

sistent with this view, we find accordingly that *Coryne* is distinguished by having scattered tentacula of one kind only, and by not possessing a tube; *Hermione*, by having scattered tentacula of one kind only, and a branched tube; *Eudendrium*, by having regular tentacula of one kind only, and a branched tube; *Tubularia*, by having two sets of regular tentacula, and a simple tube which is persistent; and *Corymorpha*, by having regular tentacula of two kinds, and a deciduous tube; the animal ultimately becoming naked.

Thus *Corymorpha* completes a circle linking *Tubularia* with *Coryne*, partaking of the characters of both. Yet as it partakes more of the nature of the former than of the latter, it is possible a genus as yet undiscovered may exist, characterized by presenting a permanently noticed body, and regular tentacula of one sort.

British specimens of the *Corymorpha* will be figured by Dr. Johnston in his Supplement to the 'History of British Zoophytes.'

XXXVIII.—*Monograph of the Dorylidæ, a Family of the Hymenoptera Heterogyna.* By W. E. SHUCKARD, Esq.

[Concluded from p. 271.]

Sp. 2. *Dorylus helvolus*, Lin.

Length  $12\frac{1}{2}$  lines.

Expansion  $21\frac{1}{2}$  lines.

*Helvolus pilosus*; capite rufo, facie opalinâ convexâ, petiolo acetabuliformi segmento secundo multo minor.

*Vespa helvola*, Lin. Mus. Lud. Ulric. Reg. 412. 5.

*Mutilla helvola*, Lin. Syst. Nat. ed. 12<sup>a</sup>. t. i. p. 2. 967. 8.

————, Fab. Mant. i. 313. 18.

————, 'Der Kaper.' Christ. Naturgeschichte der Bienen, &c.

p. 151.

*Dorylus helvolus*, Fab. Ent. Syst. 2. 365. 1. Piez. 427. 1.

———— Coquebert, Dec. 2. pl. 16. fig. 1.

————, Latreille, Hist. 13. 260. Genera Crust. et Insect. 4. 124. Dict. d'Hist. Nat. 2<sup>me</sup> Ed. 9. 555.

Reddish testaceous, very pilose, especially at the vertex, the thorax, the coxæ beneath, and the apex of the abdomen: the head (excepting the antennæ and the mandibles, which are bright castaneous,) red, sometimes obscure, with most frequently a strong opaline reflection; face about the anterior ocellus very prominent, depressed at the insertion of the antennæ, as also just behind and between their base, where it takes a triangular form: antennæ short, setaceous, the scape rather

more than one-fourth the length of the organ : ocelli disposed in a triangle, with a space of more than the diameter of one between the anterior one and the posterior pair : eyes very prominent ; mandibles elongate, acuminate, slightly curved at the apex.

Thorax gibbous in front and at the scutellum : metathorax emarginated, the lateral portion slightly produced : superior wings clouded with a fuscous tinge, their nervures dark brown, the cubital nervure quite straight to the separation of the submarginal cells, and the recurrent inserted at rather less than half the length of the first submarginal ; the two anterior femora somewhat lanceolate, the four posterior forming an elongate triangle.

Abdomen cylindrical, the peduncle cup-shaped, very pilose, truncated posteriorly, less than the following segment and viewed laterally, slightly angularly produced beneath ; the terminal segment reflected at its extreme apex, and the horizontal plate of the male sexual organ with its sides parallel and its spines elongate and parallel.

Common in collections.

This species is from the Cape, exclusively I believe ; for although Latreille says in the first edition of the 'Dictionnaire d'Hist. Naturelle,' that it is also found in India, he could not have compared the specimens, as the latter must be one of the species I describe below from that part of the world. In his 'Hist. Naturelle,' tom. xiii. he says, that this species ranges from Barbary to the Cape : this also is evidently a mistake, and must refer to some other species that I have below described, which are all very distinct, except perhaps the next only, from the present. My reasons for supposing it to inhabit the vicinity of the Cape exclusively are, because Linné, Fabricius, and Illiger describe theirs from that part, and all these descriptions were made from different collections ; and in every metropolitan collection that I have examined, in all of which this insect is found, it being the most abundant species of all, it is invariably ticketed from the 'Cape,' and never from any other part, and I have seen some hundreds of specimens of it. It is doubtlessly to this species that Mr. Burchell refers in his Travels\*, Oct. 15, 1811. 'On the same evening I caught for the first time a large *Dorylus*, an insect which I afterwards found in the months of November and December within the Cape Colony.' The following insect much resembles the present, but their differences will be pointed out in the observations under it.

