

March 11, 1851.

J. E. Gray, Esq., F.R.S., in the Chair.

The following papers were read :—

1. A FEW WORDS ON THE SYNONYMY OF *DISTICHOCERA*, A GENUS OF LONGICORN COLEOPTERA FROM NEW HOLLAND, WITH CHARACTERS OF THREE SPECIES SUPPOSED TO BE UNDESCRIBED. BY EDWARD NEWMAN, F.L.S. ETC.

(Annulosa, Pl. XX.)

Among the invaluable labours of the late Mr. Kirby, none are more useful to the general entomologist than his lucid and masterly descriptions of new and remarkable forms of exotic Coleoptera; and of these, none afford to myself so much instruction and pleasure as that entitled "A Description of several New Insects collected in New Holland by Robert Brown, Esq.," and published in the twelfth volume of the 'Linnean Transactions.' In this admirable paper is the first description I can find of the extraordinary genus *Distichocera*, although, as Mr. Kirby himself informs us, it was known long previously under the same name, and although he himself gives it as "*Distichocera* of MacLeay," a name which I am inclined to conclude existed in manuscript only. Concerning the genus in question I lay no claim to any additional knowledge of the structure, habits or affinities of the insect described by Mr. Kirby; but the labours of collectors, amid the seemingly inexhaustible riches of our Australian colonies, have placed within my reach a greater number and greater variety of specimens. Mr. Kirby has only made us acquainted with a single species, and a single sex of that species. Mr. MacLeay has added a second, which has also been described by Guérin, Boisduval and myself under a variety of names. Three other forms of the genus have occurred to me, making the number five in all. Of these, three are certainly females, and two as certainly males. The object of this communication is to express my views as to associating the sexes, and to make known two supposed species which were previously uncharacterized.

Genus *DISTICHOCERA*, MacLeay (MSS.?).

*Distichocera*, Kirby, Trans. Linn. Soc. xii. 471.

"Labrum transversum, tetragonum. Labium membranaceum apice bilobum: lobis divaricatis. Mandibulæ trigonæ, edentulæ apice incurvæ acutæ. Maxillæ basi trigonæ, apertæ. Palpi filiformes. Mentum transversum, trapeziforme. Antennæ sensim crassiores, disticho-ramosæ."—*Kirby, l. c.*

1. *DISTICHOCERA MACULICOLLIS*.

Mas. *Distichocera maculicollis*, Kirby, l. c.

*Distichocera maculicollis*, Audinet Serville, Ann. Ent. Soc. Fr. iii. 59.

*Distichocera maculicollis*, Boisduval, Faune de l'Océanie.

"Corpus fere cuneiforme, subtus pilis argenteis nitidum, supra nigrum, obscurum. Caput subcordatum, pilosum, canaliculatum utrinque ante antennis carinatum. Oculi brunnei. Antennæ breviores, nigrae: articulis omnibus apice biramosis (duobus primis brevissimis); ramis oppositis compressis vertice rotundatis sinistris paulo longioribus, articulo extimo simplici clavato. Thorax subcylindricus: maculis quatuor dorsalibus quadratim ordinatis. Elytra cuneiformia: lineis tribus longitudinalibus elevatis: striga apud scutellum et alia majori in medio apud suturam piloso-argenteis, apice truncata. Femora brunnea. Tibiæ bicalcaratae. Alæ elytris longiores."—*Kirby, l. c.*

Fem. *Distichocera rubripennis*, MacLeay, App. King's Voyage.

"Rufo-testacea subtomentosa, capitis lateribus oreque nigris, vertice canaliculato, antennis nigris, articulis vix biramosis, ramis sinistris brevissimis; thorace atro, vittâ utrinque rufo-testaceâ, scutello nigro, elytris rufo-testaceis tomentosis apice obtusis dehiscentibus; corpore cuneiformi subtus villo argenteo micante, abdomine utrinque nigro maculato, pedibus nigris."—*MacLeay, l. c.*

*Distichocera ferruginea*, Guérin, Voyage de la Coquille.

