

Studies on the Genus *Atheta* Thomson and Its Allies (Coleoptera, Staphylinidae)

IV. Systematic Studies on *Liogluta* series with Notes of Taxa Established in C. G. Thomson, 1858 and G. Kraatz, 1859

Kohei SAWADA

Abstract

In the present report, six of Thomson's genera, not investigated in the previous work (Yosii et Sawada, 1976) have been critically reviewed. Three *Atheta* species of Kraatz, 1859 and some others from the tropical Asia, not treated in Sawada, 1982, have been also studied in detail. As the results some amendments in the diagnoses of *Liogluta* and *Tachyusa* series have been made.

The *Liogluta* series of Athetae was originally defined that the median area of prementum is widely developed and the lateral area is destitute of pseudopores, i.e. only with a setal and 2 or 3 real pores (cf. Yosii et Sawada, 1976, p. 96), although the genus *Tomoglossa* was excluded from the series afterwards (Sawada, 1977, p. 192). However, we have now to extend the series to include those which have a very few pseudopores to the lateral area, although they are just the same in other characters; they are *Pelioptera*, *Dadobia* and *Disopora*. The genera may be keyed out as follows:

1. *a* sensilla of labral margin setaceous.....2
a sensilla of labral margin campanulate4
2. Mandibles apically bi- or tridentate*Schistoglossa*
Mandibles normally pointed apically3
3. First segment of labial palpus thickly formed*Dadobia*
First segment of labial palpus normal*Liogluta*
4. Mesosternal process fairly truncate*Pelioptera*
Mesosternal process acute at apex5
5. Third segment of maxillary palpus expanded*Callicerus*
Third segment of maxillary palpus not expanded6
6. Lateral area of prementum only with real pores*Aloconota*
Lateral area of prementum with real and a few pseudopores*Disopora*

Callicerus toroenensis (Bernhauer, 1943) new combination

Fig. 1

Atheta (*Homoiocalea*) *toroenensis* Bernhauer, 1943: 186

Atheta (*Liogluta*) *formosae* Cameron, 1949: 473 new synonym

♂. Ground colour is dark brown and strongly shining; head and pronotum nearly black, while elytra are dark brown; antennae uniformly black; legs are brown. Body is large and nearly parallel. Head is small for the corpus and abruptly converging behind. Eyes are small and clearly convex beyond the head contour. Post-gena is

much longer than eye in diameter; surface is gently convex above, not depressed in the middle and with long secondary setae. Antenna is robust; segment II is much shorter than III; IV is fully as long as wide; X is nearly as long as wide; XI is long. Labrum (Fig. A) is gently emarginate in front; each row of setae is similarly short; medial row is subparallel to proximal row; *m-2* is remote from distal row; peculiarly 5+5 secondary setae are present. *a* sensilla of labral margin (Fig. B) is reduced to a campanulate form; *b* is subtruncate; *c* is obtuse. Mandibles are acuminate to a slender hook at apices; the right mandible (Fig. C) is nearly edentate. Maxillary palpus (Fig. D) is 4-segmented; segment II is narrow, whereas III is subspherically expanded as a character of the genus; IV is short. Galea has a short distal lobe. Lacinia is not dilated in the middle. Labial palpus (Fig. E) is 3-segmented; segment I is long compared to III; β is very close to *tp*; *r* is fairly long and placed behind the middle of the segment; δ is inconspicuous; *a* is near by *b*; *f* is far remote from *b*; *e* is below the level of *mp*; *tp* is small compared to *mp*. Glossa (Fig. F) is splitting into broad, lobate arms and with very small basal pores. Median area of prementum (Fig. F) is broad, constricted behind and with some 10 pseudopores; lateral area bears only 1 setal and 3 real pores, and they are placed close together. Mentum (Fig. G) is weakly emarginate in front; *v* is reduced to a setula and located at the lateral corner. Pronotum is nearly as long as wide. Prosternum is carinate. Mesosternum is sharply pointed behind. Elytron is broad and short compared to the pronotum. Each tibia has very short macrosetae. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have subequally elongate segments I-IV. Macrochaetotaxy as 01-22-22-23-23-34. Tergite VIII (Fig. H) is semicircular posteriorly; major setae are 4 in number on one side and 5 on another side; among them *a-2* is far remote from stigma; microsculpture is quite obsolete.

Median lobe of aedeagus (Fig. I) is 0.56 mm long; ventrally apical lobe is ovate and gently constricted before the obtuse apex; in lateral view it is evenly bent in full length. Costae *ar. c.* are raised to form a high projection and recurved distally; *m. c.* is entire; *v. ap.* is present. Copulatory piece (Fig. J) is rounded in outline and acuminate ending in slender apex; peculiarly annellus is removed to the posterior end of the corpus. There is a largely extending membrane posteriorly. Distal apodeme is represented by a narrowly protruded plate (*d*). Medial segment of lateral lobe (Fig. K) is narrow and with a rectangular corner (*p*); vellum is not developed. Distal segment is oblong; *a* is much longer than others and close to *c* in position; *c*, *d* are very short.

