

***Atheta* and Its Allies of Southeast Asia (Coleoptera: Staphylinidae)**

IV. Ten Oriental Species Described by M. Bernhauer and M. Cameron

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ABSTRACT Ten species of *Atheta* and its allies of Southeast Asia were reexamined, with one new genus and three new subgenera of *Atheta* being erected.

KEY WORDS *Atheta*-complex/ Southeast Asia/ redescription/ chaetotaxy

Of many species described from Southeast Asia by M. Bernhauer (1902, 1915, 1927) and M. Cameron (1920, 1920, 1950), hitherto 71 species have been redescribed including 10 species which are treated in the present paper. The remaining 22 species are to be investigated further on before we may identify the example of that region with certainty. Hearty thanks are due to the staffs of the British Museum (Natural History) and the Field Museum for giving me opportunities to inspect the type specimens preserved there. Also I wish to express my sincere thanks to Prof. Saburo Nishimura of the Kyoto University for his guidance and support as well as to Prof. em. Ryozo Yoshii of the Kyoto University for his critical review of my manuscript. For the publication I owe much to the Biological Laboratory of the same university.

Datomicra Group

1. *Atheta* (*Microdota*) *coprophila* Cameron, 1950

Fig. 1

Atheta (*Microdota*) *coprophila* Cameron, 1950: 110

Male: Ground colour is brown and weakly shining in the fore-parts; head and pronotum are similarly pigmented; the middle portion of elytra is paler than others; abdomen a little infuscate towards the extremity; antenna is brownish and legs paler. Body is narrow and small, with inconspicuous pubescens. Head with an obsolete median depression, where it is rather smooth. Eyes are normal in size. Antenna is moderately long; segment III clearly shorter than II; X distinctly transverse. Labrum (Fig. A) is as usual; proximal row of setae is nearly parallel to distal row. The right mandible (Fig. B) has a distinct molar tooth. *a*-sensilla of labral margin (Fig. C) is very short, whereas *b* is thick and truncate at apex. In labial palpus (Fig. D) *r* is remote from *b*; *a* is on the level of *b*; *e* is close to the level of *mp*. Glossa (Fig. E) is constricted towards the base and forked from the middle into two obtuse arms. In prementum median area is as usual; distal setae are contiguous together; real pore of lateral area is well inside the anterior margin of prementum. Mentum (Fig. F) is deeply emarginate

in front. Pronotum is slightly narrowed behind and with a broad depression along the middle; the surface is covered with fine granules and dense microsculpture; lateral erect setae are inconspicuous. Elytron is more roughly granulated and sculptured than pronotum and not emarginate postero-externally. Flabellum has 3 long setae. Macrochaetotaxy as 01-12-12-12-12-34. Tergite VIII (Fig. G) is broadly truncate behind, its margin is irregular and on each side with a short blunt process whose spical inner corner is well-defined; among 4+4 major setae *a*-2 is fairly posterior to the level of the stigma; microsculpture (Fig. G) is imbricate pattern, which is coarser laterally. Abdomen is nearly parallel in full length and with short erect setae along lateral margin. Meso- and metatibiae have a short macroseta in the middle. In aedeagus the median lobe (Fig. H) is 0.26 mm long; apical lobe has a hook at apex; other parts were lost, when detached from the corpus. Copulatory piece (Fig. I) is broad basally and narrowed anteriorly ending in an obtuse apex. In the inner armature median apophysis is composed of a transverse sclerite and an elongate, apically rounded lobe; paramedian

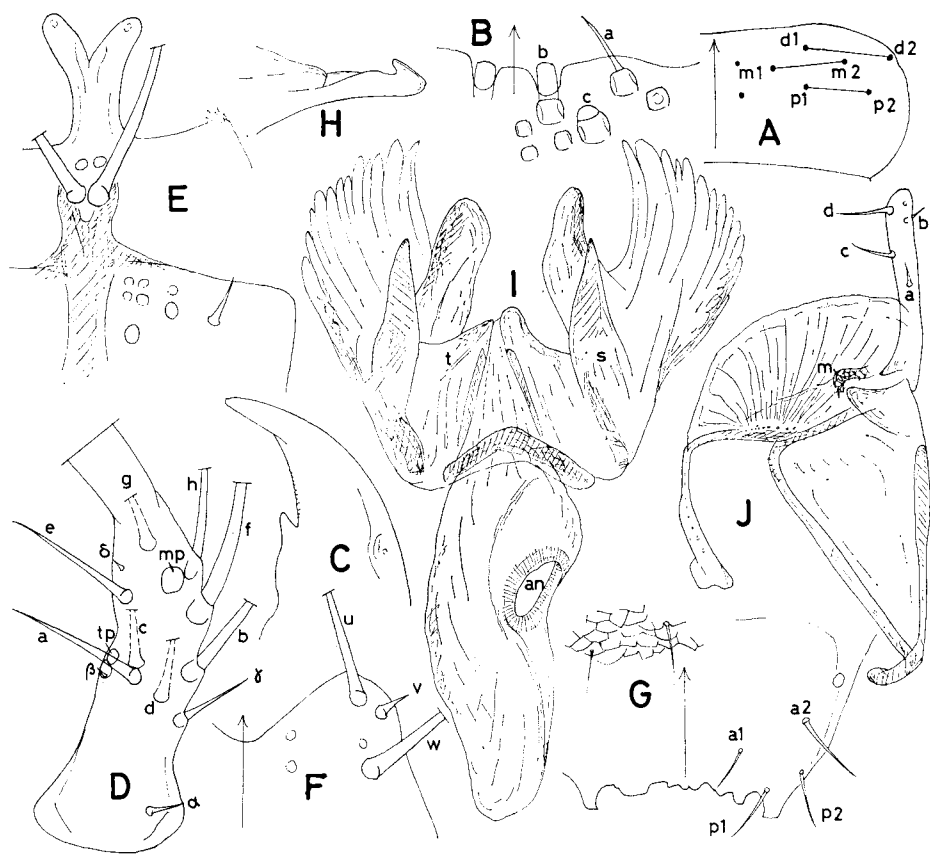


Fig. 1. *Atheta (Microdota) coprophila*, Holotype ♂. A. Labral chaetotaxy; B. Labral margin; C. Right mandible; D. Labial palpus; E. Glossa & prementum; F. Mentum; G. Tergite VIII & its microsculpture; H. Apex of median lobe; I. Inner armature of aedeagus; J. Lateral lobe.

apophysis consists of a broad lobe (*t*) whose apex is obliquely truncate; laterally a narrow, pointed lobe (*s*) is observed; distally there is a large ctenoid membrane. Lateral lobe (Fig. J) is very broad; the distal segment is fairly elongate, among four setae *a* is short, similar to *b*; *d* is longer than *c* as in *A. spiniventris* Bh. (cf. Sawada 1974, p. 149).

Length. 1.65 mm (head 0.28 mm long $\times$ 0.28 mm wide; pronotum 0.25 mm $\times$ 0.37 mm; elytra 0.22 mm $\times$ 0.40 mm).

Specimen examined. Malaya: Holotype of ♂, Selangor, The Gap, Cameron coll. (BMNH).

In the crochet apex of the median lobe the species is near *A. (M.) putridula* (Kr.) (cf. K. Sawada, 1980, p. 351), but differs by the apically rounded copulatory piece and by the narrower median area of prementum with usual glossa. From *A. (M.) scrobicollis* (Kr.) (cf. K. Sawada, 1982, p. 150) it differs by distinctly toothed right mandible and by the different aedeagus.

Subgenus *Eugluta* nov.

Type species: *Atheta* (s. str.) *picticollis* Bernhauer, 1915

In 1915 Bernhauer described a species, *A. picticollis* as a member of *Atheta* s. str., but a close examination of type reveals that the buccal part and male character are peculiar, i.e., glossa is elongate, the median area of prementum is narrow, the median carina on tergites are present in the male, and macrochaetotaxy is as 01-02-12... so that it is a kind of *Datomicra* group (sensu R. Yosii et K. Sawada, 1976, p. 15) representing a new subgenus.

The second species which has the same character is *A. carpophila* Cam., which is also to be included in this new subgenus.

