anterior

and posterior margins nearly straight, and having the posterior angles emarginate. Legs shorter and stouter than in the ♂. In other respects as the ♂.

Length $1\frac{1}{10}$ inch.

This appears a very distinct species; and in the full-grown insect not subject to much variation. It has been received from Mr. Fortune in some abundance, and is probably a common insect in the hill districts.

Sp. 2. *Cladognathus gracilis*, W. W. Saunders. (Pl. III. fig. 3.)

Dark pitchy brown, with the elytra dark chesnut brown. ♂ with the head subquadrate, not quite so broad as the thorax, rather narrower posteriorly, with the anterior margin somewhat emarginate; upper surface shallowly excavated between the eyes, and finely granulated. Mandibles long, deflexed and slender, curved inwardly towards the apex, and having on the interior margin six to eight minute teeth, and one larger in the midst, placed near the centre. Antennæ rather long, slender; clava 4-jointed, ovate, elongate. Thorax transverse, the lateral margins rounded, and the hinder margin, with the angles, slightly truncate; above convex, finely granulated. Scutellum small, semi-ovate, pointed at the apex. Elytra about as broad as the thorax, rounded at the apex, with the sides nearly parallel, smooth, very finely granulated. Under surface of the body dark pitchy brown. Legs rather long and slender. The anterior pair, with the tibiæ, striatopunctate, and having on the outer margin a number of small teeth, irregular in size and position, but the four nearer the apex largest, and the two anterior ones spreading and curved downwards. The intermediate and posterior tibiæ unarmed externally.

Length $1\frac{7}{10}$; mandibles $\frac{6}{10}$ inch.

This is a well marked species; with the head in the male very large, and the legs very long and thin. Some specimens I have recently seen from Mr. Fortune are somewhat larger, and have the head broader in proportion than the one described.

Sp. 3. *Odontolabris nitidus*, W. W. Saunders. (Plate IV. fig. 1.)

Shining black. ♂ Head transverse, subquadrate, with the anterior angles prominent, caused by a sharp flattened ridge crossing the eyes horizontally, and the anterior margin slightly emarginate: upper portion rounded, flattened between the eyes, with the surface opaque, and very finely granulated. (Mandibles wanting in all the specimens sent home.) Thorax broader than the head, sub-

quadrate, transverse, rather broader posteriorly, the lateral margins smooth and somewhat rounded; the posterior margin straight and the posterior angles bevelled off; the upper surface convex, very finely granulated, shining. Scutellum minute, triangular. Elytra about as broad as the thorax, ovate truncate, with the lateral margins slightly reflexed, and the upper surface convex and very shining. Legs robust, having the anterior tibiæ broad and flattened, with six well-defined teeth on the outer margin, and the upper and under surfaces striato-punctate. The middle and posterior tibiæ sub-cylindrical, striato-punctate, with only one apical tooth. Tarsi rather long and slender. Underside of body shining black.

Length, without mandibles, $1\frac{5}{10}$ inch.

The elytra of this species are remarkably smooth and shining, a character which at once catches the eye. Every specimen sent home had the mandibles wanting, apparently pulled out from their sockets. Mr. Fortune could give me no account of the cause of this deficiency. The *O. glabratus* of De Hahn is very closely allied to this species.

Sp. 4. *Odontolabris sinicus*, Reiche, MSS. (Pl. IV. figs. 2 & 3.)

Dark chesnut. ♂ with the head transverse quadrate, and the anterior angles prominent, caused by a thin horizontal ridge crossing the eyes, and having the anterior margin slightly emarginate, with the upper surface flattened, finely granulated and opaque; dark rusty brown. Mandibles short, stout, straight, about as long as the thorax, slightly curving upwards, with three blunt teeth on the inner margin, and a blunt broad tooth on the upper edge, near the apex, black brown. Thorax much broader than the head, transverse, rather broader posteriorly, with the lateral margins rounded and smooth, the anterior margin emarginate, and the posterior nearly straight, curving forwards near the angles, dark rusty brown, rounded above, the surface finely granulate and opaque. Scutellum small, semi-ovate. Elytra ovate truncate, the surface smooth, opaque; the suture shining, and the lateral margins slightly reflexed, regularly convex; dark chesnut brown. Legs pitchy brown, rather long, with the fore tibiæ flattened, and having six strong teeth on the outer margin, the upper surface coarsely striato-punctate: the middle and posterior tibiæ sub-cylindrical, with one apical tooth, and the surface striato-punctate. Tarsi stout. Underside of body dark chesnut brown, somewhat shining.