Length. 4.30 mm (head 0.37 mm long $\times$ 0.61 mm wide; pronotum 0.72 mm $\times$ 0.77 mm; elytra 0.72 mm $\times$ 1.06 mm).

♀. Unknown.

Specimen examined. FORMOSA. type (♂) of *Homoiocalea toroenensis* Bh., Toroen, 17 XI, 1936, J. Sonan leg. (FMNH); paratype (♂) of *Atheta (Liogluta) formosae* Cam., Arisan, 5 VI, 1932 (BMNH).

By the spherically dilated maxillary palpus, strongly reduced *a* sensilla of labral margin, by the lobate glossa, broad median area of prementum, and by the absence of pseudopores in the lateral area *Homoiocalea* Bernhauer, 1943 is to be regarded junior synonym of *Callicerus* Gravenhorst, 1802. The paratype of *Atheta (Liogluta) formosae*

Cameron, 1949 coincides well with the present species. In Cameron's specimen the tergite VIII has 4+4 major setae, which may be the normal number. The present species is closely allied to the European *C. obscurus* Grav., 1802, but differs by the narrower glossa, longer tergite VIII and in the form of the copulatory piece.

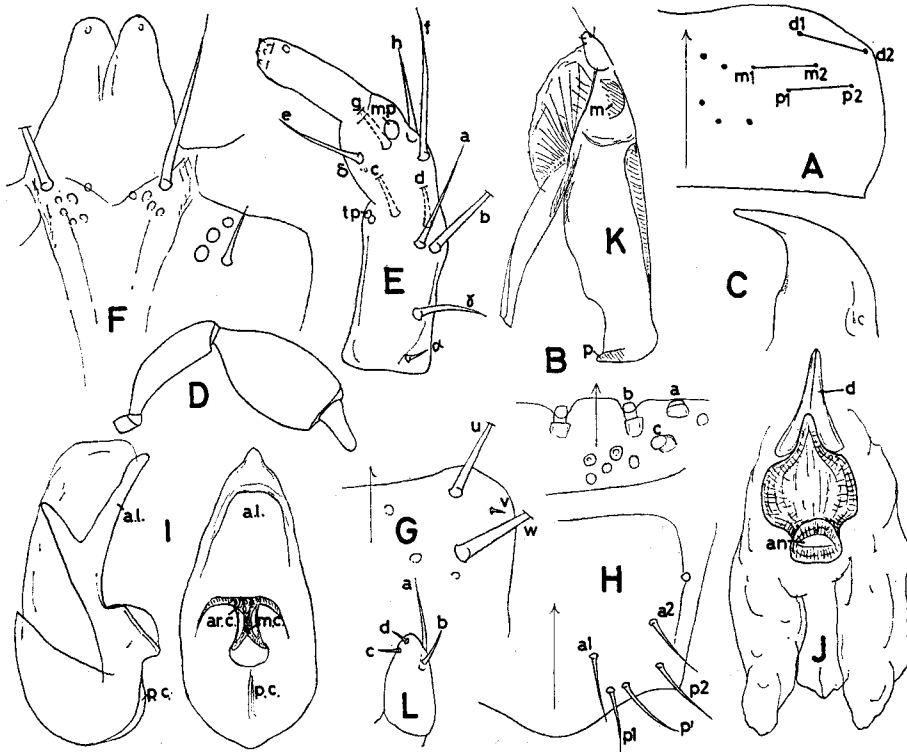


Fig. 1. *Callicerus toroensis* (Bh.), holotype, ♂: A, B, labrum & its margin; C, right mandible; D, maxillary palpus; E, labial palpus; F, glossa & prementum; G, mentum; H, ♂ tergite VIII; I, J, median lobe & its inner armature; K, L, lateral lobe & its distal segment.

Genus *Dadobia* Thomson, 1858

Type: *Homalota immersa* Erichson, 1839

The genus is, near *Liogluta* with its setaceous *a* sensilla of labral margin, but the lateral area of prementum is with a few pseudopores. The thick maxillary palpus reminds us of the genus *Callicerus*, but the *a* sensilla is not campanulate.

Dadobia immersa (Erichson, 1839)

Fig. 2

Dadobia immersa; Thomson, 1858: 32

♂. Dark brown in ground colour and subopaque; head darker than pronotum; elytra are reddish brown; abdomen is uniformly pigmented; antennae and legs are paler. Body is small, subparallel and weakly flat above. Head is nearly rectangular in outline; secondary setae are very short and sparse. Cervical carina is diverged from the middle.