Sp. 3. *Dor. affinis*, Shuck.

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

Expansion 19 lines.

*Helvolus, pilosus ; capite rufo-castaneo, facie planâ, petiolo acetabuliformi, segmento secundo multo minor.*

Reddish testaceous, very pilose ; the head reddish castaneous, excepting

\* Vol. i. p. 376. note.

behind the vertex towards the occiput, where it is very dark chestnut ; face covered with decumbent down and in front of the anterior ocelli slightly prominent, flattening as it descends between the base of the antennæ, (where there is a triangular smooth shining space,) which are setaceous and inserted in a rather deep cavity, with their scape rather less than one-fourth the length of the entire organ ; ocelli disposed in a triangle, with a space of less than the diameter of one between the anterior one and the posterior pair ; eyes very prominent ; mandibles elongate, acuminate, slightly curved at the apex.

Thorax gibbous in front and at the scutellum ; metathorax longer than in the preceding species and less distinctly emarginated ; superior wings subhyaline, clouded only within the marginal cell ; the nervures dark brown ; the cubital nervure very slightly undulated as far as the separation of the two submarginal cells, and the recurrent nervure inserted at fully one half of the length of the first of the latter and curving slightly outwards ; legs as in the preceding.

Abdomen as in the preceding, the peduncle rather less transverse, and its produced ventral portion rather boat-shaped, and the horizontal plate of the male sexual organ constricted near the furcation of the spines, which are divergent.

In my own collection.

This species is from the vicinity of the river Gambia ; it is very like the preceding, and a superficial examination might consider it merely a smaller variety of that insect ; but a more careful inspection discovers a number of particulars which establish its individuality—which a comparison of the descriptions will show ; the strongest of them are the different proportions of the cells of the wings and the structure of the plate of the male organ.

Sp. 4. *Dor. glabratus*, *Shuck.*

Length  $14\frac{1}{2}$  lines.

Expansion  $23\frac{1}{2}$  lines.

*Rufo-brunneus, glaber, subrobustus, nervis alarum nigris, vertice valde prominente facie in medio sulcatâ, mandibulis attenuatis, labro tuberculis binis obtusis instructis et pedunculo abdominis transverso-quadrato.*

Rather robust, of a reddish fuscous-brown, glabrous with the exception of some loose curling long hair upon the face, coxæ, and extreme apex of the abdomen. The head reddish chestnut, except behind the vertex, where it is black and shining. The face (which is covered with long curling hair) and vertex very gibbous, and this gibbous portion viewed laterally much larger than the eye ; the face deeply longitudinally sulcated : ocelli placed in a triangle, the posterior pair upon the posterior declivity of the head, and with rather more than the diameter of one between the latter and the anterior one ; eyes moderately large, very prominent ; antennæ short, setaceous, the scape rather less than one-third the length of the organ ; mandibles slightly curved, broad at

the base, whence they suddenly narrow to the apex, the anterior lateral return rather broad; the labrum having two obtuse tubercles.

Thorax gibbous in front and at the scutellum, which is transverse and rounded; the mesothorax in front having a short depression on each side of the two central abbreviated impressed longitudinal lines parallel with the suture, metathorax produced longitudinally, horizontal, where it is abruptly truncated and fringed; wings darkly clouded, with their nervures black and rather thick, the marginal nervure extending to nearly opposite the inner angle of the marginal cell, the cubital nervure slightly sinuated to the insertion of the recurrent (which is inserted at about half the length of the first submarginal), beyond which to the termination of this cell it is straight: legs dark chestnut; femora elongate triangular, their whole outline beneath curving outwards.