2. *Atheta (Eugluta) picticollis* Bernhauer, 1915

Fig. 2

Atheta (s. str.) *picticollis* Bernhauer, 1915: 257

?*Atheta* (s. str.) *picticollis*; Cameron, 1936: 356

Male: Reddish brown in ground colour and shining; head is nearly black, while pronotum is brighter and more or less infusate in the middle; elytra are broadly infusate; abdomen reddish brown leaving dark tergites V, VI; antenna is infusate in the middle portion and legs are paler. Body is rather convex above and gradually retracted behind. Head is not depressed but broadly flat above; the surface is finely punctured and with long secondary setae all over. Eyes are large and well convex laterally. Cervical carina is not diverged. Antenna is fairly dilated towards the extremity; segment III as long as II; IV longer than wide; V a little wider than long; VI-X strongly transverse; XI narrowly elongate. Labrum (Fig. A) is not emarginate in front; *m*-2 is close to distal row of setae; proximal row is subequal to medial row in length; 5+5 secondary setae are present. a-sensilla of labral margin (Fig. B) is short, converging; *c* is conical. Mandibles are sickle-form; the right mandible (Fig. C) has a molar tooth. Maxillary palpus is 4-segmented; segment III is slender; IV relatively long and with a long terminal spinule. In labial palpus (Fig. D) *r*-setula is remote from *b*; *a* is close to *tp*, on the level of *r*; *e* is posterior to the level of *mp*. Glossa (Fig. E) is

elongate, forked from the distal one-third into two short arms. In prementum the median area is narrow and gradually retracted behind; in lateral area there are two real, one setal and up to 13 small pseudopores. Mentum (Fig. F) is slightly emarginate in front; *v* is long; *w* is close to *v* in position. Pronotum is gently convex above, a little narrowed behind and with an obsolete median depression along the middle; the sides are evenly arcuate in full length and with inconspicuous lateral erect setae; secondary setae are quite fine and dense, those along the middle are directed anteriorly; Microsculpture is much more distinct than on the head. Mesosternum is briefly produced behind and ending in narrowly obtuse apex. Elytron is slightly emarginate postero-externally; there is a small elevation of suture on the anterior one-third and a shallow depression is present anterior to it; the surface is much rougher than on the pronotum.

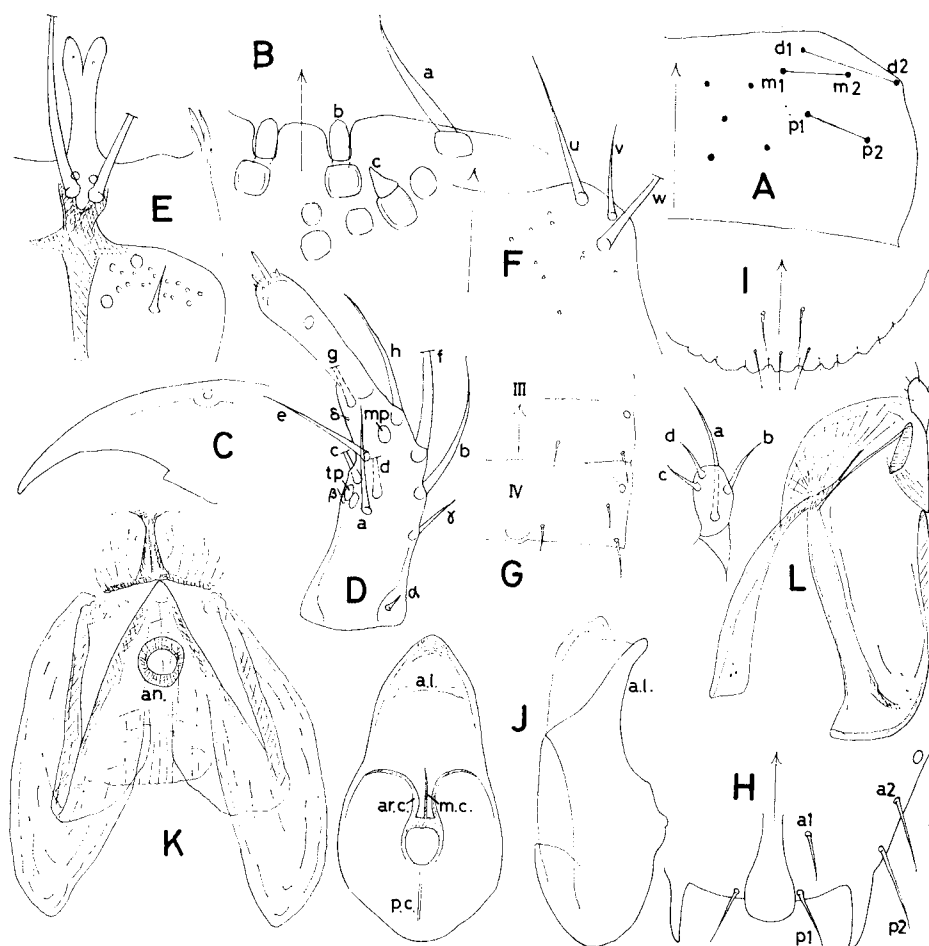


Fig. 2. *Atheta (Eugluta) picticollis*, Holotype ♂. A. Labral chaetotaxy; B. Labral margin; C. Right mandible; D. Labial palpus; E. Glossa & prementum; F. Mentum; G. Tergites III, IV; H. Tergite VIII; I. Sternite VIII; J. Median lobe; K. Copulatory piece; L. Lateral lobe & its distal segment.

Flabellum has some 7 long setae. Macrochaetotaxy as 01-02-12-12-12-34. The posterior margins of the abdominal segments are obsoletely crenulated as in *Acrotoma*. Abdomen is gently dilated from the base to tergite IV and then, gradually retracted behind; V, VI are nearly glabrous and well shining; IV-VI (Fig. G) bear a small median tubercle on the posterior margin. Tergite VIII (Fig. H) has 4+4 long major setae; a large median carina is extending beyond the posterior margin; there is a distinct lateral process on each side. Sternite VIII (Fig. I) is broadly rounded behind; the margin is finely crenulated and with a row of setulae corresponding to the crenulation. Tarsal formula as 4, 5, 5, in which the metatarsus has segment I subequal to II in length; empodium is not developed. Meso- and metatibiae have black stout macrosetae.

In aedeagus median lobe (Fig. J) is 0.32 mm long, nearly ovate in outline; in lateral view apical lobe is evenly bent down; costae *ar. c.* are separated to each other and broadly recurved distally; *m. c.* is present. Copulatory piece (Fig. K) is triangular when pressed under cover glass; annellus is situated at anterior one-third; suspensorium is straight and rather short; distal apophysis is converted to a narrow sclerite. Lateral lobe (Fig. L) is broad in the middle; distal segment is small; *a* is long, but *b* is much shorter than *a*; *c*, *d* are rather long.

Length. ca. 2.7 mm (head 0.36 mm long $\times$ 0.54 mm wide; pronotum 0.48 mm $\times$ 0.64 mm; elytra 0.54 mm $\times$ 0.80 mm).

Specimen examined. South India: Holotype of ♂, Chambaganoor (Madura), Donckiers leg. Bernhauer coll. (FMNH).

5+5 secondary setae of labrum, fairly reduced major setae of tergites and crenulated margin of sternite VIII are the features peculiar to the present species.

3. *Atheta (Eugluta) carpophila* Cameron, 1920

Fig. 3

Atheta (Dimetrota) carpophila Cameron, 1920: 260

Female: Brown in ground colour and weakly shining; head is somewhat bright anteriorly; pronotum is brown with reddish lateral margins; elytra are infusate, whereas abdomen is distinctly bright leaving darker middle segments; the basal segments of antenna are bright and legs totally paler. Body is broad and robust with blackish macrosetae. Head is moderate in size, gently convex above and without depression in the middle; the surface is extremely finely granulated throughout. Eyes are fairly large. Antenna is dilated towards the extremity; segment I broader than II; III a little shorter than II; IV about as long as wide; X distinctly transverse; XI fully as long as two preceding together. Carvical carina is diverged. Labrum (Fig. A) is obsoletely emarginate in front; *p*-1 is a little posterior to the level of *p*-2; there are 3+3 secondary setae. a-sensilla of labral margin (Fig. B) is moderately long; *b* is subtruncate and *c* is conical. Mandibles are rather briefly hooked at apices; the right mandible (Fig. C) has a molar tooth; the left one has a blunt notch in the middle. Maxillary palpus is 4-segmented; segment III is narrowly elongate. Segment III of labial palpus (Fig. D) is longer than I; *r* is remote from *b*; *a* is close to the level of *b*; *e* is on the same level with *mp*. Glossa (Fig. E) is elongate, forked from behind the middle

into two narrow arms; basal pores nearly contiguous. In prementum medina area is narrow; lateral area has two real, one setal and some 13 small pseudopores. The anterior margin of mentum (Fig. F) is weakly emarginate; *v*-setula is long, while *u* is rather short. Pronotum is broad, evenly convex above and closely, densely granulated throughout; secondary setae on disc are very fine, so that it gives sericeous appearance; lateral erect setae are short and black. Mesosternum is rather bluntly pointed behind. Elytron is as long as pronotum and not emarginate postero-externally; the macrosetae on the disc are inconspicuous. Flabellum with up to 5 long setae. Marcochaetotaxy as 01-02-12-12-13-35. The posterior margin of tergites are smooth. Tergite VIII (Fig. G) is short, gently emarginate in the posterior margin; among 4+4 major setae *a*-2 is separated from stigma; microsculpture is imbricate pattern. Sternite VIII is broadly rounded behind and with a row of some 12+12 long and short marginal setae (Fig. H). Spermatheca (Fig. I) is short, with a rounded bursa.