Eyes in diameter are clearly shorter than the post-gena. Antenna is gently dilated towards the extremity; segment II constricted before the base and shorter than I; III is campanulate and much shorter than II; IV-X are similar to each other; XI is short. Labrum (Fig. A) is gently arcuate in front; among 6+6 major setae $p-2$ is close to $d-2$; $m-2$ is across the distal row of setae; 2+2 secondary setae are present. a sensilla of labral margin (Fig. B) is setaceous and long; b is spiniform and curved distally. Mandibles (Fig. C) are short, fairly hooked at apices; the right mandible is with a low tooth and the inner margin is crenulated anterior to the tooth. Maxillary palpus (Fig. D) is short and thick; segment II is short; III is much broader than II and oval in outline; IV is short and rather elliptical. Lacinia is gradually dilated, distal comb is composed of 6 long spines plus 2 well-defined isolated spines. Galea has small well-ciliate distal lobe. Labial palpus (Fig. E) is 3-segmented and short; segment I is fairly stout and about as long as 2 preceding together; tp is large; β is separated from tp ; γ is on the level of d ; e is close to mp ; f is remote from γ . Glossa (Fig. F) is short and splitting from the base; arms are standing close together and fairly obtuse at apices. In prementum the median area is broad and with up to 4 pseudopores; lateral area bears 2 real, 1 setal

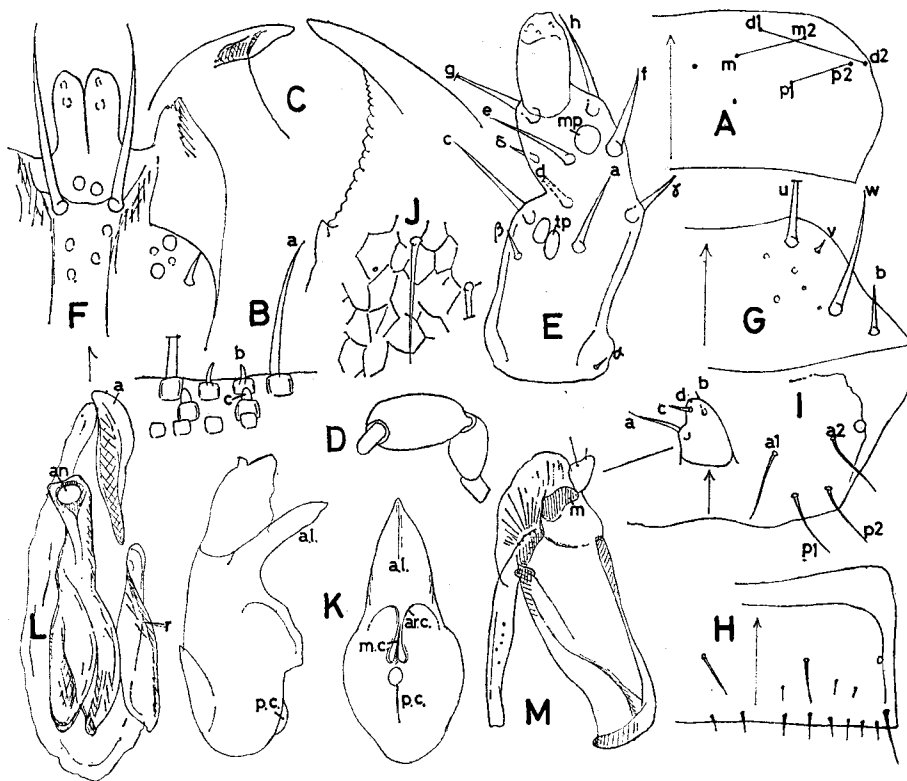


Fig. 2. *Dadobia immersa* (Er.), ♂ from Lund: A, B, labrum & its margin; C, mandibles; D, maxillary palpus; E, labial palpus; F, glossa & prementum; G, mentum, H, tergite III; I, J, tergite VIII & its microsculpture; K, L, median lobe & its inner armature; M, lateral lobe.

and some 2 pseudopores. Mentum (Fig. G) is shallowly emarginate in front; *v* is strongly reduced and well inside the margin; *w* is removed posteriorly close to the basal seta (*b*). Pronotum is about as long as wide and narrowed behind; lateral margins are nearly straight and lightly sinuate at about the middle; lateral erect setae are short; secondary setae along the middle are directed posteriorly. Mesosternal process is pointed. Elytron is long, dilated behind and not emarginate postero-externally. Flabellum with 1 short seta. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have segment I fairly short. Femurs are thick. All tibiae have short macrosetae. Macrochaetotaxy as 01-11-21-21-23-23, in which the outer setae of tergite III (Fig. H) are missing. Abdomen is gradually dilated behind; tergite VIII (Fig. I) is broadly emarginate in the middle of the posterior margin; among 4+4 major setae *a*-2 is close to the level of stigma; microsculpture (Fig. J) is imbricate pattern.

Median lobe of aedeagus (Fig. K) is 0.25 mm long; ventrally apical lobe is narrowed to the pointed apex; in lateral view it is distally bent and ending in a hooked apex. Costae *ar. c.* are clearly approximate and recurved distally; *m. c.* is entire. