

A COLLECTION OF SAWFLIES (HYMENOPTERA SYMPHYTA) FROM JAVA

by

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I have lately received for determination some very interesting sawflies collected in Java mostly by Dr. J. van der Vecht. The collection contained eight species not recorded in Forsius' recent list of Javan Sawflies (Forsius 1934), six of these being entirely new species. The types of these new species have been deposited in the Rijksmuseum van Natuurlijke Historie, Leiden, Holland; paratypes and duplicate specimens where available have been retained in the British Museum. In addition to these I have added the description of a new species of *Anapeptamena* given to the British Museum by Dr. C. Ferrière. The additions to the Javan fauna are listed below.

ORUSSIDAE

Ophrynopus maculpennis (Smith)

Bajoekidoel, Banjoewangi, East Java, 1 ♂, IX. 1932, Toxopeus leg.

Forsius (1926) suggests that *O. loriae* (Mantero), and *O. trifasciatus* (Cameron) (New Guinea), as well as *O. sericatus* Mocsary (New South Wales) and *O. queenslandicus* (G. Turner) (Queensland) are synonymous with this species. The Australian species *O. sericatus* Mocsary, is, however, certainly a very distinct species from *O. maculipennis* (Smith) as I have indicated in the key below.

The Malaysian and Australian forms of *Ophrynopus* Konow can be distinguished from the Central and South American forms by the fact that segment 3 of the abdomen is about two-thirds as long as segment 2 while in the American forms segment 3 is about half as long as segment 2. In the American species also the ocellar region is usually about as

broad as long, the tubercles being arranged in a semicircle behind the front ocellus, while in the Malaysian and Australasian forms the ocellar region is elongate, the tubercles on each side being arranged nearly in a straight line.

Key to Malaysian and Australasian *Ophrynopus*.

- 1 Puncturation of thorax very fine and dense so that the surface is dull; scutellum semicircular behind and very clearly margined (fig. 1 a). Smaller species, 7.6 to 10.5 mm 2
- Puncturation of thorax large, coarse and deep with conspicuous shining smooth areas between the punctures; scutellum sub-hexagonal in shape: the hind margin is not clearly defined, and though rounded at the corners is straight or even slightly concave in the middle (fig. 1 b). Larger species, 9 to 13.5 mm 3
- 2 Stigma and costa black; wing hyaline with only apex of forewing beyond middle of stigma slightly infuscate; first discoidal cell about equal in length to its petiole; legs and body entirely black. . . (New Zealand) *schauinslandi* Ashmead.
- Stigma and costa yellow except extreme apex; forewings with two infuscate areas: apex is hyaline up to the middle of the second cubital cell, then there is a transverse infuscate band as far as the apex of the stigma and finally a basal patch not quite reaching apically to the basal vein; first discoidal cell considerably longer than its petiole; legs entirely reddish, together, sometimes, with the scutellum and sides of mesonotum . . . (Queensland and New South Wales) *sericatus* Mocsary Feb. 1900 (= *queenslandicus* G. Turner Nov. 1900)
- 3 In the forewing the apex is not clear hyaline but fusco-hyaline, and extends to about the middle of the second cubital cell, where it fades into the dark fuscous transverse band; at the base of this band, which ends under the middle of the stigma, the wing is clear hyaline except for a fuscous patch occupying the sub-costal cell. Scutellum with large shining spaces between the punctures even at its margin. Black metallic species except for hind femora and more or less hind tibiae which are red. Stigma with pale basal half and black apical half. (Borneo) *kohli* Konow (= *cariniceps* Cam.)
- In the forewing the apical patch is clear hyaline and covers only the apical third of the second cubital cell where, instead of fading into the fuscous transverse band, it ends abruptly; at the base of the band, which ends under the middle of the stigma, there is a clear hyaline band but, at the base of this, not only the subcostal cell but also the median and anal cells (except at their extreme bases) are deep fuscous. Scutellum with heavily punctured margins (fig. 1 b). Black metallic species with all the legs red (except for the coxae trochanters and the front of the fore tibiae) . . . (Sumatra, Java, Aru and New Guinea) *maculipennis* Smith (= *loriae* Mantero, *trifasciatus* Cameron).