Length. 2.4 mm (head 0.31 mm long $\times$ 0.41 mm wide; pronotum 0.33 mm $\times$ 0.47 mm; elytra 0.31 mm $\times$ 0.58 mm).

Specimen examined. Singapore: Syntype of ♀, Bukit Panjang, Cameron coll. (BMNH).

Notched mandible, deeply bifurcated glossa and the smooth margin of tergites are characteristic for this species. For the exact placement of the species the male sex is needed.

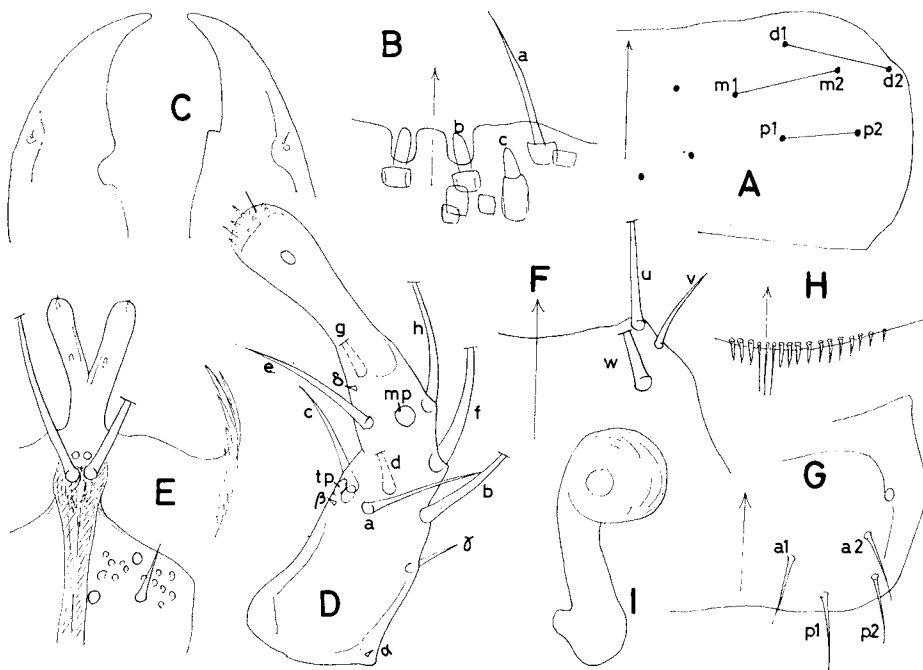


Fig. 3. *Atheta (Eugluta) carpophila*, Syntype ♀. A. Labral chaetotaxy; B. Labral margin; C. Mandibles; D. Labial palpus; E. Glossa & prementum; F. Mentum; G. Tergite VIII; H. Apical margin of sternite VIII; I. Spermatheca.

Subgenus *Sepedomica* nov.

Type species: *Atheta (Dimetrota) mycetophaga* Cameron, 1920

In this new subgenus of *Atheta* the apex of the third segment of labial palpus (Fig. E) is characteristically dilated and with long setiform sensillae. The body setae are well-developed and tergite IX has lateral projection with long blackish setae. In the latter character it is similar to *Chaetida* M. et R. But, as the macrochaetotaxy is 0-0 type the new subgenus is to be included in *Datomica* group (sensu R. Yosii et K. Sawada, 1976, p. 15).

4. *Atheta (Sepedomica) mycetophaga* Cameron, 1920

Fig. 4

Atheta (Dimetrota) mycetophaga Cameron, 1920: 262

Male: Ground colour is reddish brown and shining; head is a little more intensively pigmented than the pronotum; elytra are more or less infuscate bilaterally; abdomen is brighter than others; antennae are brown with bright basal segments; legs paler. Body is small, narrowed behind and with conspicuous long body setae. Head is nearly orbicular in outline, evenly convex above and densely granulated throughout. Eyes are large. Antenna is fairly long; segment II and III are narrowly elongate.

IV is slightly longer than wide; V-IX distinctly longer than wide; X about as long as wide; XI is elongate. In labrum (Fig. B) proximal row of setae is subequal to medial row in length and subparallel to distal row; 2+2 secondary setae are present. *a*-sensilla of labral margin (Fig. C) is short; *c* is unusually elliptical. Mandibles are narrowly elongate; the right mandible (Fig. D) has a blunt molar tooth. Maxillary palpus is 4-segmented; segment III is strongly dilated in relation to II. Segment II of labial palpus (Fig. E) is long, when compared to I; III is strongly dilated apically and with up to 4 well-developed setiform sensillae at apex; *r* hidden by *b*; *a* is close to *tp*; *e* is anterior to the level of *mp*; *h* is on the same level with *mp*. Glossa (Fig. F) is elongate, with two diverging arms. In prementum the median area is moderately broad and subparallel, while distal setae are close together and without pseudopores; lateral area has several pseudopores, one setal and two real pores, one of the latter is attached to the median area. The lateral corner of mentum is projected; *v* is long. Cervical carina is diverged. The lateral margin of pronotum is gently arcuate and with long conspicuous, black erect setae; the surface is densely granulated. Mesosternum is acuminate behind and ending in an obtuse apex. Elytron is rather long and faintly emarginate postero-externally; there is a long macroseta near humerus. Flabelum with up to 5 moderately long setae. Macrochaetotaxy as 01-02-12-12-13-23. Abdomen is gradually narrowed from tergite V and with long conspicuous erect setae. Tergite VIII (Fig. G) is shallowly emarginate in the middle of the posterior margin; among 4+4 major setae *a*-1 is more reduced than others; the microsculpture is transversely imbricate. Tergite IX (Fig. H) has short paired processes with long setae. Tarsal formula as 4, 5, 5, in which metatarsus with subequally short basal segments. Meso- and metatibiae have three exceptionally long macrosetae. Aedeagus (Fig. I) is ovate, with broadly truncate apex whose lateral corner is narrowly projected; costae *ar. c* are completely contiguous; *v. ap.* is well-developed; *p. c.* is long and raised; laterally apical lobe is

broad, short for the corpus and bent down; the basal part is strongly raised abruptly. In the inner armature (Fig. J) the copulatory piece is broad and triangularly pointed apically, with well-defined lateral corner; annellus is situated near apex; suspensorium is mostly membranous and lobate apically. Median apophysis is weakly sclerotized; paired paramedian apophyses are large and narrowly extending. Lateral lobe (Fig. K) is broad, with a broad middle apodem (*m*); vellum (*v*) is moderately large; basal corner of medial segment (*b*) is produced and more or less hooked. Distal segment (Fig.