Length $1\frac{2}{10}$ inch.

The ♀ differs little from the ♂ except in the smaller size, and less quadrate shape of the head, and in the shorter mandibles, which have but little inclination upwards, and furnished internally but with two teeth.

A very nearly allied species to this (*O. castanopterus*) occurs in India, but differs in having the mandibles not so long, and nearly horizontal, as well as in the shining surface of the elytra, and in the colour of the same being bright chesnut.

Length $1\frac{1}{10}$ inch.

Sp. 5. *Odontolabris emarginatus*, Reiche, MSS. (Pl. III. figs. 4 & 5.)

Black. ♂ with the head transverse, subquadrate, emarginate in front, with a strong blunt tooth on each side behind the eyes, convex above, opaque, finely granulated. Eyes crossed horizontally, with a narrow sharp ridge projecting from the forepart of the head. Mandibles, when fully developed, nearly as long as the head and thorax, strongly bowed inwards, forming when closed the shape of a circle or blunt oval, nearly of equal size throughout their length, with one stout blunt tooth at the base; the apex truncate, and having four minute teeth in the truncated portion. Antennæ rather long and expanded. Thorax somewhat broader than the head, subquadrate, transverse, rather broader posteriorly, the lateral margins smooth, the anterior margin curving forwards in the centre, and the hinder margin curved in the opposite direction, and having a shallow notch just before the hinder angles; convex above, very finely granulated, opaque. Scutellum minute, subtriangular. Elytra of the same breadth as the thorax, semi-ovate, with the lateral margins slightly reflexed, and with the upper surface convex, very finely punctato-granulate and opaque. Legs rather long, with the fore tibiæ flattened and expanded at the apex, armed externally with a row of about seven small equidistant teeth on the outer margin; middle and posterior tibiæ subcylindrical, with a longitudinal broad furrow on the upper side, and only armed with a single tooth at the apex. Underside of body rather shining; abdomen pitchy brown.

♀ scarcely differing from the ♂, except in being smaller, and in the shape of the mandibles, which are short, stout, about as long as the head, nearly straight, slightly incurved at the apex, and armed internally with a row of seven or eight small irregular blunt teeth.

Length, ♂, large specimen, $1\frac{7}{10}$ inches (mandibles $\frac{4}{10}$); small specimen, $1\frac{3}{10}$. ♀ $1\frac{1}{10}$.

A neat and well-marked species. The ♂ varies much in the

length of the mandibles, which, at times, are almost as short as those of the ♀. They have, however, always the same conformation at the apex, which is a good distinguishing character.

Sp. 6. *Platyprosopus platymelus*, W. W. S. (Pl. III. fig. 7.)

Pitchy black, with the tibiæ pitchy brown. ♂ Head very broad, transverse, quadrangular, the anterior margin slightly emarginate; upper surface rather coarsely granulated, nearly flat. Mandibles horizontally porrect, robust, nearly straight, curved inwards towards the apex, gradually tapering, armed internally with one large tooth near the base, and a number of (8 or 9 nearly equal) smaller ones, placed at regular intervals, on the straight portion, and one small one on the curved portion. Antennæ rather robust, with the clava small, 4-jointed; first joint small, armed internally with a curved spine-like projection. Labium large, transverse, rounded in front, uniform brown. Eyes small, nearly divided into two portions, with an elevated projecting, horizontal ridge of the head, dark shining chesnut. Thorax transverse, rather broader than the head, nearly quadrangular, with an obtuse tooth about the middle of the lateral margins, nearly flat above, finely granulated. Scutellum small, semioval, pointed at the apex. Elytra nearly as broad as thorax, semioval, with the shoulders prominent, smooth and shining. Legs moderate in length, robust. Anterior tibiæ striate and finely punctate, armed externally with a row of 10 to 12 small teeth. Intermediate and posterior tibiæ with one pointed tooth on the outer margin, and three short robust teeth at the apex. Underside of body finely punctured, shining.