*Distichocera ferruginea*, Boisduval, Faune de l'Océanie, 467.

"Nigra; capite maculâ frontali, thorace vittis duabus elytrisque dense villosis-fulvis."—*Boisduval, l. c.*

*Distichocera fulvipennis*, Newman, Ent. Mag. v. 492.

"Antennæ nigrae; caput nigrum, fronte fulvo: prothorax niger, lineis 2 dorsalibus, longitudinalibus, latis, fulvis: scutellum nigrum: elytra fulva: abdomen piceum, lanugine argentea vestitum: pedes picei. (Corp. long. 9 unc.; lat. 3 unc.)"—*Newman, l. c.*

I have cited entire the original specific characters in every instance, in order to save the reader the trouble of making the references. I will now proceed to give more detailed characters.

*Male*.—Head somewhat cordate, black, velvety, having a slight epicranial sulcus, which is prolonged anteriorly between the bases of the antennæ: face slightly inclined, rather long: eyes arcuate, reniform, pitchy brown, large, approaching on the epicranium, somewhat dilated on the cheeks: antennæ as long as the body, 12-jointed, black; the first joint short, stout, somewhat obconical; the second very short; the following, to the eleventh inclusive, moderately short, still much longer than the second, somewhat cyathiform as regards the shaft, and emitting from its apex two long branches; these increase in length from the first pair, and those on one side of each antenna are uniformly longer than those on the other; this discrepancy is particularly observable in the third (or first branched) joint; the twelfth joint is club-shaped and undivided; it is longer than either of the others, yet scarcely exceeds in length the branches of the eleventh. Prothorax subquadrate, its anterior and posterior margins nearly equal, its lateral margins somewhat uneven, but not produced into a central

tooth ; pronotum somewhat uneven, black, with four greyish spots, which are due to a grey velvety pilosity ; the two smaller of these touch the anterior, the two larger the posterior margin, and appear as though forming parts of two vittæ, each of which is interrupted in the middle ; prosternum produced between the procoxæ and there deeply notched, pitchy red, and clothed with a grey pilosity. Scutellum rounded, black, and glabrous. Elytra black, broad at the base, gradually tapering to the apex, where they are slightly divaricate, truncate, and furnished with a small obtuse and obscure tooth in the middle as well as at each angle of the truncature : each elytron has three carinæ ; the first is prominent, originates near the base, and curves towards the suture but without reaching it, terminating in the apical area ; the second originates on the disk considerably below the humeral angle, and running parallel with the first, unites therewith in the apical area ; the third is nearly obsolete ; it is situate on the apical half of the elytron, between the second carina and the costal margin ; the costal margin is pitchy red, and clothed with a grey pubescence : the wings are fuliginous, slightly longer than the elytra, and unfolded : the legs are rather long ; the metatibiæ slightly incurved, and furnished with two apical spines : the under surface of the thoracic and abdominal segments is of a pitchy red colour, clothed with a sparse grey pubescence ; the legs are of a similar colour, but the pubescence is scarcely observable.

*Fem.*—Head somewhat cordate, black, velvety, with a large fulvous spot occupying the face and extending to the epicranium between the eyes, but not reaching the anterior margin of the prothorax ; a deep longitudinal epicranial sulcus extends forwards to between the bases of the antennæ : eyes arcuate, reniform, pitchy black : antennæ more than half the length of the body, 11-jointed ; the first joint rather short, somewhat obconical ; the second very short ; the third the longest, but still not disproportionately so, dilated at the apex ; the fourth and fifth of the same form, but shorter ; the remainder, to the eleventh, slender at the base, but dilated and somewhat cupshaped at the apex, receiving into the cup the base of the next succeeding joint, and being produced into a strong obtuse lobe, tooth, or serrature on one side ; this is very conspicuous, and gives the antenna a subserrated appearance ; on the opposite side is a very slight, scarcely perceptible indication of a like lobe ; the eleventh joint is sesquialterous. Prothorax nearly equal in length and breadth, the anterior narrower than the posterior margin, the lateral margins uneven and slightly lobed in the middle ; pronotum uneven, with a slightly impressed anterior and posterior submarginal transverse sulcus, velvety black, with two broad irregular longitudinal vittæ of a bright fulvous orange colour ; prosternum produced between the procoxæ, and the process notched. Scutellum short, rounded, black, shining. Elytra at the base much wider than the prothorax, gradually narrowing to the apex, where they are slightly dehiscent, truncated, and the truncature produced in the middle into an obtuse, scarcely perceptible tooth ; each elytron has three carinæ ; the first is prominent, originating near the base, and curves very gradually to-