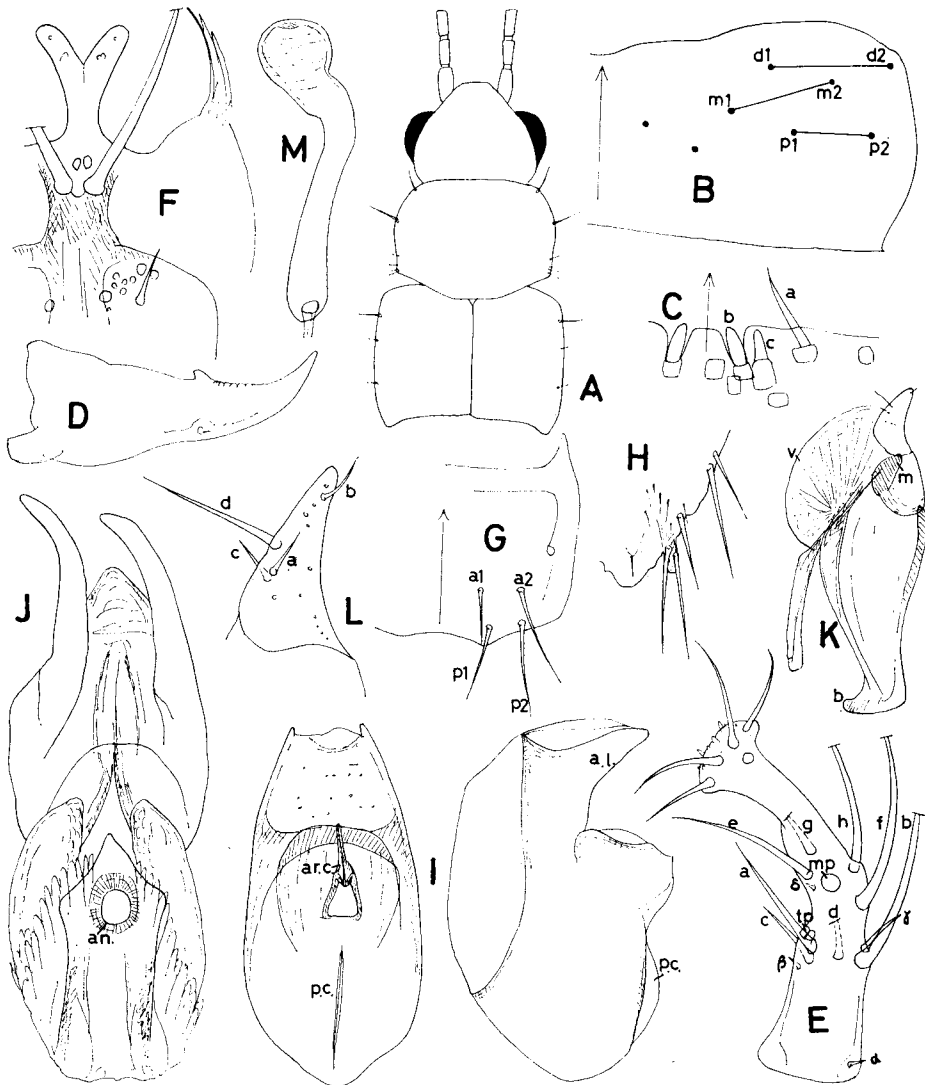


Fig. 4. *Atheta* (*Sepedomicro*) *mycetophaga*, Syntype ♀. A. Habitus; B. Labral chaetotaxy; C. Labral margin; D. Right mandible; E. Labial palpus; F. Glossa & prementum; G. Tergite VIII; H. Apex of tergite IX; I. Median lobe; J. Inner armature of aedeagus; K, L. Lateral lobe & its distal segment; M. Spermatheca.

L) is triangular in outline; *a* is median, while *b* is apical in position; *c* is short, whereas *d* is enormously prolonged.

Length. ca. 2.2 mm (head 0.34 mm long $\times$ 0.40 mm wide; pronotum 0.36 mm $\times$ 0.49 mm; elytra 0.34 mm $\times$ 0.58 mm).

Female: Sternite VIII is not modified, with a row of up to 10+10 marginal setae. Spermatheca (Fig. M) is elongate, nearly straight, with an oblong bursa. Tergite IX is alike that of male.

Specimen examined. Singapore: Syntype of ♀, Mandai, Cameron coll. (BMNH). Borneo: 2 ♂, 2 ♀, Ranau, Sabah, 23 VIII, 1977, R. Yoshii leg.; 3 ♂, 3 ♀, Sapielok, Sabah, 13 IX, 1976, R. Yoshii leg.

The species seems to be widely distributed in S.E. Asia.

Subgenus *Orientatheta* nov.

Type species: *Atheta (Coprothassa) chinkiangensis* Bernhauer, 1938

In my previous report I have placed *A. chinkiangensis* Bh. provisionally in the subgenus *Notothecta* by the similarity of the genital apparatus although it has various peculiar characters for the subgenus. Since now the second species with the same characteristic features has been found there must be erected a new subgenus *Orientatheta* to accomodate both of them. Compared to *Notothecta* its macrochaetal arrangement of abdomen is 0-0 and the intermediate macrosetae of tergite III is particularly reduced. Mesosternum is medially carinate like in *A. (Nehemitropia) sordida* (M.), but the posterior margin of abdominal tergites is not crenulated. In the feature of labium the subgenus is similar to that of *Coprothassa melanaria* (Mnnh.), but the glossa has no setae. In the macrochaetotaxy it may be included in *Datomicra* group, but with its peculiar characters it must be in a very special position within the genus *Atheta*.

5. *Atheta (Orientatheta) sumatrensis* Bernhauer, 1927

Fig. 5

Atheta (Coprothassa) sumatrensis Bernhauer, 1927: 26

male: Ground colour reddish brown and shining in the fore-parts; head nearly black; pronotum is a little paler and elytra are yellowish except for the infusate scutellum and the postero-external corners; abdomen is brownish with reddish yellow basal half; antennae are brown and with paler basal segments; legs totally bright. Body narrowly elongate. Head is rather flat above, densely pubescent and sculptured. Eyes are small for the head; post-gena has many black setae; Antenna is feebly dilated towards the extremity; segment I with black setae; II is short, whereas III is fairly long; IV is small, a little broader than long; V much larger than IV and longer than wide; X is moderately transverse, XI is clearly acuminate at apex. Labrum (Fig. A) is short; among 6+6 major setae *p*-1 is anterior to the level of *p*-2, so that the proximal row of setae is subparallel to the distal row; *m*-2 is fully reaching the distal row; 4+4 secondary setae are present. a-sensilla of labral margin (Fig. B) is setaceous and converging; *b* is small, *c* is pointed. Mandibles are normally hooked apically; the right one has very small molar tooth near basis. Maxillary palpus (Fig. C) is 4-segmented and slender;

segment III is a little longer than II; IV is long compared to III. Galea has well-developed distal lobe; lacinia is produced on its inner margin. Cervical carina is not diverged. On labial palpus (Fig. D) β -setula is close to tp and r is posterior to the level of f ; δ is on the same level with g ; a is posterior to the level of b ; tp is large for mp . Glossa (Fig. E) is prolonged and forked from the middle into two elongate arms. Median area of prementum is broad and with some ten pseudopores; lateral area has one setal, two real and up to ten pseudopores; two real pores are near together. Mentum (Fig. F) is evenly emarginate in front and three major setae are confined in the antero-external corner. Pronotum is broad, gently retracted in front and behind; the surface is densely pubescent and with distinct granules all over; lateral erect setae are extremely short. Peculiar to the species there are four punctiform depression arranged in a quadrangle together with a flat depression on the basal half. Mesosternum is acute, with a fine median carina. Elytron is short and weakly emarginate postero-externally. Macrochaetotaxy as 01-03-03-13-13-34. The posterior margins of abdominal segments are not crenulated. On the distal tergites some elongate granules are present and with erect, short and black setae bilaterally. The innermost macrosetae of tergite III (Fig.

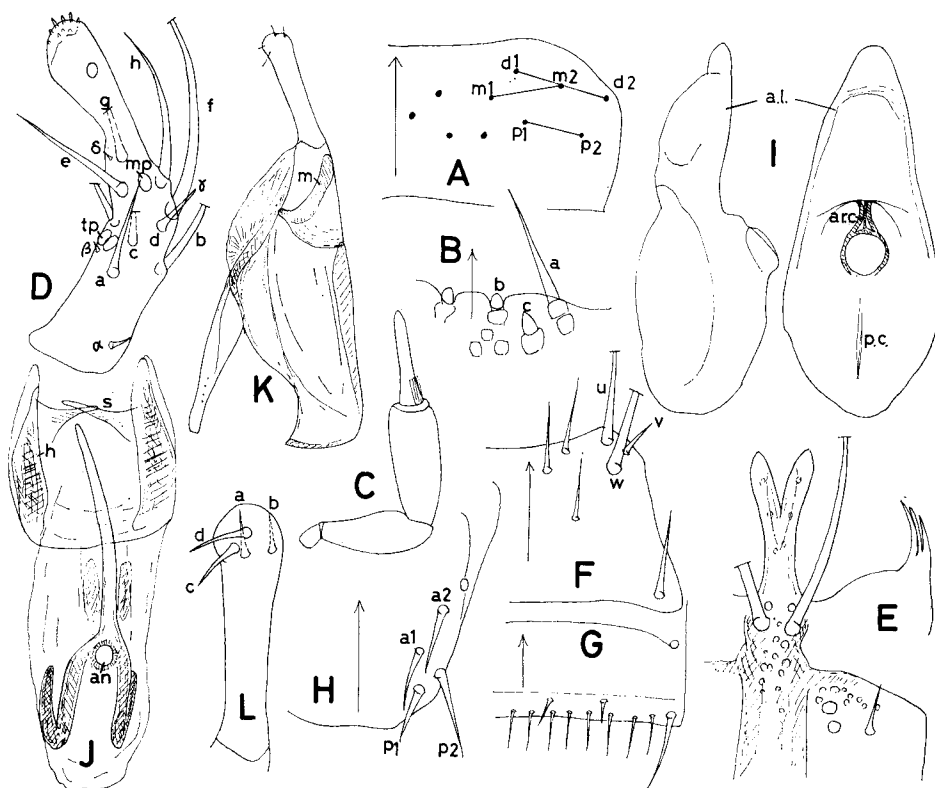


Fig. 5. *Atheta (Orientatheta) sumatrensis*, Holotype ♂. A. Labral chaetotaxy; B. Labral margin; C. Maxillary palpus; D. Labial palpus; E. Glossa & prementum; F. Mentum; G, H. Tergite III & VIII; I. Median lobe; J. Inner armature of aedeagus; K, L. Lateral lobe & its distal segment.

