ON THE ESOPHAGUS OF THE RUMINANTIA

Finally, the Ruminant's esophagus differs whiely from the human as regards the microscopic character of its muscular fibre; for while in the human gullet there is a mixture of striped and unstriped fibres, in the Ruminant's they are all of the striped variety.

In conclusion, I have to acknowledge my obligations to my friend Mr. Deas, to whose kindness I owe the beautiful and very accurate drawings which illustrate this paper.

# EXPLANATION OF THE PLATE.

#### PLATE III

Fig. 1. Portion of sheep's gullet, twice the natural size (seen from within). The fibres of the internal layer, c.c., are seen decussating and running into the external layer, b.b; while at A is seen a non-decussating bundle passing outside the decussation, from the outer layer of the one side of the decussation to that of the other side.

Fig. 2. The entire circumference of a sheep's cesophagus, seen from within (natural size). It has been simply slit open and dissected. Above, A', A'', are seen the two lines of decussation; B, a bundle of fibres which has not decussated at the decussation A'; and c, a similar bundle which has not decussated at A''. n, a bundle of fibres of the inner layer which decussates at the line of decussation A''; and E, a similar bundle which decussates at the line A'. n runs up to form B, and E goes to form E, both in the outer layer; below F they separate into their finest fibres and interdigitate one with another. G G, outer layer.

Fig. 3. Two portions of the esophagus of a sheep (natural size), to show the difference between the inner and outer aspects of the line of decussation. In A it is seen from the inside. All the fibres decussate, so that the decussation is sharp and well defined; but on the outside, B, it is much obscured by the non-decussating fibres, which, instead of dipping down as in A, run across from one side of the line to the other. G G, outer layers. D, inner layer.

Descriptions of New Species of Hymenopterous Insects from the Islands of Sumatra, Sula, Gilolo, Salwatty, and New Guinea, collected by Mr. A. R. Wallace. By Frederick Smith, Assistant in the Zoological Department, British Museum. Communicated by W. W. Saunders, Esq., V.P.L.S.

# [PLATE IV.] [Read June 2, 1864.]

THE collections of Hymenoptera which are described in the following list contain several insects of especial interest. Three new LINN. PROC.—ZOOLOGY, VOL. VIII. 6

## Fam. FORMICIDÆ, Leach.

Gen. FORMICA, Linn.

- 1. FORMICA GIGAS, Latr. Hist. Nat. Fourm. p. 105. Hab. Sumatra.
- 2. FORMICA COMPRESSA, Fabr. Syst. Piez. p. 396. Hab. Sumatra.
- 3. FORMICA FESTINA, Smith, Proc. Linn. Soc. ii. p. 53. Hab. Sumatra.
- 4. Formica Rufffrons, Smith, Proc. Linn. Soc. v. p. 95. Hab. Morty Island, New Guinea, Salwatty.
- 5. FORMICA CAMELINA, Smith, Proc. Linn. Soc. ii. p. 57. Hab. Sumatra.
- 6. FORMICA COXALIS, Smith, Proc. Linn. Soc. iv. p. 136. Hab. New Guinea.
- 7. FORMICA QUADRICEPS, Smith, Proc. Linn. Soc. iv. p. 137. Hab. New Guinea.
- 8. Formica (Myrmecopsis) respiciens. F. nigra, nitida; mandibulis, scapo, tibiis tarsisque pallide ferrugineis; prothorace abdomineque basi pallide flavis; oculis magnis.
- Worker. Length 3 lines. Black and shining; the head oblong, sides nearly parallel; the eyes very large, ovate, extending to the posterior angles of the head; the anterior portion of the clypeus, the mandibles, scape, tibiæ, tarsi, and tips of the femora pale ferruginous. Thorax compressed behind; the prothorax above, the first segment of the abdomen and the basal margin of the second pale yellow; the scale of the peduncle oblong, slightly rounded above. (Pl. IV. fig. 3, ⋄.) Hab. New Guinea.

This remarkable Ant, of which a figure is given, will probably constitute the type of a new genus. The greatly enlarged eyes, placed backwards on the head, give it a different aspect from any species previously described. Unfortunately the only specimen received is in such a mutilated condition that I could not examine the parts of the mouth. Should an examination of more specimens prove my conjecture to be correct, I would propose the name Myrmecopsis for the genus.