XIPHYDRIIDAE

Xiphydriola quadricincta nov. spec.

Pemalang, Pekalongan Province, Central Java. 1 ♀ (Holotype), VII. 1928, L. G. E. Kalshoven (Rijksmuseum, Leiden).

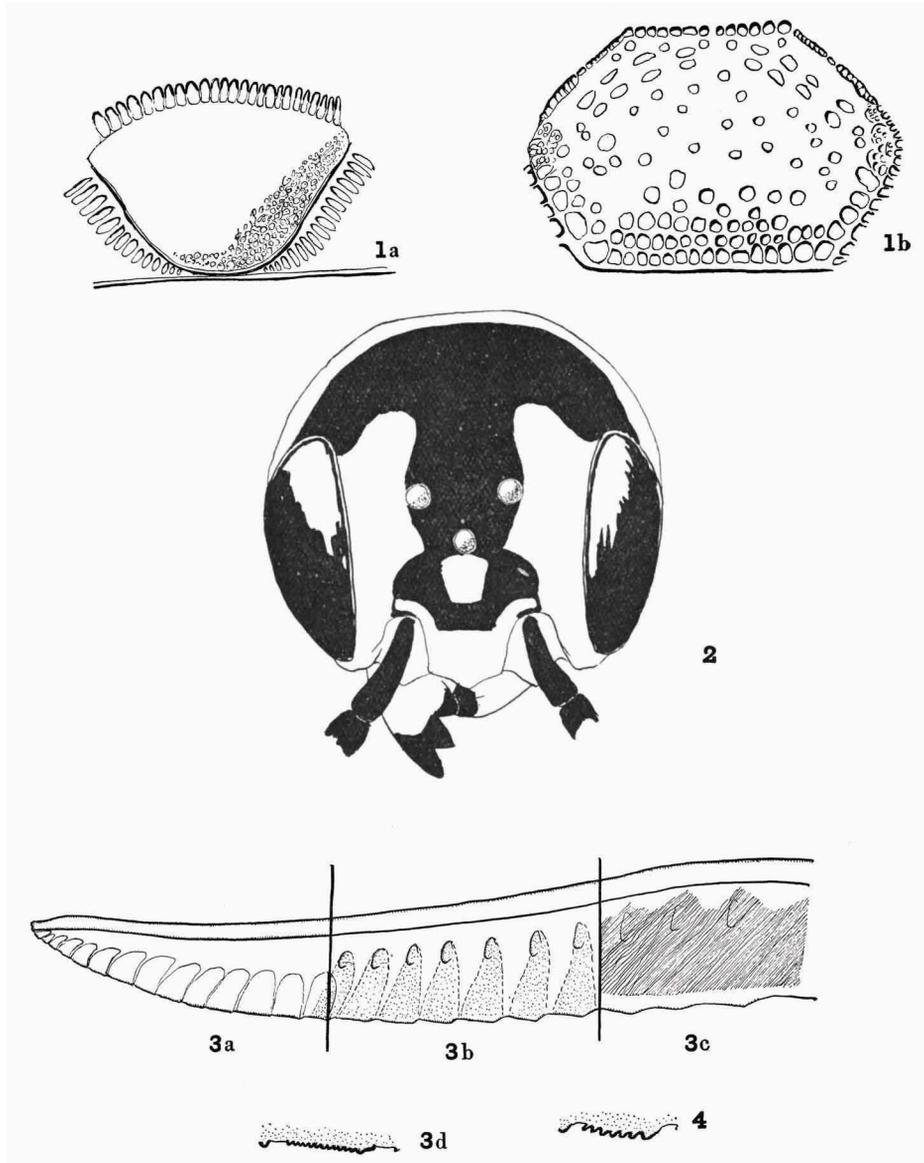


Fig. 1. Scutellum: (a) *Ophrynopus sericatus* Mocsary; (b) *Ophrynopus maculipennis* Smith.