Length $2\frac{1}{2}$ inches. Mandibles $\frac{7}{10}$ inch.

A species nearly allied to the *Plat-Westermanni*, Hope, but differs in the head being more quadrate and less transverse, and also in the mandibles, which are nearly truncated, and not curving downwards as in that species.

Sp. 7. *Platyprosopus Hopei*, W. W. S. (Plate III. fig. 8.)

Pitchy black. ♂ with the head very broad, transverse, sub-quadrangular, slightly restricted near the thorax, the anterior margin somewhat emarginate, and the anterior angles excavated for the insertion of the mandibles, and each with a blunt point on the upper part. Upper surface flattened, finely granulated. Mandibles strong, incurved, horizontally porrect, with one strong tooth about the middle, inclining upwards, longer than the thorax.

Thorax transverse, subquadrate, rather broader than the head, the anterior angles prominent, the posterior somewhat rounded, and having a broad shallow tooth on the lateral margins, near the middle; upper surface very finely granulated, slightly and regularly convex. Scutellum rather small, cordato-triangular. Elytra semiovalate, rather narrower than the thorax, the shoulders prominent, nearly straight at the base, the margins slightly reflexed, the surface regularly but slightly convex, somewhat shining, nearly smooth. Legs moderate—the anterior tibiæ with 10 to 12 small, blunt, irregular teeth on the outer edge, the middle pair with one small tooth in the middle of the outer edge—the posterior pair edentate. Tarsi stout.

Length $1\frac{3}{10}$ inch. Mandibles $\frac{6}{10}$ inch.

A nearly allied species to the foregoing, but differing in the shape of the head and mandibles in the ♂.

Sp. 8. *Dorcus striato-punctatus*, W. W. S. (Plate IV. fig. 5.)

Black, somewhat shining. ♂ Head subquadrate, transverse, the sides curving slightly outwards, caused by an horizontal ridge crossing the eyes; somewhat emarginate in front, with a broad, slightly projecting protuberance in the emargination, having a notch in the centre; upper surface deeply and coarsely punctate, the vertex with an obscure shallow depression. Mandibles shorter than the head, incurved, rather slender, with one blunt tooth projecting upwards on the upper side, near the base. Antennæ rather long and stout. Thorax rather broader than the head, subquadrate, transverse, the fore angles produced, the sides slightly curving outwards, and the posterior angles rounded—regularly convex, smooth on the disk, punctate towards the sides. Scutellum small, semiovalate, pointed, deeply punctate. Elytra of the same width as the thorax, semiovalate, elongate, with 13 nearly equi-distant, deeply punctate, longitudinal striæ, the striæ somewhat closer as they approach the side, and the punctures there nearly confluent. Legs moderate; fore tibiæ somewhat flattened, striato-punctate, with 7 or 8 short blunt teeth on the outer margin; middle and posterior tibiæ sub-cylindrical, each with one small apical tooth, and the former with one small tooth placed centrally on the outer margin. Femora, on the underside, pitchy brown. Tarsi moderate. Underside of body deeply punctate.

Length $1\frac{1}{10}$ inch.

Sp. 9. *Dorcus vicinus*, W. W. S. (Plate IV. fig. 9.)

Black, shining. ♂ Head subquadrate, transverse, the fore

angles rounded; anteriorly emarginate, with a broad straight elevation in the emargination, extending from the base of one mandible to the other—the sides slightly curving outwards, and the eyes half-crossed horizontally by a thin sharply-edged plate; flattened above, opaque, and very finely granulated. Mandibles rather longer than the head, incurved, rather slender, sharp pointed, and having one broad tooth projecting inwards from the upper margin near the base. Thorax subquadrate, transverse, broader than the head; the posterior angles rounded, and slightly so the anterior; regularly convex above, shining, very finely granulated. Scutellum transverse, minute, semiovate, pointed. Elytra not quite so broad as the thorax, semiovate, elongate, shoulders prominent; very shining, nearly smooth, minutely punctured. Legs moderate, the anterior tibiæ somewhat flattened, and broader at the apex; punctato-striate above, having at the apex two teeth, and along the outer edge a row of 8 to 10 teeth like serratures; middle tibiæ subcylindrical, with one small, central, pointed tooth on the margin; posterior tibiæ subcylindrical, without teeth. Tarsi moderate. Underside of body shining.