G) is strongly reduced compared to the lateral macrosetae, but those on tergite IV are larger. Tergite VIII (Fig. H) is elongate and faintly emarginate behind; 4+4 major setae are short and fairly lateral in position. Median lobe of aedeagus (Fig. I) is 0.48 mm long; in ventral view it is narrowly ovate in outline and in lateral view the apical lobe is nearly straight and feebly convex in the middle. Costae *ar. c.* are short, approximate and recurved distally; *p. c.* has a low projection. In the inner armature (Fig. J) copulatory piece is long and spiniform; annellus is small; suspensorium is short; distal apodeme is composed of a paired elongate lobe (*h*) guarding the corpus and a transverse sclerite (*s*). Lateral lobe (Fig. K) is narrow, with reduced vellum and narrowly elongate apodeme (*m*); distal segment is fairly elongate and spatulate distally; four major setae are subequally short and located apically.

Length. ca. 3.20 mm (head 0.32 mm long×0.51 mm wide; pronotum 0.54 mm ×0.77 mm; elytra 0.45 mm×0.90 mm).

Specimen examined. Sumatra: Holotype of ♂; Fort de Kock, Bernhauer coll. (FMNH).

The species is closely allied to the Chinese *A. (O.) chinkiangensis* Bh. (cf. K. Sawada. 1977, p. 184), but differs by longer glossa, different form of aedeagus and by longer macrosetae on tergites. Besides, the antennae have broader segments.

Notothecta Group

6. *Atheta (Badura) alophila* Cameron, 1920

Fig. 6

Atheta (Metaxya) alophila Cameron, 1920: 256

Female: Dark brown in ground colour and weakly shining; elytra are a little paler than pronotum; antenna is darker towards the extremity; legs totally paler. Body is broad and rather depressed above. Head is with an obsolete depression in the middle; the surface bears fine punctures and distinct microsculpture all over. Eyes are large when compared to the rounded postgenae. Antenna is long, slightly dilated distally; segment I is narrow like II; III a little shorter than II; IV longer than wide; V-X gradually increasing in width. Labrum (Fig. A) is not emarginate in front; all the rows of setae are long; *m*-1 is slightly anterior to *m*-2; there is 1+1 secondary setae. *a*-sensilla of labral margin (Fig. B) is normally long, whereas *b* is curved. Mandibles are narrow and weakly hooked; the right one (Fig. C) has a small molar tooth. In labial palpus (Fig. D) segment III is large; *a* is posterior to the level of *b*; *e* is close to *tp* in position; *r* is between *h* and *f*. Glossa (Fig. E) is with broad short arms. Median area of prementum is broad and not retracted behind, with several pseudopores; in lateral area there are three major pores plus many pseudopores. Mentum (Fig. F) is slightly emarginate in front; *v* is very short and near *u*. Cervical carina is diverged. Pronotum is broad, with a weak median depression becoming deeper basally; lateral erect setae are long; the secondary setae in the middle are directed anteriorly. Elytron is not emarginate postero-externally. Abdomen is subparallelled, finely and closely punctured; the lateral erect setae are moderate. Macrosetae on mesotibia are a little surpassing the width of tibia. Mesosternum is narrowly prolonged behind and ending

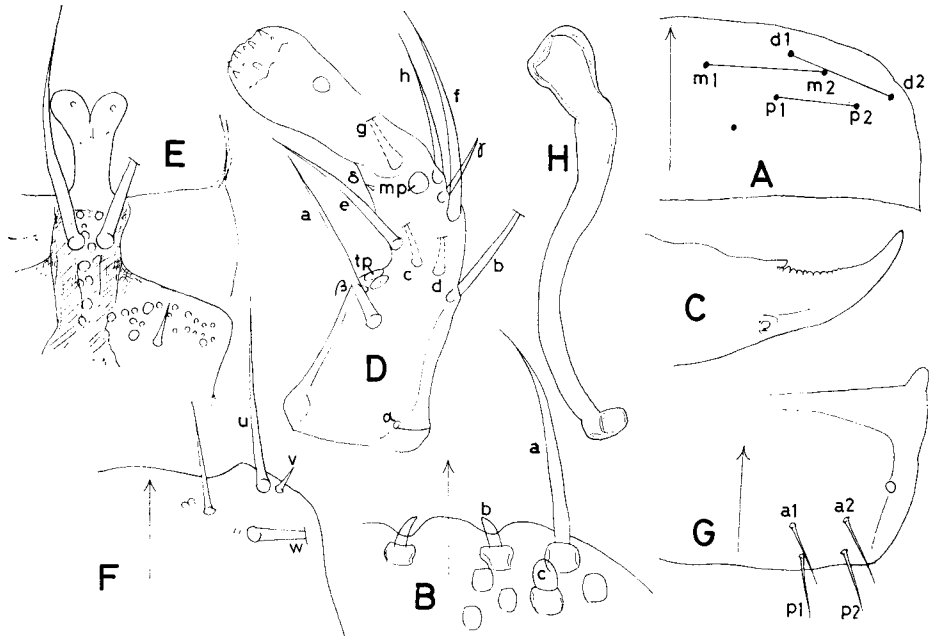


Fig. 6. *Atheta (Badura) alophila*, Syntype ♀. A. Labral chaetotaxy; B. Labral margin; C. Right mandible; D. Labial palpus; E. Glossa & prementum; F. Mentum; G. Tergite VIII; H. Spermatheca.

in an obtuse apex. Macrochaetal arrangement as 01-12-12-13-13-34, in which the anterior major seta on each tergite is well inside the lateral margin. Tarsal formula as 4, 5, 5, in which the metatarsus has segments I-IV subequall in length. Tergite VIII (Fig. G) is not modified, but slightly emarginate in the middle of the posterior margin and with transversely imbricate pattern. Spermatheca (Fig. H) is narrowly elongate with a short bursa.

Length. up to 2.0 mm (head 0.32 mm long $\times$ 0.38 mm wide; pronotum 0.35 mm $\times$ 0.47 mm; elytra 0.35 mm $\times$ 0.60 mm).

Specimen examined. Singapore: Syntype of ♀, Pasir Panjang, Cameron coll. (BMNH).

By the macrochaetotaxy of 01-12 type and by the form of labrum the species is provisionally included in *Badura*. But the prementum has broad median area and with narrowly separated distal setae. γ -setula of labial palpus is dislocated anteriorly. The exact placement of the species is to be retained until male sex is obtained.

Subgenus *Mimatheta* Cam. 1920

Subgenotype: *Mimatheta fungicola* Cam., 1920

The subgenus is near *Notothecta* Th., but the median area of prementum is narrow and without pseudopores. *Mimatheta* must be regarded a subgenus of *Atheta*, and it has no concern with *Schistogenia* Kr.