wards the suture without reaching it, terminating in the apical area ; the second is indistinct, originates near the humeral angle, and running parallel with the first, ceases in the apical area ; the third is still less distinct, and its limits are obscure ; at both extremities a junction between the first and second carinæ may be made out, but is not very manifest : the wings are fuliginous, slightly longer than the elytra, but scarcely so long as the abdomen ; the entire under-surface is pitchy red clothed with a silvery grey pubescence, but there is an ovoid denuded space on each side of each abdominal segment. Legs pitchy red ; tarsi pitchy black ; metatibiæ with two apical spines.

*Obs.*—I believe that no author has hinted at the union of these very dissimilar insects under one specific name, but I think such a proceeding will be borne out by the evidence. In the first place I would observe that both forms are equally abundant ; that they occur in the same situations and at the same season ; that collectors have several times reported them as only sexually different ; and finally, that all the individuals of *maculicollis* are males, and all the individuals of *fulvipennis* females. Then, as regards structure, the cibarian organs of the two forms closely approximate ; so also does the direction and general figure of the head ; the antennæ indeed are remarkably different, but this discrepancy obtains equally in several genera of longicorns and in many other groups of Coleoptera, the males invariably possessing in such instances the longer, more compound and more ornate antennæ. The discrepancy in the prothorax, which at first is very striking, will be found more in appearance than in fact, and more in colour than in figure ; and even in colour an analogy exists that would be likely to escape the superficial observer ; the two fulvous vittæ so conspicuous in *fulvipennis* appear divided, paler, and semi-obsolete in *maculicollis*, and the difference in the figure of this part is in simple accordance with the more robust habit in the supposed female : the discrepancy in the elytra again is considerable as regards width, and particularly striking as regards colour ; but their structure is normally the same ; the number, direction and comparative length of the carinæ being identical : the legs are precisely alike in the two forms in structure, proportions, size and colouring. So that the reasons for uniting the forms under one specific name are stronger than any that can be urged for keeping them distinct ; and their not having been united by Kirby, MacLeay, Guérin, or Boisduval, merely implies that the idea did not occur to those distinguished entomologists : there is no evidence that they maturely weighed and then rejected the conclusion.

2. *DISTICHOCERA* PAR. *Sexuum amborum color par : testaceo-fusca, maris capite prothoracisque disco saturatioribus ; omnino pilis cinereis obsita.*

Maris long. corp. .525 unc. ; elytrorum lat. max. .2 unc.

Feminae long. corp. .7 unc. ; elytrorum lat. max. .225 unc.

*Male.*—Antennæ, anterior margin of prothorax, elytra, legs, and entire under-surface testaceous brown, the head and disk of the prothorax being darker ; a longitudinal, narrow, silvery spot, due to the

presence of a velvety pilosity, is observable in the centre of each elytron; every part of the body is more or less thickly beset with a grey pilosity.

*Female*.—Almost exactly resembling the male, but the prothoracic disk is not darker than the elytra, and there is no silvery mark in their centre.

In both sexes the carination of the elytra follows that of *D. maculicollis*, but is less pronounced.