#### Gen. Polyrhachis, Smith.

- 1. POLYRHACHIS SEXSPINOSUS, Latr. Hist. Nat. Fourm. p. 126. Hab. New Guinea.
- 2. POLYRHACHIS ITHONUS, Smith, Proc. Linn. Soc. v. p. 99. Hab. Salwatty; Morty Island.

- 3. POLYRHACHIS BIHAMATUS, *Drury*, *Ins.* ii. pl. 38. *Hab.* New Guinea; Sumatra.
- 4. POLYRHACHIS ACANTHA, Smith, Proc. Linn. Soc. v. p. 98. Hab. Salwatty; Morty Island.
- POLYRHACHIS SERICATUS, Guér. Voy. Coq. Zool. ii. p. 203. Hab. Salwatty.
- 6. POLYRHACHIS CHALYBEUS, Smith, Proc. Linn. Soc. ii. p. 61. Hab. Sumatra.
- 7. POLYRHACHIS PANDARUS, Smith, Proc. Linn. Soc. ii. p. 62. Hab. Sumatra.
- 8. POLYRHACHIS EUDORA, Smith, Proc. Linn. Soc. v. p. 99. Hab. Sumatra.
- 9. POLYRHACHIS VILLIPES, Smith, Proc. Linn. Soc. ii. p. 61. Hab. Sumatra.
- 10. POLYRHACHIS BUBASTES, Smith, Proc. Linn. Soc. vii. p. 15. Hab. Morty Island.
- 11. POLYRHACHIS BELLICOSUS, Smith, Proc. Linn. Soc. iv. p. 142. Hab. Morty Island.
- 12. POLYRHACHIS MARGINATUS, Smith, Proc. Linn. Soc. iv. p. 139. Hab. Gilolo.
- 13. POLYRHACHIS DIVES, Smith, Proc. Linn. Soc. ii. p. 64. Hab. Sula.
- 14. POLYRHACHIS DIAPHANTUS, Smith, Proc. Linn. Soc. vi. p. 40. Hab. Sula.
- 15. POLYRHACHIS RUGIFRONS, Smith, Proc. Linn. Soc. v. p. 70. Hab. Salwatty.
- 16. POLYRHACHIS ATROPOS, Smith, Proc. Linn. Soc. v. p. 100. Hab. Gilolo.
- 17. Polyrhachis Neptunus. P. niger; thorace elongato, supra deplanato, dentibus duobus parvis antice et postice armato; abdominis pedunculo trispinoso.
- Worker. Length  $2\frac{1}{4}$  lines. Black; the apical joint of the flagellum and the claw-joint of the tarsi rufo-testaceous; tips of the mandibles ferruginous. The head anteriorly striated, posteriorly shagreened as far as the insertion of the antennæ; the extreme base of the scape ferruginous. Thorax flat above; transverse in front, with the lateral angles produced into short acute spines; the sutures of the pro- and mesothorax deeply impressed; the disk shagreened; the metathorax with two short erect spines. Abdomen globose, smooth and shining; the node of the peduncle incrassate, and armed above with three long, erect, acute spines. (Pl. IV. fig. 2,  $\xi$ .)

Hab. New Guinea.

### Gen. ECHINOPLA, Smith.

- 1. ECHINOPLA MELANARCTOS, Smith, Proc. Linn. Soc. ii. p. 79. Hab. Sumatra.
- 2. ECHINOPLA STRIATA, Smith, Proc. Linn. Soc. ii. p. 80. Hab. Sumatra.

## Gen. ŒCOPHYLLA, Smith.

1. ŒCOPHYLLA SMARAGDINA, Smith, Proc. Linn. Soc. v. p. 101. Hab. Morty Island; Salwatty.

## Fam. PONERIDÆ, Smith.

Gen. ODONTOMACHUS, Latr.

- 1. Odontomachus cephalotes, Smith, Proc. Linn. Soc. vii. p. 19. Hab. Morty Island; Sula.
- 2. ODONTOMACHUS NIGRICEPS, Smith, Proc. Linn. Soc. v. p. 103. Hab. Dory.
- 3. ODONTOMACHUS ACICULATUS, Smith, Proc. Linn. Soc. vii. p. 19. Hab. New Guinea.