Abdomen cylindrical, the peduncle transverse quadrate, convex, not so broad as the base of the following, slightly fringed along its apex, where it has an indicated ridge; the ventral portion with its boat-shaped carina very sharp, second segment also transverse, rather longer and broader than the peduncle; the terminal segment slightly reflected at its extreme apex, where it is densely pilose.

In my own and the British Museum collections.

This species is from the Gambia. Next to the *D. nigricans* it is the most robust of the genus. It is sufficiently distinct from all, but it has the tuberculated labrum in common with the two following.

Sp. 5. *Dor. Juvenculus*, *Shuck.*

Length  $15\frac{1}{2}$  lines.

Expansion 24 lines.

*Rufo-fuscus, glaber, subattenuatus; capite (antennis mandibulisque castaneis exceptis) et nervis alarum nigris, vertice valde prominente, facie in medio sulcatâ, labro tuberculis binis instructis et pedunculo abdominis quadrato-converso.*

Rufo-fuscous, smooth, with long curling hair only on the face, between the coxæ and peduncle and at the apex of the abdomen; the head black, except the antennæ and mandibles which are castaneous; face and forehead very prominent, this prominence viewed laterally (in profile) as large as the eye; ocelli placed in an equilateral triangle on the vertex, the posterior pair on the posterior declivity of the head closely behind the summit, and these distant more than the diameter of one from the anterior, in front of which the face is deeply sulcated: eyes very prominent and subglobose; antennæ setaceous, the scape a little less than one-third the length of the organ; mandibles long and slender, slightly curved, rather broad at the base, whence they immediately attenuate, their return in front broadest in the middle, narrowed at each extremity; clypeus furnished between the base of the antennæ with a long flock of curling hair, and the labrum with two small round compressed tubercles.

Thorax gibbous in front and at the scutellum, the latter transverse with a longitudinal impression at its apex; metathorax elongate\*, abruptly truncated at its apex, where it is fringed; mesothorax slightly corrugated in front on each side of the two abbreviated parallel longitudinal central lines, the wrinkles parallel with the suture that separates it from the prothorax: wings somewhat obscure, with their nervures blackish or dark brown, the radial nervure terminating half way between the commencement and the inner angle of the marginal cell, and where it loses itself in the coloured portion of that cell; the cubital nervure slightly undulated as far as the insertion of the recurrent nervure, beyond which to the termination of the cell it is straight; the recurrent nervure also straight, and inserted at rather less than one half the length of the first submarginal cell; legs castaneous, femora elongate triangular, acuminate towards the apex, the outline beneath slightly rounded downwards, the trochanters of the four posterior strictly adhering and not projecting beyond the lower outline of the femora.

Abdomen elongate, cylindrical, the peduncle quadrate convex, (its central portion viewed laterally triangular,) fringed at the apex, where it has a slight transverse ridge, nearly as broad as the following segment, which and the third are also quadrate, the terminal segment very pilose.

In the collections of the Zoological Society.

This insect is from Barbary, where it was captured by Capt. Lyon. It closely resembles the following, from which, however, the size of the head, proportions of the peduncle, and two first segments of the abdomen chiefly distinguish it. Besides which, the femora in the present form a less acute triangle, and the radial nervure is much shorter and less distinctly terminated. It is remarkable that Barbary and India should produce species so closely resembling each other, when the vicinity of the Gambia, within a very limited district, furnishes others greatly differing among themselves.

Sp. 6. Dor. labiatus, *Shuck.*

Length  $14\frac{1}{4}$  lines.

Expansion 23 lines.

*Pallide brunneus seu rufo-testaceus glaber, facie pilosâ subtuberculatâ prominula, in medio profunde sulcatâ, mandibulis attenuatis, labro tuberculis binis magnis instructis et pedunculo abdominis quadrato vel potius subgloboso.*

Pale brown, inclining to fuscous, with long curling hair upon the face, beneath the coxæ, and at the apex of the abdomen: head black, except the antennæ and mandibles, which are castaneous; face slightly tuberculated a little to the side and in front of the posterior ocelli; forehead not unusually prominent; ocelli large and disposed in an obtuse

\* In speaking of the metathorax as elongate, it is meant comparatively.

triangle on the vertex, the posterior placed on the posterior declivity of the head, closely behind the summit, and these distant not more than the diameter of one from the anterior, in front of which the face is deeply sulcated; eyes very prominent and subglobose, the scape less than one-third the length of the organ; mandibles long and slender, slightly curved, broadest at the base, whence they immediately attenuate, their return in front equal throughout; the clypeus furnished between the base of the antennæ with a long flock of curling hair, and the labrum with a pair of large round compressed tubercles.