Length $1\frac{3}{10}$ inch.

The *D. cognatus* of Hope bears a close relationship to this species, but differs in the larger size and shape of the mandibles.

Sp. 10. *Dorcus obscurus*, W. W. S. (Plate IV, fig. 7.)

Black, opaque. ♀ Head subsemicircular; slightly emarginate in front, with a shallow protuberance in the centre of the emargination, the eyes crossed horizontally with a sharp flat ridge, which there causes a prominence; convex above, rugoso-punctate, with two broad, obscure, slight elevations on the centre of the vertex, which are smooth. Mandibles short, blunt, nearly straight, with a broad blunt tooth on the inner edge, and a slight rounded elevation on the upper side, near the base. Antennæ moderate. Thorax broader than the head, subquadrate, transverse; the anterior angles prominent, the sides slightly curving outwards; the posterior margin straight, with the angles rounded; convex above, nearly smooth, except near the sides, which are punctate. Scutellum small, semiovate. Elytra of the same breadth as thorax, and about twice as long, rounded at the apex, the sides nearly parallel, the shoulders rather prominent, and the sides slightly reflexed; regularly convex above, the surface punctate and obscurely striate, each elytron with 9 longitudinal striæ running in equidistant and close pairs, except the stria near the suture. Legs moderate; the anterior tibiæ somewhat flattened, without

teeth, striato-punctate above; the middle and posterior tibiæ subcylindrical, punctato-striate, with a sharp tooth externally. Tarsi moderate.

Length $1\frac{2}{10}$ inch.

This female is probably a true *Dorcus*.

Sp. 11. *Dorcus? marginalis*,* W. W. S. (Pl. IV. fig. 6.)

Black, with the margins of the elytra obscure pitchy brown. ♀ Head subquadrate, transverse, slightly contracted behind the eyes, with a slight rounded projection in the centre of the front, the eyes crossed horizontally by a sharp flat ridge; the upper surface convex, deeply rugoso-punctate. Mandibles short, rather slender, horizontally porrect, slightly incurved, with one strong tooth on the centre of the inner edge, and a blunt tooth on the upper surface, near the base. Antennæ rather short, robust. Thorax broader than the head, subquadrate, transverse, the lateral margins slightly curved outwards; the posterior margin straight, with the angles rounded; upper surface convex, shining, smooth on the disk, deeply punctate on the sides. Scutellum small, subtriangular. Elytra about as broad as thorax, semiovate, elongate, the shoulders prominent; regularly convex, shining, smooth on the portion adjoining the suture, but deeply and coarsely punctate along the sides. Underside of the body shining. Legs short, robust, with the fore tibiæ flattened, striato-punctate above, and having a row of about 10 smaller regular blunt teeth on the outer edge; middle and posterior tibiæ subcylindrical, striato-punctate, each with an apical tooth, and another sharply-pointed tooth on the outer edge, a little below the middle. Tarsi short, stout.

Length $1\frac{1}{2}$ inch.

A ♀ provisionally placed in the genus *Dorcus*.

This ♀, except in the much larger size and the nature of the teeth on the fore tibiæ, comes very close to the ♀ of *Dorcus lateralis*, of Dej. Cat., from the island of Java.

Sp. 12. *Dorcus? striatus*, W. W. S. (Plate IV. fig. 4.)

Black, shining. ♀ Head sub-semicircular, the eyes crossed horizontally, with a sharp ridge, which there causes a prominence, slightly emarginate in front, with a slight protuberance in the emargination; convex above, deeply and coarsely rugoso-punctate, with a depression just above each eye, and in the centre of the

* In the list of species at the commencement of this paper the name of *lateralis* must be altered to *marginalis*.