Fig. 2. Face of *Xiphydriola quadricincta* nov. spec., to show colour pattern.

Fig. 3. Saw of *Amonophadnus pullus* nov. spec.: (a) to show structure of lubricating ducts; (b) to show raised areas on outer surface; (c) to show striations on inner surface; (d) thirteenth tooth from apex enlarged.

Fig. 4. Thirteenth tooth from apex of the saw of *Amonophadnus nigripennis* nov. spec.

♀. Colour: Head yellow; a brownish black band stretches across the post-ocellar area from the dorsal hind end of one eye to that of the other; the middle of this band is extended forwards to include the three ocelli and to reach almost to the antennae, except for a pale spot immediately in front of the anterior ocellus; brownish black also are the apical margin of clypeus at the sides, the apex of the mandible, the antenna, and a collar extending round the vertical margin of the head behind and under the chin in front (fig. 2). Thorax black but with the following parts yellow: pronotum (except for the front margin); mesonotum with a mark on each side of the front lobe, the hind portion of each side lobe, and the scutellum; metanotum; mesopleura and metapleura with a mark near the hind margin of the episternum. Legs yellow; basal two-thirds of each femur, also the four apical tarsal segments brownish-black; apex of tibia and metatarsus reddish-brown. Abdominal terga black with yellow as follows: a narrow margin to the dorsal medial incision to tergum 1; a mark on the dorsal side of terga 2 to 6; in 2 the yellow extends as a band over the dorsum of the tergum in the middle, likewise in 5, 6 and 8, but here the band is broken on the medial dorsal line and in 8 it extends also over the ventral portion of the side of the tergum; tergum 9 apically and the whole of 10 also yellow. Sterna of abdomen and inflexed sides of terga (except tergum 8) brown. Sawsheath black. Wings hyaline; stigma and venation black.

Length 9 mm (excluding sheath); forewing 6 mm; antenna 2 mm.

Structure: Head globose not swollen behind eyes; clypeus with a medial triangular projection and with longitudinal striae; frontal region reticulately sculptured as far back as to the post-ocellar blackish band; post-ocellar region polished smooth and shining; mouth-parts as in *Xiphydria camelus* L.; antenna short, 15-segmented; segment 2 less than half as long as 1; 3 one and a half times as long as 2; 4 and middle segments following as long as 2; apical segments diminishing; four apical segments tapering. Thorax: Pronotum and hind portion of mesonotum together with scutellum and metanotum smooth with vague coarse punctures: front portion of mesonotum with reticulate surface sculpture; propleurae and metapleurae dull with fine dense punctures; mesopleurae shining between large punctures. Wing venation as in *Xiphydria camelus* L. Legs with tarsal claws of middle and hind pair simple without any basal tooth; fore-pair with a small subapical tooth. Abdomen dull with fine surface puncturation; sawsheath comparatively short, projecting beyond apex of abdomen by about as much as the length of the hind femora.

Semenov, 1921, erected the genus *Xiphydriola* for the single species *X. amurensis* Semenov (E. Siberia) largely on account of its simple tarsal claws and short antennae; *Xiphydria* on the other hand has tarsal claws with a large subapical tooth.

Two other species up till now regarded as *Xiphydria* have simple hind tarsal claws: *X. striatifrons* Cameron 1904 and *X. indonesica* Forsius 1933.

Unfortunately authors have not generally described claw characters in the Xiphydriidae so that there may be yet other described species belonging to this group.

Key to the species of *Xiphydriola*.