Compared with *D. maculicollis* both sexes of this species are of smaller size, and the discrepancy in breadth is rather more obvious than in length; the antennæ of the males are very similar, but the apical joint is more clavate in *par*; their colour is decidedly different, in *maculicollis* being black, in *par* testaceous, with the apices of the ramuli slightly darker; the prothorax is more rounded at the sides in *par* than in the older species; but the plainness and purity of colour in *par* are sufficient at once to distinguish it.

Male and female in the cabinet of Mr. Scott, to whom I am indebted for the opportunity of describing it.

### 3. DISTICHOCERA KIRBYI.

*Mas. Caput nigrum, longitudinaliter sulcatum, antennæ dimidio corporis longiores, 11-articulatæ, articulis 3-10 biramosis, 11o sesquialtero: prothorax niger vittis 2 latis fulvis, dorso inæqualis lateribus medio 1-dentatus: scutellum nigrum: elytra fulva, 5-carinata, apice dehiscentia, singulo truncato, truncaturâ bisinuata: pedes nigri.*

Corp. long. 1.15 unc.; elytrorum lat. max. .3 unc.

*Fem. Caput nigrum, longitudinaliter sulcatum, antennæ dimidio corporis vix longiores, 11-articulatæ articulis 4-8 apice emarginatis: prothorax niger vittis 2 latis fulvis, lateribus medio 1-dentatus: scutellum nigrum lateribus fulvum: elytra fulva 5-carinata apice dehiscentia, singulo truncato, truncaturâ bisinuata, pedes nigri.*

Corp. long. 1.25 unc.; elytrorum lat. max. .375 unc.

*Male*.—Head black, with the exception of a scarcely perceptible fulvescent tinge on the short velvety down of the epicranium; a deep epicranial longitudinal sulcus extends forwards between the antennæ: eyes arcuate, reniform, pitchy black, large, approaching on the epicranium, dilated and gibbose on the cheeks: antennæ more than half the length of the body, 11-jointed; the first joint rather short, stout, somewhat in the common shape of a reversed cone; the second joint very short; the following, to the tenth inclusive, short, somewhat cup-shaped towards the base, and emitting at the apex two long branches, which are slightly incrassated externally; the eleventh joint is much longer than either, slender towards the base, somewhat club-shaped and very decidedly sesquialterous: prothorax uneven on the back, somewhat restricted just behind the anterior margin; lateral margins produced in the middle into a decided strong but obtuse tooth; the posterior half of each lateral margin concave, yet the anterior and posterior margins are straight and nearly equal in breadth; the colour

of the prothorax is black, with the exception of two broad fulvous irregular vittæ extending from the anterior to the posterior margin: prosternum black, shining, projecting between the anterior coxæ, and the projection deeply emarginate: scutellum rather long, blunt at the apex, perfectly black: elytra fulvous, slightly divaricating, conspicuously carinated, truncate at the apex, and the truncature sinuate carinated; the carinæ five discoidal, one costal and one sutural; the first discoidal originates at the base, and nearly runs into the sutural at about one-third of its length; the second unites with the first at the base and runs into the apical area of the wing; the third originates at the base and runs into the apical area; the fourth originates in the humeral angle, dividing at one-third of its length, and the two branches counting as two carinæ, there uniting with the two previously described in a confused manner in the apical area: the wings are fuliginous, slightly longer than the elytra, and scarcely folded at the tip: the abdomen and legs are black, the latter of moderate size and proportion: the metatibiæ are armed with two spurs.