### Gen. Ponera, Latr.

- 1. PONERA STRIATA, Smith, Proc. Linn. Soc. v. p. 104. Hab. Morty Island.
- 2. PONERA CUPREA, Smith, Proc. Linn. Soc. v. p. 104. Hab. New Guinea: Sula.
- 3. PONERA SIMILLIMA, Smith, Proc. Linn. Soc. v. p. 104. Hab. New Guinea.
- 4. PONERA 4-DENTATA, Smith, Proc. Linn. Soc. iv. p. 143. Hab. Sula.
- PONERA FEROX. P. nigra; capite elongato, aciculato; thorace abdomineque lævibus, nitidis; flagello tarsisque pallide ferrugineis.
- Worker. Length 4½ lines. Shining black; the head longitudinally aciculate; the prothorax with a few fine striæ anteriorly; the sides of the thorax with a few irregular striæ, otherwise smooth and shining; the node of the peduncle subquadrate and incrassate, and, as well as the abdomen, smooth and shining; the apical segment ferruginous. The mandibles, extreme base and apex of the scape, the flagellum, except the basal joint, and the tarsi and articulations of the legs ferruginous; the calcaria pale testaceous.

Hab. Salwatty.

This species is very like *P. simillima*; but it is a larger insect; and the thorax is smooth and shining, in *P. simillima* it is striated and opake.

## Gen. PACHYCONDYLA, Smith.

PACHYCONDYLA MELANCHOLICA. P. nigra, opaca; antennis, mandibulis, tibiis tarsisque ferrugineis.

Worker. Length 3 lines. Opake black, the second and following segments of the abdomen finely shagreened; the head oblong; the eyes small, not prominent, and situated near the base of the mandibles; the sides curved, the vertex transverse; the sides of the thorax nearly parallel, the metathorax obliquely truncate; the node of the peduncle rounded anteriorly, truncate posteriorly, and filling the base of the first abdominal segment, but not quite so wide, rugose above. The mandibles, antennæ, tibiæ, tarsi, and knees ferruginous.

Hab. Morty Island.

This species belongs to the genus *Pachycondyla* of my Catalogue, the insects included in which have the body almost parallel, as well as the node of the peduncle, and the calcaria pectinate. Some continental authors have sunk this well-defined genus.

#### Gen. ECTATOMMA, Smith.

1. ECTATOMMA RUGOSA, Smith, Proc. Linn. Soc. iv. p. 143. Hab. Sula.

## Gen. Anomma, Shuck.

1. Anomma erratica. A. nigro-ferruginea; capite antice et abdomine basi pallide ferrugineis; flagello pedibusque ferrugineis.

Worker. Length 2 lines. Obscurely ferruginous; the anterior portion of the head, the mandibles, apex of the scape, and the flagellum pale ferruginous; the scape black; the mandibles with a single tooth inside, their apex curved and very acute. Thorax compressed; the legs ferruginous, the tibiæ and tarsi palest; the legs elongate. Abdomen ovate, the node of the peduncle and the first segment paler than the following segments. The insect impunctate, very smooth and shining. Hab. New Guinea.

This species is distinguished from the three species of the genus with which I am acquainted by the following particulars: the antennæ are proportionally longer, the scape black, and the legs considerably more elongate.

The discovery of this genus in the Eastern Archipelago is, geographically, a circumstance of considerable interest, all the species previously known being African. Several hymenopterists have adopted the supposed affinity between *Anomma* and *Dorylus*, regarding the former as worker or neuter forms of the latter. This affinity was first suggested by Dr. Savage, but I am not acquainted with a single circumstance even apparently confirmatory of such a supposition. The genus *Dorylus* is very abundant in

India, but I have not seen a single Anomma from that country. I am much more inclined to suspect an affinity with Typhlopone, which I have frequently observed with Dorylus in collections from India, and also from Borneo.

### Fam. MYRMICIDÆ, Smith.

Gen. Myrmica, Latr.

- 1. MYRMICA PONEROIDES, Smith, Proc. Linn. Soc. v. p. 107. Hab. Morty Island; Sula.
- 2. MYRMICA QUADRISPINOSA. M. nigro-fusca; thorace spinis duabus antice et postice armato.
- Worker. Length 1 line. Dark brown-black, smooth and shining; the mandibles, antennæ, and tarsi pale ferruginous; a longitudinal carina runs from the insertion of each antenna halfway towards the posterior margin of the vertex; ocelli obsolete; eyes small, situated midway at the sides of the head; the head is of the same form as in Myrmica rubra; the club of the antennæ 3-jointed, the funiculus 8-jointed. Abdomen very finely striated longitudinally at the base; the peduncle subelongate, the first node conical, the second globose.

Hab. Salwatty. (Pl. IV. fig. 6, ♥.)