Thorax gibbous in front and at the scutellum, the latter transverse and rounded; metathorax elongate, abruptly truncated at its apex, where it is fringed; mesothorax slightly corrugated in front on each side of the two abbreviated parallel longitudinal-central lines, the wrinkles parallel with the suture that separates it from the prothorax: wings subhyaline, their nervures dark brown, the radial nervure distinctly extending opposite and rather beyond the inner angle of the marginal cell, where it terminates abruptly, the cubital nervure slightly undulated as far as the insertion of the recurrent nervure, beyond which to the termination of the cell it is straight and inserted at half the length of the first submarginal cell; legs castaneous, femora elongate triangular, acuminate towards the apex, the outline beneath not perceptibly rounded downwards; the trochanters of the four posterior not strictly adhering, and projecting a little beyond the lower outline of the femora.

Abdomen elongate, cylindrical, rather slender, the peduncle subquadrate or rather subglobose (its ventral portion viewed laterally angulated but hooked backwards), slightly fringed below its apex, not so broad as the following segment, which with the next is transverse, the terminal segment very pilose.

In the collections of the Rev. F. W. Hope and Lieut.-Col. Sykes.

This species was brought from Poonah, in the Bombay Presidency, by Col. Sykes, and from Assam by Dr. Cantor, a wider range than I know any other species to take. It considerably resembles the preceding. A comparison of the descriptions which I have purposely made parallel will however show ample differences, although the majority consist of minute particulars, the chief of which have been already pointed out in the observations on the former.

Sp. 7. *Dor. Orientalis*, West.

Length  $12\frac{1}{2}$  lines.

Expansion 19 lines.

*Helvolus pilosus* abdomen glabro, capite rufo, facie in medio sulcatâ, mandibulis subtrigonis, nervo cubitali valde sinuoso, pleuris sericeis, et pedunculo abdominis quadrato gibboso.

*Dor. Orientalis*, Westwood, Proceed. Zool. Soc. 1835, p. 72.

Pale testaceous with a long shining silky pubescence, especially in front of

the head and throughout the thorax: head red, mandibles and scape of the antennæ castaneous, the latter about one-fifth the length of the entire organ, which is filiform and elongate; ocelli disposed in a triangle at the vertex, large, with less space than the diameter of one between the posterior and anterior, in front of which the face (which is very convex) is deeply sulcated: mandibles very broad and very slightly curved, their inner edge acute and nearly straight.

Thorax silky, the pleuræ shining, gibbous in front and at the scutellum, which is slightly longitudinally impressed in the centre; metathorax rather elongate, slightly rounded at the apex, very pubescent: wings clouded with a fuscous tinge, their nervures dark brown, the cubital deeply bisinuate, the first sinus dipping into the second discoidal cell, and the second beyond the recurrent nervure, which is straight and inserted at rather more than two-thirds of the length of the first submarginal cell: legs castaneous, the femora elongate-ovate, their outline rounded both above and below.

Abdomen with a rich satiny reflection, the peduncle quadrate, gibbous, the ventral portion slightly produced and boat-shaped, the remaining segments transverse, the sexual organ protruding at the apex of the terminal segment and fringed.

In the collection of Mr. Westwood.

This species is from Bengal, whence it was brought by W. W. Sanders, Esq. The differences between it and the next are but slight, and *perhaps* not specific. I make the descriptions parallel that they may be compared.

Sp. 8. *Dor. longicornis*, *Shuck.*

Length  $11\frac{1}{2}$  lines.

Expansion 18 lines.

*Helvolus subpubescens*; capite nigro convexo facie in medio sulcatâ, mandibulis subtrigonis, pleuris obscuris nervo cubitali subrectis, petiolo abdominalis quadrato gibboso.