vertex two pointed elevations placed near each other. Mandibles shorter than the head, thin, slightly incurved, with one tooth on the inner edge, and a slight elevation on the upper portion, near the base. Antennæ moderate. Thorax broader than the head, transverse, subquadrate, the sides slightly curved outwards, the posterior margin nearly straight, with the angles slightly rounded; upper surface regularly convex, punctate, the punctures being widely spread on the disk, close together near the sides. Scutellum small, ovato-triangular. Elytra as broad as thorax, semi-ovate, elongate, the shoulders rather prominent, the lateral margin slightly reflexed; regularly convex, each elytron with 9 longitudinal punctate striæ placed somewhat equi-distant, in pairs, except the one near the suture, the spaces between the striæ being more or less punctate, the punctures much prevailing near the sides. Legs moderate; the anterior tibiæ flattened, punctato-striate above, and with a row of about 12 small teeth on the outer edge; the middle and posterior tibiæ subcylindrical, striato-punctate, each with a small central tooth externally, and one at the apex. Tarsi stout.

Length $1\frac{1}{2}$ inch.

Another ♀, which I place provisionally in the genus *Dorcus*, although I do not feel at all sure that this is its proper place—time will show.

Sp. 13. *Ægus lævicolle*, W. W. S. (Plate IV. fig 8.)

Black and shining. ♂ with the head broad, quadrate, slightly emarginate in front, the sides with a slight notch, just in advance of the horizontal plate crossing the eye, and another where the plate terminates; flattened above, and somewhat sunk between the eyes, opaque, finely granulated. Mandibles incurved, sharp pointed, longer than the thorax, broad at the base, where there is a small tooth, and another on the upper margin, broad, triangular, incurved, placed a little below the centre. Thorax a little broader than the head, quadrate, transverse; the anterior angles acute; the posterior slightly rounded; regularly convex above, the centre with a broad depressed longitudinal line of deepish punctures, the disk nearly smooth, and the sides with a few deep distant punctures. Scutellum minute, broad and rounded at the apex. Elytra as broad as the thorax, and about twice as long, the sides nearly parallel, the apex rounded; with nine elevated, rounded, longitudinal ridges on each elytron, and deep furrows between, the surface of the ridges slightly punctate, and the lateral margins rough, with minute crenulations. Legs short, with the fore tibiæ flattened

and expanded towards the apex, striato-rugose above, with a series of small irregular teeth along the outer margin, and two larger teeth at the apex. The middle and posterior tibiæ sub-cylindrical, rugoso-striate, with one small stout tooth about the centre of the outer margin, and two small, more pointed teeth at the apex, placed close together. Underside of body pitchy brown, punctate.

Length $\frac{9}{10}$ inch.

This species somewhat resembles *E. chelifer* of Mac Leay, which differs in the deeper sulcation of the elytra, and in the shape of the mandibles, with only a tooth at the base.

Sp. 14. *Ægus punctiger*, W. W. S. (Pl. III. fig. 6.)

Black. ♀ with the head small, transverse, semicircular; constricted behind the eyes slightly, in front with a slightly projecting bidentate lobe, and a sharp-edged lateral plate crossing the eyes, notched near the centre of each eye; rounded above, coarsely punctured and shining. Mandibles shorter than the head, slightly incurved, with a sharp-cutting plate internally from the apex to about half the length, projecting in the shape of a broad triangular tooth. Antennæ moderate. Thorax quadrate transverse, with the fore angles acute, the sides slightly rounded outwards and the posterior angles somewhat rounded; regularly convex above, with a slight longitudinal central depression on the disk, deeply and coarsely punctured. Scutellum small, transverse, rounded at the apex. Elytra as broad as the thorax, with the sides nearly parallel, elongate, rounded at the apex, each elytron with five slightly elevated rounded longitudinal ridges, including the sutural ridge, and five flattened intervening spaces, the spaces divided from the ridges by a well-marked stria, the whole deeply and closely punctate, excepting the sutural ridges; somewhat shining and with a brownish tinge. Legs moderate, with the fore tibiæ flattened, and expanded towards the apex, striato-punctate above, with about six well-marked nearly equidistant teeth in the outer margin. Middle and posterior tibiæ hirsute, sub-cylindrical, striato-punctate, with three teeth on the outer margin before the centre and three at the apex, the latter having the marginal teeth less defined. Underside of body shining, coarsely punctate.

Length $\frac{7}{10}$ inch.

This species appears to be rare, as very few specimens have been sent home.