It will be seen from the above description that the insect has several characters in common with those of the genus *Myrmica*, in which I have placed it; but the discovery of the other sexes and an examination of the oral organs may render it necessary to separate it from the genus in which it is provisionally placed.

3. MYRMICA MALIGNA. M. rufo-nigra; clypeo, antennis pedibusque ferrugineis; capite et thorace dorso longitudinaliter striatis.

Female. Length 5 lines. Obscurely rufous, the head anteriorly and the antennæ bright ferruginous; the head longitudinally and strongly striated above, delicately so beneath. Thorax oblong-ovate; the mesothorax longitudinally striated above, with a smooth shining space down the middle and a narrower one on each side; the prothorax striated, as well as the sides of the metathorax, the latter with a delicate transverse striation above; the scutellum smooth and shining. Abdomen oblong-ovate, smooth and shining, with a few erect glittering white setæ at the apex; the nodes of the peduncle smooth and shining.

Hab. Morty Island.

This is probably the female of M. aspersa.

4. MYRMICA ASPERSA. M. rufo-fulva; antennis apice pedibusque pallide ferrugineis; capite thoraceque scabrosis; metathorace bispinoso; abdomine ovato, petioli nodis sublævibus.

Worker. Length 2 lines. Varying in brightness of colouring, rufo-

fulvous or dark ferruginous, with intermediate shade of colouring. Head and thorax very coarsely longitudinally rugose, the head deeply striated; mandibles smooth and pale ferruginous; the metathorax with two long, divergent, acute spines; the articulations of the legs and the tarsi pale ferruginous. The abdomen and nodes of the peduncle smooth and shining.

Hab. Morty Island.

5. Myrmica diligens. M. capite abdomineque nigris; antennis, mandibulis, thorace pedibusque pallide ferrugineis; metathorace spinis longis acutis armato.

Worker. Length 2 lines. Head black, smooth and shining, anteriorly obscurely ferruginous; a few abbreviated longitudinal striæ above the clypeus; the mandibles pale ferruginous; the antennæ ferruginous, palest towards their base. The thorax, legs, and first node of the abdomen pale ferruginous; the thorax coarsely rugose; the metathorax armed with two long acute spines, extending to the second node of the abdomen. Abdomen ovate, very smooth and shining.

Hab. New Guinea.

## Gen. Podomyrma, Smith.

- 1. PODOMYRMA SYLVICOLA, Smith, Proc. Linn. Soc. v. p. 110. Hab. Morty Island.
- 2. Podomyrma Basalis, Smith, Proc. Linn. Soc. iv. p. 147. Hab. New Guinea.

#### Gen. PSEUDOMYRMA, Guér.

1. PSEUDOMYRMA RUFONIGRA, Jerdon, Madr. Journ. Lit. and Sci. iii. p. 53.

Hab. Sumatra.

2. PSEUDOMYRMA CARBONARIA, Smith, Proc. Linn. Soc. vii. p. 20. Hab. Morty Island.

#### Gen. Myrmicaria, Saund.

1. MYRMICARIA (HEPTACONDYLUS) RUGOSUS, Smith, Proc. Linn. Soc. v. p. 110.

Hab. New Guinea.

I have received all the sexes of a species of *Myrmicaria* from Port Natal: the female constituted my own genus *Physatia*; the workers formed my genus *Heptacondylus*; both must now sink, and be included in Mr. Saunders's genus *Myrmicaria*, undoubtedly the male of *Physatta*. The male has the normal number of joints in the antennæ, namely thirteen, whilst the female, as well as the workers, have only seven.

## Gen. CREMATOGASTER, Lund.

1. CREMATOGASTER POLITUS. C. capite, thorace abdomineque basi castaneo-rufis; pedibus pallide rufo-testaceis.

Worker. Length  $1_4$  line. Head, thorax, and base of the abdomen reddish chestnut; very smooth and shining. Head large, wider than the abdomen; eyes small and, as well as the tips of the mandibles, black. Thorax deeply strangulated between the meso- and metathorax, the latter armed with two short, stout, acute spines; the legs pale rufo-testaceous. The abdomen heart-shaped, black, with the base and nodes of the peduncle reddish chestnut.

Hab. New Guinea.