Reddish testaceous with longish hair about the face and thorax, and especially beneath the peduncle and apex of the abdomen; head black, except the mandibles, which, as well as the scape of the antennæ, are pitchy, the latter not more than one-fifth the length of the entire organ, which is filiform and elongate; ocelli disposed in a triangle at the vertex, large, with less space than the diameter of one between the posterior and anterior, in front of which the face (which is very convex) is deeply sulcated; mandibles very broad and very slightly curved, their inner edge acute and nearly straight.

Thorax obscure, gibbous in front and at the scutellum, the latter with a slight impression in the centre of the apex; metathorax slightly produced and rounded posteriorly, somewhat silky: wings fuscous, their nervures reddish brown, the cubital straight, the recurrent slightly curved outward and inserted at less than two-thirds of the length of

the first submarginal cell : legs castaneous, the femora elongate-ovate, their outline rounded both above and below.

Abdomen obscure, the peduncle quadrate, gibbous, the ventral portion slightly produced and boat-shaped, the remaining segments transverse, the sexual organ protruding at the apex of the terminal segment and fringed.

In the collection of the Rev. F. W. Hope.

This species is likewise from Bengal ; I am in doubt as to its individuality, or whether this or the former may be the species or the variety, having seen only two of this and one of the preceding, but a comparison of the descriptions, which are very faithful, will justify my considering them species ; there is however much less difference between them than between the *D. Juvenculus* and *D. labiatus*.

Sp. 9. *Dor. attenuatus*, *Shuck.*

Length 10½ lines.

Expansion 15 lines.

*Helvulus, vel testaceus, subpubescens, capite nigro vel rufo, facie in medio sulcatâ, mandibulis subtrigonis, nervis alarum brunneis vel testaceis, pedunculo quadrato gibboso.*

Pale reddish, testaceous, opaque, subpubescent, slender : head black, except the mandibles, which, as well as the scape of the antennæ, are pitchy, the latter barely one-fifth the length of the organ, which is filiform and elongate ; ocelli disposed in a triangle at the vertex, moderately large, with about the space of the diameter of one between the posterior and anterior, in front of which the face (which is convex) is sulcated ; mandibles broad and very slightly curved, their inner edge acute with an obtuse angulation at the base within.

Thorax gibbous in front and at the scutellum, the latter transverse with a longitudinal impression in the centre ; metathorax produced slightly and rounded posteriorly ; wings obscure, their nervures reddish brown, the cubital slightly waved, the recurrent straight and inserted at less than two-thirds of the length of the first submarginal cell ; legs castaneous, the femora elongate-ovate, their outline rounded both above and below.

Abdomen obscure, the peduncle quadrate, gibbous, the ventral portion very slightly, obtusely portioned, the remaining segments transverse, the sexual organ protruding at the apex of the terminal segment, and fringed.

In my own collection.

Var. *a.* Pale testaceous ; head red.

I am not sure of the locality of this species, but I believe it is from the Gambia. In many points of description it agrees with the two preceding, from which however, besides size, an ocular inspection shows them to be apparently different.

Sp. 10. *Dor. atriceps*, Shuck.

Length  $9\frac{1}{2}$  lines.

Expansion  $15\frac{1}{2}$  lines.

*Sordide helvolus glaber capite (antennis mandibulisque badiis exceptis,) atro, facie valde prominente in medio subsulcatâ, pedunculo abdominis quadrato gibboso.*

Fuscous, opaque, glabrous, excepting beneath the thorax, coxæ, peduncle, and apex of the abdomen, all of which have moderately long hair: head deep black, except the mandibles, which are dark chestnut; the face very prominent, subsulcated beneath the anterior ocellus; the ocelli placed in a triangle, the anterior at the distance of the diameter of one from the posterior pair: eyes subglobose, very prominent; scape of the antennæ very short, (the remainder deficient); mandibles very broad, with a large obtuse triangular projection at the base within, leaving no space between them when closed, their inner edge acute.