- 1 Antennae little longer than length of head; colour obscure black; hind wing with two enclosed cells (E. Siberia) *amurensis* Semenov.
- Antennae considerably longer than length of head; head and abdomen with white markings 2
- 2 Hindwing with one inclosed cell; clypeus and frontal area with continuous longitudinal striae reaching to the post-ocellar region, mesonotum (except for a small spot on the hind end of each of the side lobes) and scutellum all black (Ceylon) *striatifrons* (Cameron).
- Hindwing with two enclosed cells; clypeus striated longitudinally, but frontal area reticulate; front lobe of mesonotum with a pale oblique spot each side and scutellum pale 3
- 3 Antenna about as long as thorax (2 mm); segment 2 less than half segment 1, about two-thirds as long as 3 and longer than 4. Scutellum all yellow; unpunctured all over. Femora with apical third yellow; all tibiae yellow except for the extreme apex of the hind pair which are fuscous
(Java) *quadricincta* nov. spec.
- Antenna as long as thorax and abdominal segment 1 together (3 mm); antennal segment 2 more than half segment 1, very little shorter than 3 and equal to 4. Scutellum black with a yellow spot each side; unpunctured at sides and apex but rugulous in the middle and at the base. Femora infusate except for extreme apex; tibiae with only basal half yellow, — apical half fuscous.
(Malay) *indonesica* (Forsius).

TENTHREDINIDAE

Ateloza solicornis Enderlein 1919

Teak-forest, Semarang Province, Central Java, 1 ♀, 18. IV. 1928, L. G. E. Kalshoven.

This is a very interesting species because, in the partial breaking down of the second anal cell of the forewing, it shows the anal cell in an intermediate condition between that of the Emphytinae and the Blennocampinae.

***Amonophadnus nigripennis* nov. spec.**

Tapos, Mount Gedeh, West Java, 1000 m, 1 ♀ (Holotype), 20—26. I. 1933, J. van der Vecht (Rijksmuseum, Leiden).

♀. Colour: metallic blue all over except for the brownish claw-bearing tarsal segments. Wings violaceous fuscous throughout except for the extreme bases which are hyaline; stigma and venation black.

Length: 12 mm; forewing 10.5 mm; antenna 4 mm.

Structure: Pubescence pale and covering whole insect. Head slightly contracted behind the eyes; eyes converge a little in front; mouthparts with maxillary palp elongate, about as long as the head when extended; clypeus rounded in front and shining between punctures bearing hairs; antennae not quite as long as head and thorax together; the two concave basins on the frons, the median fovea and ocellar basin are surrounded by a ridge in the form of a figure of 8; these ridges are heavily punctured though the temples show large shining surfaces with more scattered punctures; the antennal lateral and vertical furrows are very deep; the postocellar region is about twice as broad as long; the hind margin of the vertex and temple is not carinated but marked by a ridge bearing very dense punctures. Thorax and abdomen entirely smooth and shining without distinct punctures; legs with basitarsus a little less in length than the rest of the tarsal segments together; hypopygium with a rounded projection back in the middle but with straight sides; sawsheath viewed from above very narrow and aciculate behind with short straight outward and backward projecting hairs; saw in general form as in that of *Amonophadnus pullus* nov. spec., fig. 3 a, b and c; thirteenth tooth from apex as in fig. 4.

This species agrees with Rohwer's description of the genus *Amonophadnus* 1921. According to Malaise *Corporaalinus* Forsius and *Tomostethopsis* Sato are synonymous with *Amonophadnus*. In the form of the sawsheath this species is probably close to *A. submetallicus* Rohwer of the mountains in South India, but differs in the dark instead of hyaline wings, the rounded instead of truncate clypeus, the antennae being shorter than head and thorax, the basitarsus not equalling the combined length of the other tarsal segments, and the absence of white on the trochanters and tibiae. In all the other described species in these three genera the sawsheath increases in width behind (when viewed from above) and is then truncate or rounded.

Amonophadnus pullus nov. spec.

Rarahan, Mount Gedeh, West Java, 1375 m, 1 ♀ (Holotype), 21. VI. 1932. H. R. A. Muller (Rijksmuseum, Leiden).

♀. Colour: black with greenish metallic sheen except for the brown claw-bearing tarsal segments. Wings light grey hyaline basally, but the apical part beyond the base of the stigma is light grey infusate. Stigma and venation black.

Length: 9 mm; forewing 8.5 mm; antenna 4 mm.

Structure: Pubescence pale and covering whole insect.

Head as in *A. nigripennis* nov. spec., but the clypeus is broadly and slightly emarginate on the front margin; the median fovea is almost square, open in front, without a front ridge and the ocellar basin is less concave and smaller in the middle with a much thicker and more prominent surrounding ridge, but this is broken behind by the elongate interocellar furrow; the antennae also are proportionally longer, being greater in length than the head and thorax together. Thorax and abdomen as in *A. nigripennis* nov. spec. with very similar though slightly larger saw-sheath; saw as in fig. 3 a, b, and d.

This species is most closely allied to *A. nigripennis* nov. spec. from which it differs as indicated in the above description in the emarginate form of the clypeus, the structure of the frons and the less darkly infusate wings, etc.

Neostromboceros rufa nov. spec.

Tapos, Mount Gedeh, West Java, 700 m, 2 ♂, VII. 1933, J. van der Vecht (Holotype in Rijksmuseum, Leiden, Paratype in British Museum).

♂. Colour: reddish brown; head brown; labrum, hind margin of pronotum, tegulae, cenchri, coxae, trochanters, tibiae tarsi and base of costa, yellow. Wings hyaline; venation and stigma reddish brown.

Length: 7 mm; forewing 6.5 mm; antenna 4 mm.

Structure: Puncturation almost obsolete; whole surface smooth and shining except clypeus and upper part of head where the surface hair follicles are more marked. Pubescence pale, sparse all over insect. Head contracted behind eyes; eyes converge slightly in front; malar space linear; clypeus broad with lateral angles touching eye margin and with the front margin broadly emarginate (fig 5); antenna with segment 3 equal to last three segments together and less than segments 4 and 5; four last segments subequal in length; antennal, lateral

and vertical furrows well marked; median fovea as a small round depressed spot; ocellar basin with a deep rounded hollow immediately in front of front ocellus; post-ocellar area about as broad as long. **T h o r a x**: hind metatarsus subequal in length with rest of the tarsal segments; claws

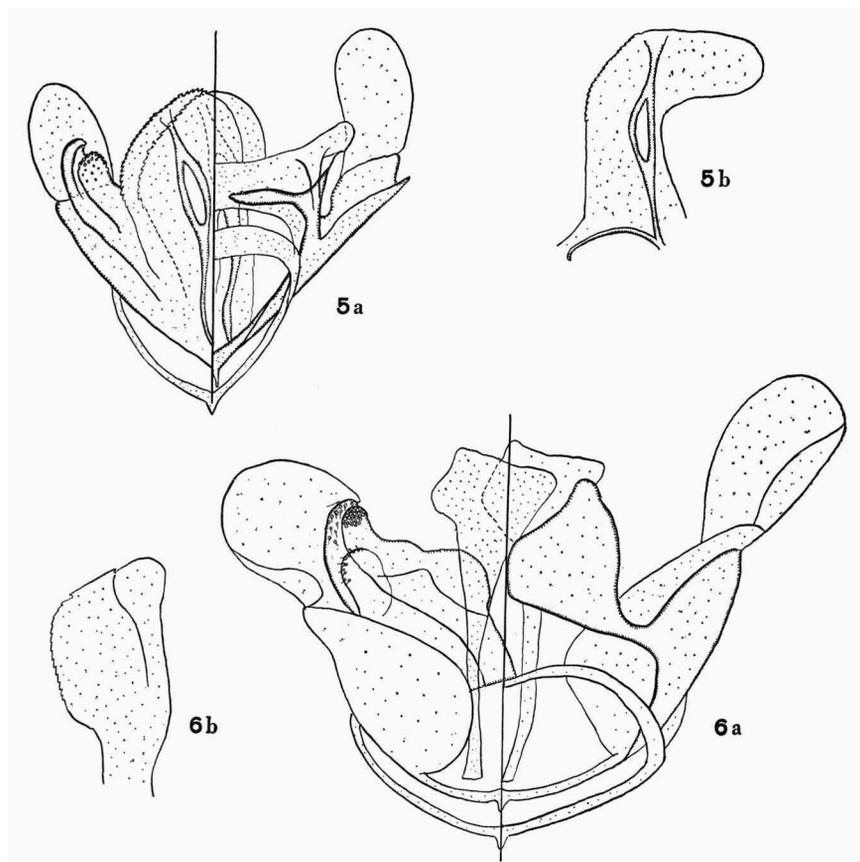


Fig. 5. (a) Male genitalia of *Stromboceros delicatulus* Fall.; (b) Penis valve, side view of *Stromboceros subtilis* nov. spec.

Fig. 6. (a) Male genitalia of *Athlophorus javanus* Enslin; (b) Penis valve of *Athlophorus puncticeps* nov. spec.

normal: — cleft with inner tooth larger than end tooth and with basal lobe. **A b d o m e n** with hypopygium roundly emarginate on the hind margin when viewed from behind.

By its entirely reddish brown and yellow colour this species is unlike any other in the genus.

***Stromboceros subtilis* nov. spec.**

Tjibodas, Mount Gedeh, West Java, 1400 to 1700 m, 1 ♂ (Holotype), 28. VI. 1932, H. R. A. Muller (Rijksmuseum, Leiden).

♂. **Colour:** metallic blue-black all over except for the tibiae at the base on the outside and the hind margin of the abdominal terga in the middle, which are yellowish-white. Wings hyaline at the base but becoming faintly infuscate at the apex beyond the base of the stigma; stigma and venation blackish brown.

Length: 8 mm; forewing 7 mm; antenna 4 mm.

Structure: This is a delicate slim insect with an almost cylindrical Cephid-like abdomen as in *Stromboceros delicatula* Fall. Pubescence pale and sparse all over surface except basal terga. Puncturation almost obsolete, leaving the surface very smooth and shining except for the slight hair follicles. Head slightly contracted behind the eyes; eyes in front converge slightly so that they almost touch the side angles of the clypeus; clypeus short and broad; front margin depressed and broadly roundly emarginate; antenna with funiculum and pedicellum longer than broad; segment 3 subequal with 4 and 5; last four segments also subequal; segments of flagellum, especially 7 and 8, with a distinct though small apical projection beneath; antennal furrow as a small rounded depression in the front of the lateral fovea; median fovea as a small rounded depression just behind the antennae; ocellar basin flat except for a depression immediately in front of the front ocellus; post-ocellar area almost as long as broad with vertical furrow clear though not deeply depressed.

Thorax: claws with an erect subapical tooth and small basal lobe; hind basitarsus longer than rest of the tarsal segments together.

Abdomen with hypopygium entire behind; genitalia as in *Stromboceros delicatulus* Fall. (fig. 5 a) except for penis-valve which is illustrated in fig. 5 b.

Of described species this is apparently closest to *Stromboceros caeruliceps* Cameron, which differs through its entirely hyaline wings, its postocellar region being longer than broad, and its white hind trochanters. *Stromboceros caeruliceps* (Cameron) is not synonymous with *Neostromboceros laevis* (Konow) as suggested by Enslin (1912) in his key to oriental *Stromboceros*; the two are generically distinct the former having claws with an erect sub-basal tooth and the latter having the claw bifid at the tip.

Anapeptamena rugafrons nov. spec.

Tea Plantation, Negla, Java, 1700 m, 2 ♀ (Holotype and Paratype), 1916, R. Menzel (Dr. Ch. Ferrière collection presented to British Museum).

♀. **C O L O U R**: black; abdomen with a brown tinge; white are the apical segments of the palps and on the front and middle legs, the extreme apex of the femur, the tibia except the extreme apex, the tarsi except segments 3 and 4, on the hind legs the apical half of the femur and a line on the upper and lower edges, the tibia except for a spot on the outside of the apex and the basitarsus; wings infuscate, with stigma and venation blackish brown.

L e n g t h: 4.25 to 4.5 mm; forewing 4 to 4.25 mm; antenna 2 mm.

S t r u c t u r e: Pubescence pale and evenly covering insect except on basal terga. **H e a d**: clypeus roundly emarginate in front each mandible with a prominent sub-basal tooth parallel to and of nearly equal length with the end tooth; malar space linear owing to convergence of eyes close to bases of mandibles; antenna elongate (longer than head and thorax together) segment 1 + 2 subequal to 3 in length; segment 4 equals about two-thirds 3; four apical segments subequal and each about three times longer than broad; a transverse furrow separates the supraclypeal area from the frontal area; the frontal furrows are absent, so also is the median fovea, so that the frontal area is not defined at the sides though it is slightly convex; frontal area dull and wrinkled, the wrinkles being mostly curved into concentric circles, with a depression in front of the front ocellus as the centre of the circles; post-ocellar region about as long as the diameter of an ocellus and defined at the sides by a vertical fovea.

T h o r a x unpunctured smooth and shining; hind basitarsus a little longer than the rest of the tarsal segments; claws with a large erect sub-apical tooth and a basal lobe.

A b d o m e n rugulously punctured; sawsheath short, not projecting beyond apex of abdomen and with backwardly projecting curved hairs.

This species would run down to *A. jacobsoni* Enslin in Forsius' key to the genus (1932), but it differs from that species in its wrinkly punctured frons, in its long antennae (in *A. jacobsoni* Enslin the antenna is only about as long as head and thorax together and the apical segments are not more than two-thirds longer than broad), and in its emarginate instead of truncate front of clypeus.

Athlophorus puncticeps nov. spec.

Tapos, Mount Gedeh, West Java, 800 m, 1 ♀ (Holotype), 13—19. III. 1933, J. van der Vecht (Rijksmuseum, Leiden); 1 ♂ (Allotype), VII. 1932, L. G. E. Kalshoven (British Museum).

♂♀. Colour: black; yellow are labrum, clypeus, funiculum and underside of pedicellum of antenna, front orbit beside antenna, the front and hind margins of the pronotum, the first parapterum, the tegula, scutellum, cenchri, metascutum, on the front and middle legs the outer side of the coxa, the apex of the femur, the base and the outer side of apex of tibia as well as the base of the basitarsus, on the hind legs the outer and under sides of the coxa, the basal fourth of the tibia, and the basitarsus on the outer side, the front and hind margins of abdominal terga 2 and 3, a longitudinal medial stripe to terga 1 and 2, the front margin of tergum 4, the broad hind margin of 6, the narrow hind margin of 7, 8 and 10, the cerci, and the sterna of abdominal segments 2, 3 and 4; reddish brown are the frontal area and the temples (except for a black spot reaching across the ocellar region and an oblique black stripe reaching from the hind margin of each eye to the hind end of the vertical furrows) the four apical segments of the antenna beneath, a spot in the middle of the mesonotum covering part of the side lobes and the hind part of the front lobe, also the margin of the side lobe bordering the scutellum and the parts of the side lobe facing outwards. Wings greyish hyaline merging into a fuscous spot which occupies the whole of the radial cell, the second cubital cell and half the third cubital cell of forewing; stigma yellow, costa brown, rest of venation black.

♀. Length: 12 mm; forewing 9.5 mm; antenna (broken).

♂. Length: 10 mm; forewing 8 mm; antenna 4 mm.