2. CREMATOGASTER IRIDIPENNIS. C. pallide castaneo-rufus, lævis nitidusque; alis hyalinis, iridescentibus.

Female. Length  $2\frac{1}{4}$  lines. Pale chestnut-red, very smooth and highly polished. Head glassy smooth, the anterior part of a deeper red than the vertex; the occili situated in a darker stain; the mandibles with five black teeth. Thorax ovate, the metathorax without spines; the wings colourless and brilliantly iridescent; the legs paler than the thorax. Abdomen oblong-ovate, the margins of the segments deeply depressed; the basal margins of the segments pale.

Hab. New Guinea.

3. CREMATOGASTER TARSATUS. C. aterrimus, lævis et nitidus; antennis pedibusque rufo-piceis, tarsis albis.

Worker. Length  $1\frac{3}{4}$  line. Shining black, impunctate; the anterior portion of the head and the mandibles obscurely ferruginous; the antennæ and legs rufo-piceous; the tarsi white; the anterior angles of the prothorax acute; the metathorax armed with two short, erect, acute spines. The abdomen rather wider than the head, its extreme apex pale testaceous.

Hab. Morty Island.

# Fam. ATTIDÆ, Smith.

Gen. PHEIDOLE, Westw.

- 1. PHEIDOLE MEGACEPHALA, Smith, Proc. Linn. Soc. v. p. 112. Hab. Sula.
- 2. Pheidole hospes. P. rufo-ferruginea; capite maximo, in medio sulcato, longitudinaliter striato; antennis pedibusque pallide ferrugineis; abdomine nigro.
- Worker (major). Length  $2\frac{1}{4}$  lines. Head and thorax rufo-ferruginous; the head oblong-ovate, deeply notched behind, its anterior margin truncate; longitudinally striated, and having a longitudinal carina running from each antenna towards the vertex; the mandibles smooth and shining, their inner edge edentate; the antennæ and legs pale ferruginous; the metathorax with two minute sharp spines; the second node of the abdomen, as well as the abdomen itself, black.

Worker (minor). Length 1½ line. The general colouring the same as in the worker major, but rather paler; and of a very different form: the head of the ordinary size, oblong-ovate, narrowed behind the eyes abruptly towards the prothorax, which forms a neck; the eyes are prominent, and situated midway at the side of the head (in the worker major they are about one-third from the anterior margin); the antennæ and legs elongate; the metathoracic spines very minute.

Hab. New Guinea.

## Gen. PHEIDOLACANTHINUS, Smith.

Head large in the worker major; mandibles very stout, their inner edge sharp and smooth, not toothed; the antennæ 11-jointed, the club consisting of three joints; eyes minute, placed a little beyond the middle at the sides of the head. Thorax oblong, armed on each side in front with a long stout spine, acute at its apex; the metathorax with two shorter spines. Abdomen ovate; the peduncle with two nodes.

The above characters are drawn from a unique example of a worker, and are necessarily incomplete, but, with the aid of a figure of the insect, will serve to discriminate the genus. It is very like a species of *Pheidole*, but has one joint less in the antennæ; and the armed prothorax indicates, I think, more than a specific distinction. The capture of the other sexes will, I expect, justify its separation as a genus.

1. Pheidolacanthinus armatus. P. rufo-ferrugineus; capite maximo, in medio sulcato et striato; thorace spinis duabus acutis antice et postice armato.

Worker. Length 2 lines. Bright rufo-ferruginous; the abdomen very obscurely ferruginous, nearly black. Head very large, deeply striated longitudinally; the mandibles smooth and shining, their inner edge black and edentate. Thorax armed with two very stout, long spines in front, and two smaller ones on the metathorax; the femora incrassate in the middle; the tarsi slender and pale testaceous. Abdomen delicately aciculate at the extreme base; the first node of the peduncle compressed, the second incrassate and transverse. (Pl. IV. fig. 8, \$\neq\$.) Hab. Salwatty.

#### Gen. Solenopsis, Westw.

 SOLENOPSIS LÆVIS. S. rufo-testacea, lævis, tota nitidissima, nuda; metathoracis spinis minutissimis.

Worker. Length 2½ lines. Rufo-testaceous, smooth, shining, and impunctate; the inner margin of the mandibles with four black teeth; the head wider than the abdomen; the eyes very minute, situated midway at the sides of the head. Thorax rounded anteriorly; the

metathorax with two minute spines. Abdomen ovate; the nodes oblong-ovate, the first pedunculate.

Hab. Morty Island.

# Subfam. CRYPTOCERIDÆ, Smith.

Gen. CATAULACUS, Smith.

 CATAULACUS SETOSUS, Smith, Proc. Linn. Soc. v. p. 114 & vii. p. 24.

Hab. Morty Island.