Thorax darker than the abdomen, gibbous in front and at the scutellum, which is transverse and rounded at the apex; metathorax considerably produced and fringed: wings fuscous, their nervures black, the cubital thick and undulated, the recurrent inserted just beyond the middle of the first submarginal cell, straight; legs castaneous, their knees pitchy, the femora rather broadest at the base, their outline nearly parallel.

Abdomen elongate, cylindrical, obscure, peduncle subquadrate, gibbous, ventral portion very slightly angularly produced, less than the following segment, all of which are transverse, the terminal segment smooth and shining and very pilose.

This species is from the Gambia. Although very like the three preceding, it is very distinct in the form of its head, mandibles, and femora. It is the smallest of the genus, and singularly enough leads off to the next by the left superior wing, which has an abbreviated portion of a pseudo second recurrent nervure; by an unlucky accident I destroyed its antennæ, and therefore cannot give their proportions.

#### Genus 4. РНОГМУС, Shuck.

*Body* elongate, much curved downwards at the apex, cylindrical and clavate.

*Head* short, transverse; face slightly protuberant.

*Antennæ* short, setaceous, curved, inserted within the inner basal angles of the mandibles upon the margin of the nearly obsolete clypeus, the scape about one-fourth the length of the whole organ, the apex of which will not extend to the insertion of the wings.

*Eyes* large, lateral, globose, and very prominent.

*Ocelli* large, placed in a triangle on the vertex.

*Mandibles* triangular, edentate, slightly curved at the apex, very much compressed, convex externally and concave within.

*Labrum,*  
*Maxillæ,*  
*Maxillary and*  
*Labial palpi,*  
*Thorax,*  
*Tegulæ,*

} As in *Dorylus*.

*Superior wings* as in *Dorylus*, but not extending much beyond half the length of the abdomen, with one internally angulated marginal cell and two submarginal cells, the first of which is considerably the longest, two recurrent nervures, both of which are received by the first submarginal cell, the first recurrent rather beyond its centre, and the second near the latter, but diverging towards the apical margin of the wing: the nervures of the wings very robust.

*Legs* as in *Dorylus*.

*Abdomen* elongate, clavate, much curved, the basal segment forming a transverse convex posteriorly truncated peduncle; the penultimate dorsal and ventral segments considerably larger than the preceding, the terminal dorsal segment also largely developed, emarginate at its extremity, where, as well as its ventral valve and the ventral penultimate, it is densely fringed with long silky down. The genital organ largely developed and differing considerably from that of *Dorylus*.

Type of the genus, *Rhogmus fimbriatus*, Shuck.

Named from  $\rho\omega\gamma\mu\delta\varsigma$ , a *fissure*, in allusion to the deep emargination of the terminal dorsal segment of the abdomen. The claim of this remarkable insect to constitute a genus is substantiated by its two recurrent nervures, its very clavate abdomen, and the large development of its penultimate and terminal segments. In the peculiar emarginate structure of the latter it resembles *Labidus*, but in that genus the emarginate portion of the segment is vertically compressed. The very different structure of the large genital organ exhibits an absolute necessity for its separation from *Dorylus*, which although the general structure be the same, it is very different in form, for the lateral fornicate valves (the external sheath, *Burm.*) are widely separated and compressed flatly at their apex, where they are externally and above very hairy, the hair all curled; and within at the same part they are also flat, but glabrous and horizontally truncated at the apex: the central process (the penis) is considerably larger in proportion to the whole organ, vertically broader, narrowing towards its apex, where it suddenly enlarges into a boat-shaped clava, which has a deep and separating incision down its centre; the lateral processes (the inner sheath) which spring from the base of the large lateral valves, and which here embrace the base of the central organ, are here shorter than in *Dorylus*, and form large com-

pressed plates very hairy at their apex and beneath, and the horizontal piece which articulates at the base beneath the large valves is here dilated into a broad lanceolate plate, deeply emarginate at its apex.

Sp. 1. *Rhog. fimbriatus*, *Shuck.*

Length  $17\frac{1}{2}$  lines.

Expansion 22 lines.