*Fem.*—Head black, with the exception of a fulvescent tinge on the short velvety down of the epicranium: eyes reniform, or almost arcuate, ferruginous (probably by accident): antennæ rather more than half as long as the body and moderately stout, 11-jointed; the first joint moderately long; the second very short; the third about equal in length to the first, and together with the fourth, fifth, sixth, seventh and eighth inclusive, deeply notched at the apex, and receiving the base of the next preceding joint in the notch: prothorax uneven on the back, somewhat curved anteriorly, and the anterior half of each lateral margin uniting therewith in producing a somewhat semicircular outline; the posterior half of each lateral margin is concave, and a strong but obtuse central tooth is produced on each side at the point of union of the convex and concave portions of the margin; the posterior margin is nearly straight; the colour is velvety black, with two broad fulvous vittæ, extending from the anterior to the posterior margin: prosternum black, thickly sprinkled with a grey pilosity, projecting somewhat between the procoxæ, and the projection emarginate: scutellum rather long, rounded at the apex, velvety black with fulvous margins: elytra bright fulvous, conspicuously carinated, slightly divaricating, truncate at the apex, and the truncatures sinuate: the carinæ on each elytron are five in number, and are thus disposed; the first is near the suture and parallel therewith for rather more than a third of its length; it unites with the second at the base, and this runs into the apical area and there joins the third; the third originates at the base, exceeds the second slightly in length, and joins the fourth in the apical area; the fourth originates near the humeral angle and divides at about a third of its length; both branches proceed to the apical area, and there unite with the second and third: wings fuliginous, exceeding the elytra in length, and scarcely folded at the tip: legs black.

*Hab.* Australia. I have seen but a single specimen of the male, which is in the Cabinet of the Zoological Society, and one of the female, in the Cabinet of the British Museum.

## 4. DISTICHOCERA MACLEAYII.

*Fem. Caput nigrum, fronte ferrugineâ, longitudinaliter sulcatum: antennæ desunt: prothorax ferrugineo-lanuginosus, lateribus bituberculatus, haud dentatus: scutellum ferrugineo-lanuginosum lateribus nigrum, glabrum: elytra ferruginea 5-carinata apice vix dehiscentia vix truncata: pedes nigri.*

Corp. long. 1·35 unc.; elytrorum lat. max. 5 unc.

*Fem.*—Head, including the eyes, black; the face clothed with ferruginous down; epicranium impressed with a longitudinal sulcus, which is very deep between the eyes; the eyes are moderately large and reniform, the lower or cheek lobe being the largest; the face has a large and deep depression occupying the basal or upper portion of the clypeus; the first and second joints of the antennæ alone are present: prothorax black, clothed with ferruginous down, without any trace of that central black velvety vitta which obtains in the females of other described species; the anterior portion of the prothorax is smooth and somewhat ring-like; the rest of the dorsal surface uneven and tuberculated on each side; it has two obtuse tubercles: prosternum produced between the procoxæ into two short incurved, backward-directed processes which approximate at their apices, leaving an aperture through which the point of a needle may be passed: scutellum semicircular, clothed with ferruginous, with the exception of the margin, which is glabrous: elytra ferruginous and clothed with ferruginous down, wide at the base, narrowing to the apex and then truncate, the angles of the truncature being obtuse; the elytra are carinated, each having five carinæ; the first is very short and nearly obtuse; it commences near the scutellum and ceases before it has reached a third of the length of the elytron; the second and third commence near the base of the wing and unite in the apical area; the third and fourth commence almost together just below the humeral angle, and unite in the apical area; the two pairs are also united, and below their union several other raised anastomosing lines form a kind of network: the abdomen and legs are black, with a short hairy pubescence; metatibiæ with two distinct apical spines.

*Hab.* Australia. A single specimen of the female, taken by Mr. Ince, R.N., in that gentleman's cabinet.

Perhaps I may be permitted to avail myself of the opportunity of stating that I am assiduously engaged in the preparation of a descriptive list of the longicorn Coleoptera of our Australian colonies, and that I shall feel deeply indebted to any members of the Zoological Society who would kindly assist me by the communication of specimens. As the extent and value of her colonies have always been a distinguishing character of Great Britain, so I think should the industry of her sons take precedence of other nations in making known to the world the abundant riches of those colonies in the field of Natural History.

NO. CCXXIV.—PROCEEDINGS OF THE ZOOLOGICAL SOCIETY.