2. CATAULACUS HISPIDULUS. C. niger, hispidus; capite thorace et abdomine rugosis; thorace spinis duabus validis postice armato.

Worker. Length  $2\frac{3}{4}$  lines. Black and subopake; thinly sprinkled with short erect white setæ; the head, thorax, legs, and nodes of the abdomen roughly sculptured, the face longitudinally so, the lateral posterior angles of the head with deep coarse punctures or fossulets which are more or less confluent; the sculpture of the thorax above and of the nodes of the abdomen is similar; the legs are coarsely roughened; the abdomen is much more finely sculptured and is somewhat longitudinally aciculate, the base is coarser than the disk. The anterior tibiæ and tarsi and the claw-joint of the intermediate and posterior pair ferruginous. The head transverse and widest behind, the sides being curved, the posterior angles acute. The thorax narrowed behind, transverse in front, the sides curved, terminating posteriorly in two short, broad, acute spines. Abdomen ovate. (Pl. IV. fig. 7,  $\S$ .)

Hab. Sumatra.

#### Gen. CEPHALOXYS, Smith.

Head subtriangular in the  $\mathcal{Q}$ , deeply emarginate behind; eyes round, concealed beneath the grooves at the sides of the head; ocelli three, placed in a triangle on the vertex; the antennæ clavate, received into longitudinal grooves at the sides of the head above the eyes, the flagellum five-jointed; the mandibles subtriangular, multidentate. Thorax oblong-ovate, rounded anteriorly, posteriorly emarginate and bidentate; legs moderately long and stout, the anterior tibiæ armed with a stout spine at their apex, the intermediate and posterior pair unarmed. Abdomen ovate, the peduncle with two nodes.

The unique specimen from which the above characters are drawn is a female; unfortunately the wings are wanting. The insect somewhat resembles the *Ceratobasis singularis*, which I characterized in the first volume of the 'Journal of Entomology;' but from that remarkable genus it is separated by its six-jointed antennæ, besides other characters; it is one of the most remarkable insects with which I am acquainted, and it is the only

species which I have seen that has the eyes situated beneath the head.

1. CEPHALOXYS CAPITATA. C. capite, thorace pedibusque ferrugineis, abdomine fusco-brunneo.

Female. Length  $1\frac{1}{2}$  line. Head, thorax, and legs ferruginous; the head heart-shaped; the mandibles porrect, continued in a line with the sides of the head, terminating in a point; the scape compressed; a black spot on the vertex, in which the ocelli are placed in a triangle. Thorax subovate, the metathorax with two short spines; the margins of the scutellum dusky; the head and thorax finely rugose and sprinkled with minute white scales or setæ. Abdomen smooth and shining, fuscous red or dark chestnut, with the base and apex pale; the nodes of the abdomen finely acciculate, and a few abbreviated striæ at the extreme base of the abdomen. (Pl. IV. fig. 5, 2.)

Hab. New Guinea.

## Fam. THYNNIDÆ, Erichs.

## Gen. THYNNUS, Fabr.

1. Thynnus Lævissimus. T. nigro-piceus, antennis pedibusque ferrugineis; abdominis segmento secundo striis quatuor transversis.

Female. Length 3 lines. Dark brown, nearly black, smooth and shining; the antennæ, mandibles, and legs ferruginous; the eyes lateral, touching the base of the mandibles. The mesothorax oblong-quadrate, slightly concave, with a central longitudinal carina; the metathorax obliquely truncate. Abdomen oblong, smooth and shining; the margins of the segments narrowly pale testaceous; the second segment with four deep transverse striæ; the apical segment ferruginous at the apex.

Hab. New Guinea.

 THYNNUS ATRATUS. T. niger, capite thoraceque rude punctatis; abdomine utrinque maculis flavis, segmento secundo transversim striato. (Fæm.)

Female. Length 6½ lines. Black; the mandibles ferruginous in the middle; the legs obscurely rufo-testaceous, brightest beneath, the anterior and intermediate tibiæ pale ferruginous beneath; a yellow spot on each side of the basal segment of a suboval form, pointed within; two smaller ovate yellow spots on the third segment, and also a minute yellow spot at the extreme lateral margins of the third and fourth segments. The scape of the antennæ very slender at the base, thickened and bent at the apex, and produced within into a sharp angle; the thorax transverse anteriorly, the margin slightly curved or emarginate; coarsely punctured above. The mandibles, legs, and the margins of the apical segments of the abdomen