*Helvolus, pilosus*; abdomine glabro, segmento ultimo supra et duobus ultimis subtus fimbriatis; capite, (clypeo antennis mandibulisque castaneis exceptis) nigro, nervis alarum brunneis et pedunculo abdominis transverso-quadrato, convexo.

Rufo-testaceous very pilose upon the face, the thorax above and beneath the coxæ also beneath the peduncle of the abdomen, and the margins of the terminal segment above and of the two last beneath, which are densely fringed. The head black upon the vertex and behind, face convex, sulcated in front of the anterior ocellus: the ocelli large, disposed in an equilateral triangle on the vertex, with about the diameter of one intervening between the anterior and posterior pair; antennæ slender, setaceous, the scape one-fourth the length of the organ; mandibles broad, nearly triangular, very slightly curved, the inner edge acute.

Thorax gibbous in front and at the scutellum, which is very pilose, prothorax very distinct, and metathorax slightly produced and rounded posteriorly; wings subhyaline, their nervures robust and brown, the radial lost in a large dilated dark patch at the commencement of the marginal cell; the cubital slightly undulated, the first recurrent inserted just beyond the middle of the first submarginal cell, and the second recurrent half way between the first and the termination of the cell, and diverging obliquely towards the edge of the wing; legs castaneous, the femora elongate, ovate, compressed, their outline slightly rounded above and below.

Abdomen opaque, clavate, the peduncle transverse quadrate convex, fringed at its apex and very pilose beneath, where it is slightly longitudinally carinated, not so wide as the second segment, which viewed above is nearly quadrate, the remainder all transverse: of these the penultimate and terminal are the largest, the latter deeply emarginate in the middle, fimbriated along the edge, as are also the two last ventral segments, the terminal of which is semicircular and the penultimate nearly quadrate. In the collection of the British Museum, and in my own.

This remarkable insect is from the Gambia; it is the largest of the family, and its generic description and the observations thereon will exhibit its distinction from all the rest of the family.

#### *Note upon Typhlopone.*

The preceding pages were at press when I discovered in the collection of the British Museum an apterous insect from Sierra Leone,

brought thence by the Rev. D. F. Morgan, which appears to be the African representative of *Typhlopone*, with which it agrees in many points of resemblance, but is sufficiently different to constitute another genus, should it eventually prove that *Typhlopone* is distinct from *Labidus*. This African insect agrees with *Typhlopone* in the disproportionately large size of the head, which is also submarginate behind; in having neither eyes nor ocelli; in the insertion of the antennæ (but which is within two deep fossulets, the inner edge of which is not continued in a carina), and in their having but eleven distinct joints and slightly clavated; in the general form of the mandibles; in the peduncle of the abdomen, which is convex above; and in the apex of the abdomen being furnished with three minute teeth. I propose to call it

*ANOMMA*, Shuck.

for it differs from *Typhlopone* in the head being considerably widest in front, at the base of the mandibles, which are elongate, forcipate, much curved, with one large curved tooth at about half their length; in the thorax being constricted, especially at the sutural separation between the pro- and mesothorax; the latter and the metathorax very narrow: the antennæ and legs very slender, the latter long and their femora not clavate, the peduncle of the abdomen very narrow, and the segments but slightly constricted.

Type *Anomma Burmeisteri*, Shuck.

Sp. 1. *A. Burmeisteri*, Shuck.

Entire length 6 lines.

*Nigro-piceus, nitidus, glaberrimus: antennis pedibusque rufo-piceus.*

Brightly shining, perfectly smooth, pitchy black, with the antennæ, legs, thorax, ventral incisures and sides of the abdomen pitchy red.

The following are the proportions of this remarkable insect: length of the head, including mandibles,  $2\frac{1}{4}$  lines; thorax  $1\frac{1}{2}$  line; abdomen, including the peduncle,  $2\frac{1}{4}$  lines.

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Mr. Thwaites, of Bristol, kindly communicated to me four specimens of *Typhlopone*, including two species distinct from those previously described: they are

15. *Lab.* (4 *Typhlopone*) *Thwaitesii*, Shuck.

Length 3—5 lines.

*Rufo-testaceus, (mandibulis antennisque rufo-piceis exceptis), nitidus; capite antice sulcato et punctulato.*

Bright reddish testaceous and shining; the head sparingly and not deeply punctured, the channel between the carinæ of the face continued about one-third the length of the head and terminating gradually: the mandibles and antennæ pitchy red, the former having their teeth and the

latter their terminal joint obtuse, and these with eleven conspicuous joints.

Thorax scarcely more punctured than the head, the suture which separates pro- and mesothorax curved forwards.

Abdomen having the peduncle subglobose, the segments slightly constricted at their base, slightly retuse at its extreme apex, where it has three minute teeth.

In the collection of Mr. Thwaites.

This species I have much pleasure in dedicating to my friend G. H. K. Thwaites, Esq., an ardent lover and careful student of the Hymenoptera; it is amply distinguished from the *Typh. Kirbii* by the proportions and size of the terminal joint of the antennæ, as also by the different sulcation of the face. The species proves that these insects, of which I had not before seen more than single specimens of any, vary occasionally considerably in size.

16. Lab. (5. Typhlopone) Spinolæ, *Shuck.* Length  $1\frac{1}{4}$  line.

*Pallide-testaceus, nitidus, mandibulis acutissimis, carinis faciei convergentibus, angulatis.*

Entirely of a pale testaceous: head smooth: antennæ having apparently twelve joints arising from the large terminal joint being divided in its middle by a slender dark ring: the carinæ, behind which the antennæ are inserted, immediately converging, forming an elevated angle, the apex of which is continued a short distance up the face, and at its termination there is a slightly indicated fossulet: mandibles having all their teeth very acute.

Thorax slightly punctured, the suture separating the pro- and mesothorax nearly straight.

Abdomen having the peduncle subglobose, and the base of the segments slightly constricted, its extreme apex slightly subretuse, and with three minute teeth.

In the collection of Mr. Thwaites.

This, which is the smallest of all the species, is distinguished from all the rest by the carinæ of the face and the peculiarity of its antennæ: I have seen but one specimen of it.

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These two species were accompanied with the following observations by Mr. Thwaites: "Of the *Typhlopone* a great number were given to Mr. Raddon by a gentleman in the sugar trade, and from these I picked out the series inclosed; amongst the multitudes of them I had in my possession I could not discover any but similar ones to those sent, and I concluded from their abundance that they must be a common insect. The gentleman who found them informs me that sometimes upon opening a hogshead of sugar from the West

Indies the surface is completely covered with this species all alive he has promised to let me know the next time the circumstance occurs ; I will then look carefully amongst them for the males. It strikes me that the fact of their occurring in such numbers without being intermixed with any other species\* militates against your opinion of their being the females of *Labidus* if *Labidus* is a parasitic insect ; not knowing *Labidus* by sight I cannot give an opinion as to the probability of their being the sexes of one genus."

I perfectly agree with Mr. Thwaites, that the remarkable apparition of these multitudes, which seems a not unfrequent circumstance appears to affect my supposition of their being parasites, but it does not contradict the possibility of their being the females of *Labidus*, nor of their belonging to this family ; and it rather confirms a stronger affinity with the Solitary Heterogyna from three of one species occurring of such different sizes ; for this would certainly be an objection to the possibility of their belonging to the Social Heterogyna, where never more than two differences of size occur in the same sex.

But I have given the whole of the hypothesis, which does not at all affect the descriptive portion of the paper, for no more than it is worth. I build no system upon it ; I have merely suggested it as it occurred to me in the careful examination of these insects ; nor shall I, as is too often the case, identify myself with it and make any difference of opinion a personal matter. The object I have pursued in studying natural history has been to ascertain facts, or in their absence the closest probable approximation to them ; for I am sure, to use the words of our great bard,

‘ Nature is made better by no mean,  
But nature makes that mean.’

And she is too protean in her disguises to be fitted by any boddice we may choose to invest her with. It is perhaps therefore the truest wisdom to wait patiently, although searching diligently, until she may discover herself, and the reverse will be no paradox when we endeavour to anticipate or force her disclosures.

\* It is not improbable that other species might have been amongst the individuals discovered, as there are clearly two in the four sent to me by Mr. Thwaites.