Structure: Pubescence pale all over, mostly thick but very sparse or absent on abdominal terga 2 and 3. Head contracted slightly behind the eyes; dull with dense fine punctures all over except on labrum; mouth parts with elongate maxillary palp (about as long as the combined length of the tarsal segments of a front leg); the two basal segments of maxillary palp especially elongate and thick; labial palp normal; mandible falcate with a small sub-basal tooth; clypeus in shape strongly arched, the front margin being deeply emarginate, almost excised; there is a prominent transverse ridge about two-thirds down the clypeus; the front third of the clypeus is depressed under the ridge, so that the ridge in front overlaps part of the clypeus; eyes with orbits in front almost parallel; malar space (shortest length) about as long as the basal

breadth of the pedicellum; funiculus of antenna almost twice as long as pedicellum; pedicellum two thirds as broad at apex as the length; segment 3 a little longer than 4 and about a quarter longer than 5; segment 5 about one-third longer than 6; in male segments 6, 7, 8 and 9, with the undersides swollen rounded and pale, probably bearing some extra sense organs; antennal furrows deep; frontal area raised above rest of frons but not clearly defined by lateral fovea; median fovea as a rounded depression; hind ocelli clearly in front of eye tangent, as the hind part of head is well developed; post-ocellar area longer than broad and narrowing in front and behind through the curvature of the vertical furrows; temples behind the eyes with a well marked carina behind. **T h o r a x:** on dorsal side densely and finely punctured and dull, except on the raised

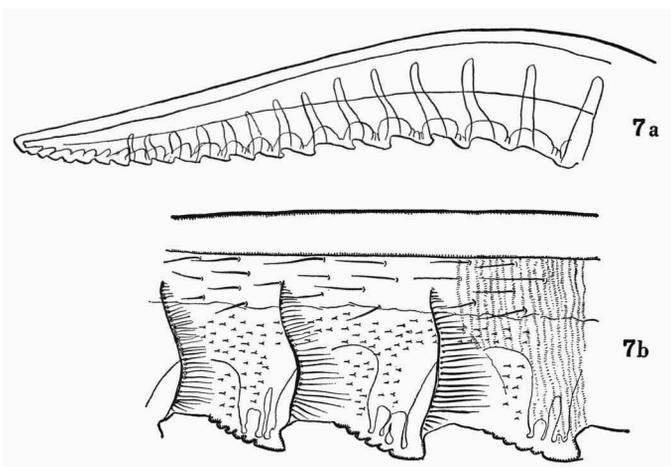


Fig. 7. Saw of *Athlophorus puncticeps* nov. spec.: (a) diagrammatic representation of whole saw; (b) enlarged portion containing thirteenth, fourteenth and fifteenth teeth to show two types of forward projecting hairs and fine surface sculpture on inner surface, and the backward projecting hairs from raised ridges on outer surface, together with details of lubricating ducts and tooth structure.

centres of the mesonotal lobes where the punctures become scarcer and the surface shining; scutellum raised into a pyramid, densely punctured; meso-pleurae with a very coarse grained puncturing as well as the fine punctures; mesosternum and pro-sternum shining and almost smooth with sparse punctures. **L e g s** with basitarsus longer than the rest of the tarsal segments together; claws with a long sub-basal tooth almost as long as end tooth and with a large basal lobe as well.

A b d o m e n with rugulous surface puncturation especially on tergum 1 and the apical segments; terga 2 and 3, and especially the basal sterna

are smooth and shining with obsolete puncturation; tergum 1 divided medially and apically emarginate, in the middle excised. ♀ hypopygium behind with a rounded medial projection; saw (fig. 7); ♂ hypopygium slightly emarginate behind; ♂ genitalia as in *Athlophorus javanus* Enslin, fig. 6 a except for penis valve which is illustrated in fig. 6 b.

In Enslin's key (1912: 122) this species would run to *A. javanus* Enslin, which is smaller and much less heavily punctured all over: in particular the temples of the head, the scutellum and tergum 1 (except at the margins) are smooth, shining and almost unpunctured, whereas these parts in *A. puncticeps* nov. spec. are dull and densely punctured. In colour the two species also differ considerably: the head of *A. javanus* Enslin is black with yellow markings and tergum 1 has a large white area in the middle, while in *A. puncticeps* nov. spec. the head is also more deeply emarginate behind than in *A. javanus* Enslin.

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