7. *Atheta* (*Mimatheta*) *singaporensis* K. Sawada **nom. nov.** Fig. 7*Mimatheta fungicola* Cameron, 1920: 267 **nom. praeocc.**

Female: Ground colour is dark brown and weakly shining in the fore-parts, with very short body setae. Body is small. Head is suborbicular in outline and constricted behind. Eyes are large. Postgena is as long as the diameter of eye; the microsculpture is inconspicuous. Antenna is as usual; segment I is robust when compared to II; III is subequal to II in length; IV (Fig. A) is the smallest; V-X are decreasing in length; XI is apparently longer than two preceding together. Cervical carina is diverged. All rows of setae of labrum (Fig. B) are similarly short; proximal row is subparallel to distal row; 2+2 secondary setae are present. *a*-sensilla of labral margin (Fig. C) is fairly short; *b* is truncate at apex. Mandibles are abruptly pointed at apices, the right one is (Fig. D) with a robust molar tooth. Maxillary palpus is 4-segmented; segment III is a little longer than II, densely ciliate; IV relatively long. Labial palpus (Fig. E) is geniculate; segment III is fairly elongate, much longer than I; *a* is close to *tp*; *r* is remote from *b*; *e* is on the same level with *mp*. Glossa (Fig. F) is elongate, with two slender arms; basal pores and distal setae are contiguous. Median area of prementum is narrow and without pseudopores; in lateral area there are two real, one setal and some ten small pseudopores. Mentum (Fig. G) is slightly emarginate in front, with rounded lateral corner; *v* is close to *u*; *w* is remote from *u*. Pronotum rounded antero-externally and nearly straight in the posterior half; lateral erect setae are rigid but short; secondary setae along the middle are directed posteriorly; microsculpture is

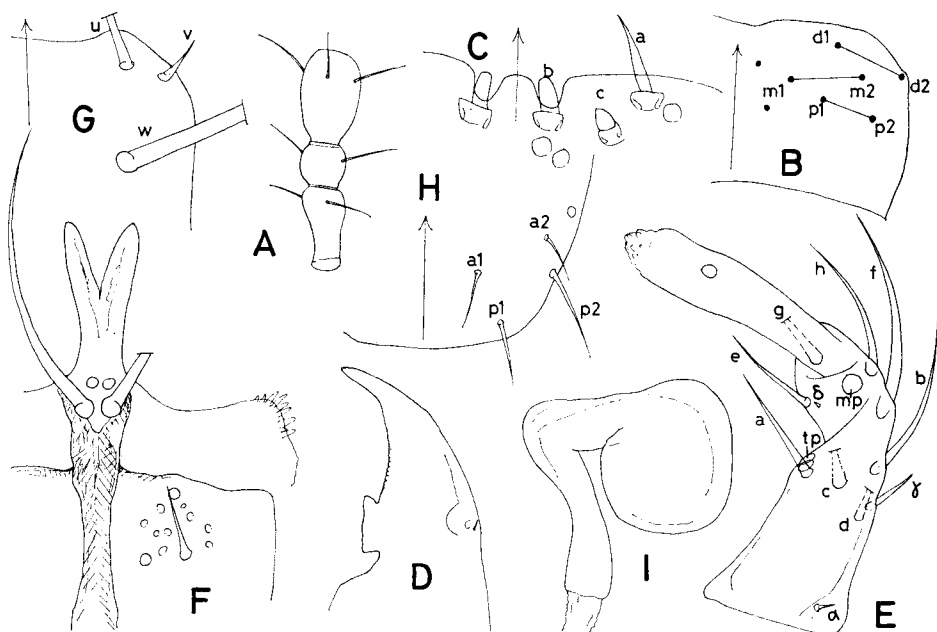


Fig. 7. *Atheta* (*Mimatheta*) *singaporensis*, Syntype ♀. Antennal segments III-V; B. Labral chaetotaxy; C. Labral margin; D. Right mandible; E. Labial palpus; F. Glossa & prementum; G. Mentum; H. Tergite VIII; I. Spermatheca.

conspicuous. Mesosternum is rather obtuse at apex. Elytron is short, not emarginate postero-externally, with a long macroseta on the humeral corner. Flabellum with five long setae. Macrochaetotaxy as 01-11-11-12-13-24. Tergite VIII (Fig. H) is entirely truncate behind; among 4+4 major setae *a*-2 is near stigma. Tarsal formula as 4, 5, 5, in which mesotarsus with segment I much shorter than II; metatarsus is with segment I moderately long. Meso- and metatibiae have conspicuous long macrosetae. Spermatheca (Fig. I) is geniculate; bursa is rounded and exceptionally large.

Length. ca. 2.1 mm (head 0.34 mm long $\times$ 0.41 mm wide; pronotum 0.39 mm $\times$ 0.50 mm; elytra 0.35 mm $\times$ 0.63 mm).

Specimen examined. Singapore: Syntype of ♀, Mandai, Cameron coll. (BMNH).

As the macrochaetal arrangement is 01-11-11 the genus would be included in *Notothecta* group (sensu R. Yosii et K. Sawada 1976, p. 35). Long glossa, long third segment of labial palpus and narrow median area of prementum are characteristic, but male sex is needed for the final decision of the species.

Atheta fungicola (Cameron, 1920) is a junior homonym of *Atheta fungicola* Thomson, 1852 and the new name, *A. singaporensis*, must be herein proposed.

Coprothassa Series

Genus *Malayanota* nov.

Type species. *Atheta* (*Microdota*) *malayana* Cameron, 1920

A. malayana has very peculiar buccal parts. The labial palpus is incrassate and with a verrucose segment III, in the maxillary palpus the segment III is dilated strongly and IV is thick at the base. Together with the very peculiar structure in the copulatory piece of male, i.e., a bundle of spinules is laid on the corpus, the species is to be isolated from *Atheta*.

The glossa is foliate and with a pair of setulae, by which it is to be included in the *Coprothassa* series (cf. R. Yosii et K. Sawada, 1976, p. 112). In the form of glossa and in the macrochaetotaxy the genus is near *Pycnota* M. et R., but the median area of prementum is narrow and without pseudopores, the segment III of labial palpus is verrucose, and the maxillary palpus is dilated.

In the narrow median area of prementum with contiguous distal setae the genus is near *Codoglossa* K. Sawada (cf. K. Sawada, 1980, p. 47), but differs by the semicircular glossa, the verrucose segment III of labial palpus, and by the expanded segment III of maxillary palpus. Besides, the macrochaetal arrangement is 01-02-12 type.

8. *Malayanota malayana* (Cameron, 1920)

Fig. 8

Atheta (*Microdota*) *malayana* Cameron, 1920: 257

Male: Ground colour is brown and shining; head is intensively pigmented; pronotum is brown, whereas elytra are brighter, leaving the infusate basal portion; abdomen is brown; antenna is dark brown with bright basal segments; legs paler. Body is sub-paralleled and somewhat depressed above, with very short body setae. Head is rounded, with an obsolete depression behind the middle, which is becoming deep posteriorly.

Eyes are moderate in size. Postgena is evenly rounded. Cervical carina (Fig. A) is diverged. Labrum (Fig. B) is nearly truncate in front; among 6+6 major setae *m*-2 is a little posterior to the level of *m*-1; *p*-1 is strongly anterior to the level of *p*-2, so that the proximal row of seta is subparallel to the distal row; 3+3 secondary setae are present. In labral margin (Fig. C) *a*-sensilla is strongly reduced and converging; *b* is almost completely reduced; *c* is obtuse. Mandibles are stout and briefly pointed apically; the right one (Fig. D) has a blunt molar tooth. Segment III of maxillary palpus (Fig. E) is strongly dilated distally; IV is long compared to III and fairly broad basally. In labial palpus (Fig. F) all three segments are similarly incrassate; segment I is fairly short, while II is long, and III is a little longer than I and peculiarly verrucose for the most part; *r*-setula is near *b*; *δ* is on the level of *g*; *a* is on the same level with *b*; *e* is close to *mp*; *h* is on the same level with *mp*. Glossa (Fig. G) is foliate, with a broad rounded apex; a setula is present on each side. In prementum the distal paired setae

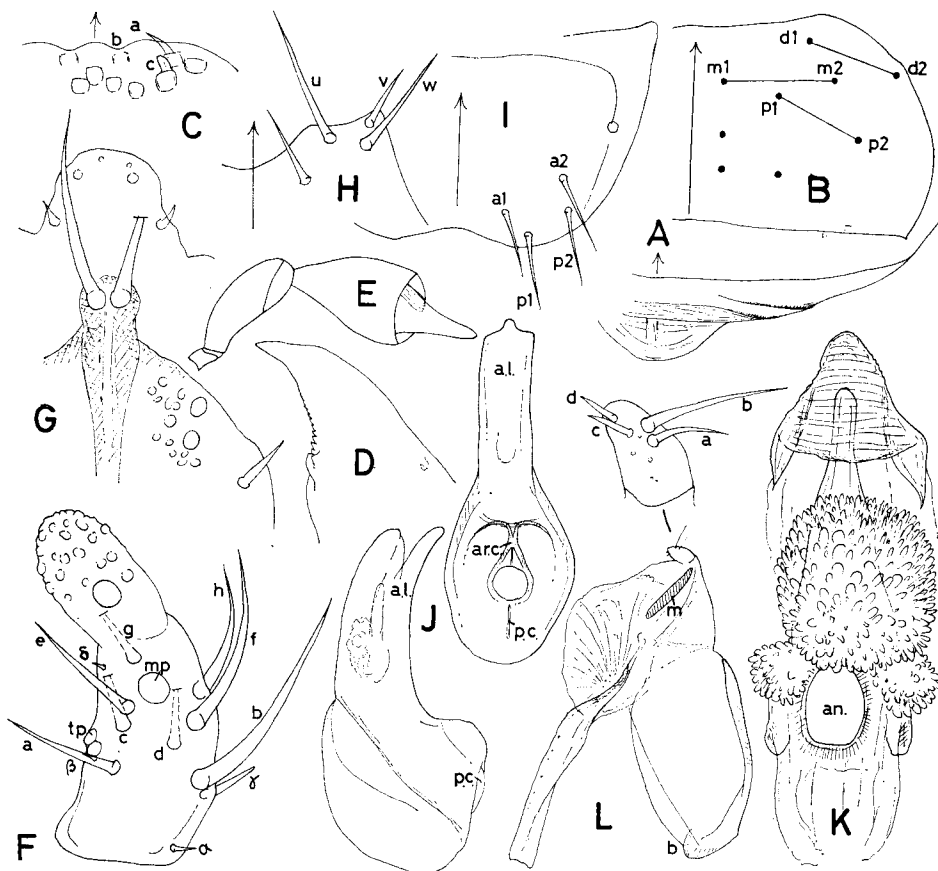


Fig. 8. *Malayanota malayana*, Syntype ♂. A. Cervical carina; B. Labral chaetotaxy; C. Labral margin; D. Right mandible; E. Maxillary palpus; F. Labial palpus; G. Glossa & prementum; H. Mentum; I. Tergite VIII; J. Median lobe; K. Inner armature of aedeagus; L. Lateral lobe & its distal segment.

are standing contiguously, consequently the median area is narrow and without pseudopores; two real, one setal pores of lateral area are remote from median area. Mentum (Fig. H) is rather deeply emarginate in front; *v*-setula is long; *u* is on the level of *v*; *w* is close to *v* in position. Pronotum is transverse, feebly arcuate bilaterally and not depressed in the middle; there are no granules on the disc; lateral erect setae are inconspicuous; the secondary setae along the middle are directed posteriorly. Mesosternum is acuminate behind ending in a pointed apex. Elytron is short for the corpus, not emarginate postero-externally and without macrosetae on it. Flabellum with up to 4 long and short setae. Macrochaetotaxy as 01-02-12-12-12-?. Abdomen is subparalleled and granulated all over; lateral erect setae are very fine. The posterior margin of tergite VIII (Fig. I) is broadly emarginate; among 4+4 major setae *a*-2 is remote from stigma; *a*-1 is posteriorly dislocated on the level of *p*-2; microsculpture is transversely imbricate. Tarsal formula as 4, 5, 5, in which metatarsus has four subequal basal segments. Meso- and metatibiae have very short macrosetae. Median lobe of aedeagus (Fig. J) is 0.32 mm long; apical lobe is elongate, nearly parallel and ending in a subtruncate apex; in lateral view it is fluently bent and with the abruptly produced basal portion. Costae *ar. c.* are approximate and recurved distally; *m. c.* is present. Copulatory piece (Fig. K) is elongate, gradually narrowed anteriorly to form a bluntly pointed apex; peculiarly a large bundle of spinules is present over the corpus. In distal apodemes the paramedian apophyses are converted to a membranous large sheath through which the copulatory piece moves. Middle apodeme (*m*) of lateral lobe is narrowly elongate; the basal corner (*b*) of medial segment is not developed; vellum is normally developed. Distal segment (Fig. L) is short, oblong; *b* is much shorter than *a* and close to it; *c*, *d* are subequally short.

Length. 1.30 mm (head 0.22 mm long $\times$ 0.28 mm wide; pronotum 0.23 mm $\times$ 0.31 mm; elytra 0.22 mm $\times$ 0.40 mm).

Specimen examined. Singapore: Syntype of ♂, Woodland, Cameron coll. (BMNH).

9. *Halobrecta cingulata* (Cameron, 1920) new combination Fig. 9

Exatheta cingulata Cameron. 1920: 265

Male: Reddish brown in ground colour and shining; elytra are intensively pigmented. Body is small, broad and with inconspicuous body setae. Head is orbicular in outline; moderately punctulate, with short secondary setae. Eyes are large. Cervical carina is not diverged. Antenna is distinctly dilated towards the extremity; segment I, II are similarly stout; III is fairly shorter than II and constricted basally; IV is transverse and much smaller than V; X is strongly transverse; XI is short. Labrum (Fig. A) is clearly emarginate in front; proximal row of setae is much shorter than medial row; *m*-2 is remote from *d*-2; *m*-1 is near *p*-1; 1+1 secondary setae are present. Labral margin (Fig. B) is deeply emarginate in the middle; *a* is fairly reduced; *b* is oblong, with obtuse apex; *c* is short and pointed. Mandibles are briefly hooked at apices; the right one has a fine toothlet. Maxillary palpus is 4-segmented; segment III is robust, abruptly dilated distally; IV is subulate. Labial palpus (Fig. C) is strongly elongate; β is moderately long and lightly separated from *tp*; *tp* is well-developed; γ is nearly as

long as β and placed between b and f ; δ is posterior to g ; e is nearly completely reduced and placed at the midway between tp and δ . Glossa (Fig. D) is fairly elongate and divided from distal one-third into two bluntly pointed arms, which are approximate to each other; there is a pair of short setae basally. In prementum (Fig. D) the median area is narrow, subparallel, without pseudopores; distal setae are standing close together; lateral area has two real, one setal and a few pseudopores, all of which are near the anterior margin. Lateral corner of mentum (Fig. E) is projected; v is lateral to u . Pronotum is transverse and uniformly arcuate bilaterally; lateral erect setae are inconspicuous; secondary setae along the middle are directed posteriorly. Mesosternal process is narrowed behind and truncate. Elytron is moderately long and emarginate postero-externally. Flabellum is effaced, with only one short seta. Macrochaetotaxy as 01-02-12-13-13-23. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have subequally short basal segments. Tibial macrosetae are mostly mingled with the secondary setae in each leg. Tergite VIII (Fig. F) is broadly truncate behind; among 4+4 major setae $a-2$ is a little posterior to stigma; distal row of setae is nearly horizontal in arrangement; the microsculpture is isodiametric pattern.

In aedeagus the median lobe (Fig. G) is 0.18 mm long; in lateral view the copulatory piece (Fig. H) in situ is styliform and with a rounded base, where small annellus is situated; suspensoria are absent. Lateral lobe (Fig. I) is rather narrow; the basal corner (b) of medial segment is hooked; middle apodeme (m) is narrowly elongate.

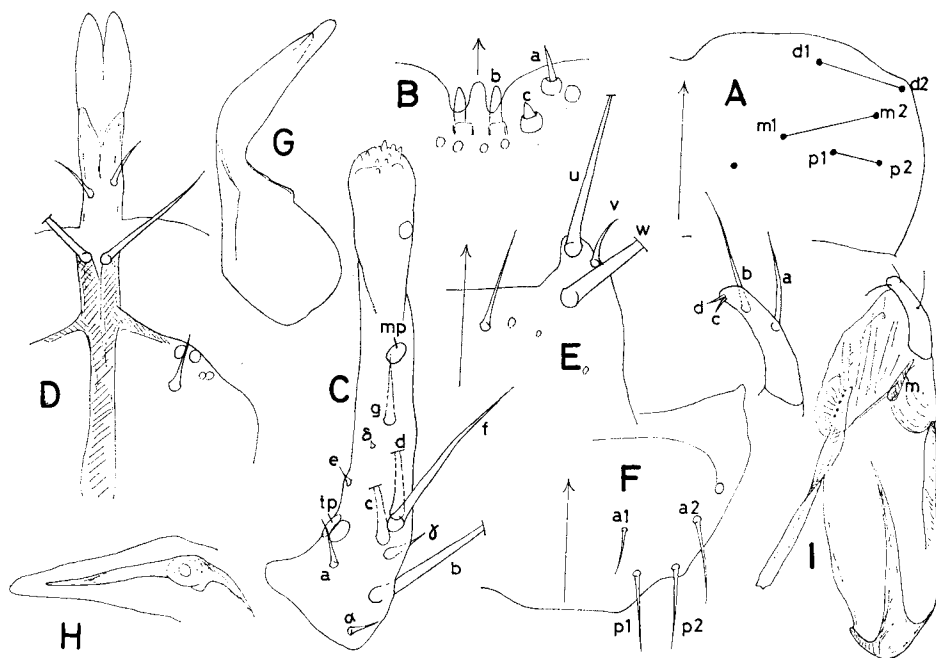


Fig. 9. *Halobrecta cingulata*, Syntype ♂. A. Labral chaetotaxy; B. Labral margin; C. Labial palpus; D. Glossa & prementum; E. Mentum; F. Tergite VIII; G. Median lobe; H. Copulatory piece in situ; I. Lateral lobe & its distal segment.

Distal segment is elongate, curved; *a*, *b* are similarly long, while *c*, *d* are strongly reduced and placed at apex.

Length. 1.3 mm (head 0.22 mm long $\times$ 0.25 mm wide; pronotum 0.20 mm $\times$ 0.29 mm; elytra 0.19 mm $\times$ 0.36 mm).

Specimen examined. Singapore: Syntype of ♂, Sembawang, Cameron coll. (BMNH).

The species is similar to *H. flavipes* Th., but differs by the narrower median area of prementum, aggregated macrosetae of labial palpus and by the different distal segment of the lateral lobe. In all respects *Exatheta* Cameron, 1920 agrees well with *Halobrecta* Thomson, 1858.

10. *Amischa melata* (Cameron, 1920) new combination Fig. 10

Atheta (*Microdota*) *melata* Cameron, 1920: 257

Male: Black in ground colour and shining; head and pronotum are similarly blackish, while elytra are brown more or less; abdomen is uniformly black; antennae are dark brown; legs a little paler. Body is small, broad and subparalleled. Head is large for the corpus and with a flat median depression. Eyes are moderate in size. Postgena is dilated behind so that the head is rectangular in form. Antenna is slightly dilated distally; segment I is subequal to II; III is much shorter than II; X is moderately broader than long; XI is short. Cervical carina is probably diverged. *a*-sensilla of labral margin (Fig. A) is hamate and short; *b* is almost reduced; *c* is obtusely pointed at apex. Mandibles are broad, short and with abruptly hooked apex; the right one (Fig. B) has a blunt molar tooth and crenulated margin anterior to it. Maxillary palpus (Fig. C) is short and thick; segment II is abruptly dilated; III is subequal to II in length; IV is short and cylindrical. Galea has a small distal lobe; lacinia is gently dilated in the middle of the inner margin. Segments I, II of labial palpus (Fig. D) are similarly thick; III is longer than I and more or less clavate in form; *tp* is well-developed as large as *mp*; β is long, close to *tp*; γ is posterior to *f*; δ is long, anterior to the level of *mp*; *b* is anterior to *a*, *e* is close to *mp* in position. Glossa (Fig. E) is semicircular in outline; the paired setulae are missing, but instead two pairs of pores are observed. In prementum the median area is fairly broad and gradually narrowed behind and with a faint sign of pseudopores; lateral area has two real, one setal and a few pseudopores. Mentum (Fig. F) is subtruncate in front; *v* is thick; *u* is far remote from the anterior margin; *w* is close to the level of *v*. Pronotum is large, nearly rectangular in shape and without median depression; lateral erect setae are inconspicuous; the surface is with fine, dense granules all over. Mesosternum is acute behind. Elytron is not dilated behind and not emarginate postero-externally. Macrochaetotaxy as 01-02-02-02-12-32. Abdominal tergite VIII (Fig. G) is modified: the lateral margins are narrowed behind, and the distal portion is broadly emarginate, so that each lateral corner is well-defined and the margin is obsoletely crenulated; only 3+3 major setae have been observed and *a*-2 is remote from stigma; microsculpture (Fig. H) is imbricate pattern. Tarsal formula as 4, 5, 5, in which metatarsus has elongate segment I which is slightly longer than II. Macrosetae of each tibia are subequally short.

In aedeagus the median lobe (Fig. I) is 0.27 mm long; ventrally apical lobe is narrowly elongate and obtusely pointed at apex; in lateral view it is nearly straight. Costae *ar. c.* are short; *m. c.* is not observed. Copulatory piece (Fig. J) is styliform and with a short basal portion including a small annellus; suspensorium is fairly reduced; paramedian apophysis is X-like and a transverse sclerite is present anterior to it. Vellum of lateral lobe (Fig. K) is rather narrow; middle apodeme (*m*) is poorly developed; the basal corner (*b*) of medial segment is feebly hooked; distal segment (Fig. L) is short, oblong, *a* is strongly reduced, but *b* is normal; *c* is near to *b* and much longer than *d*.

Length. ca. 1.8 mm.

Specimen examined. Singapore: Holotype of ♂, Cameron coll. (BMNH).

In the semicircular glossa, stout labial palpus and in the abdominal tergites without anterior macrosetae the species must be included in *Amischa*. In the specimen examined

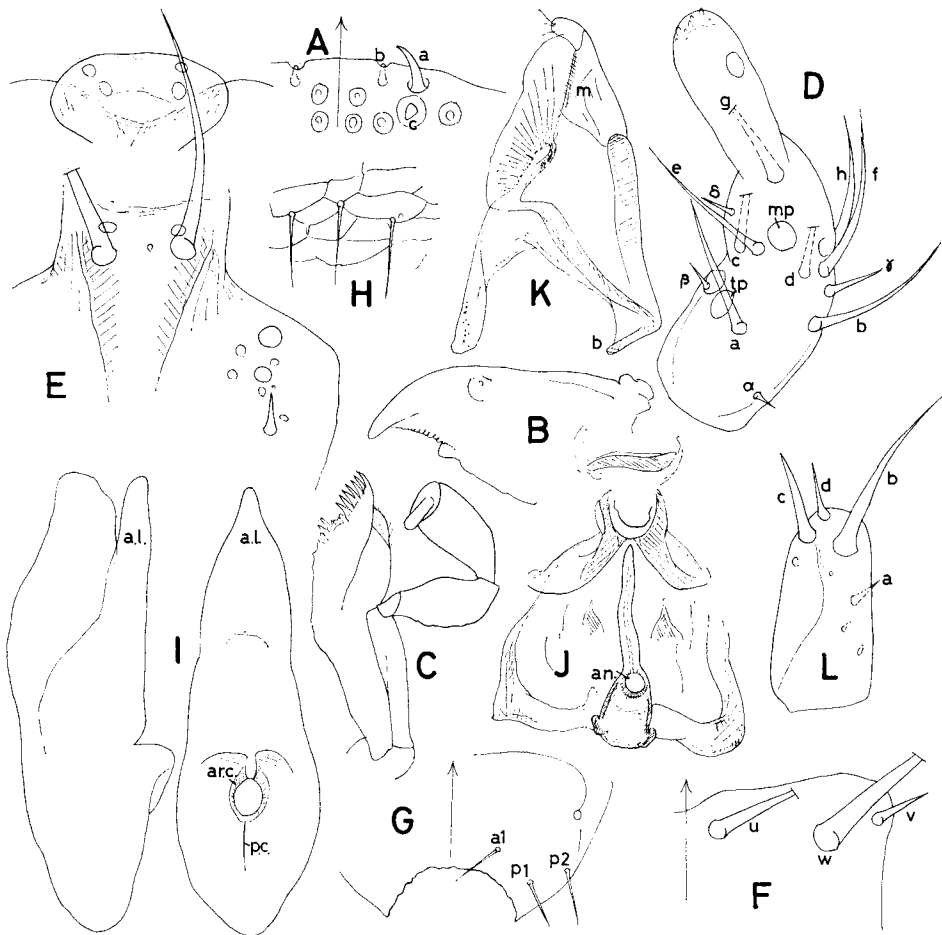


Fig. 10. *Amischa melata*, Holotype ♂. A. Labral margin; B. Right mandible; C. First maxilla; D. Labial palpus; E. Glossa & prementum; F. Mentum; G, H. Tergite VIII & its microsculpture; I. Median lobe; J. Inner armature of aedeagus; K, L. Lateral lobe & its distal segment.

the glossa has no setae, but other crucial characters of the species are well concordant with *Amischa*. Possibly the example at hand is an aberrant form.

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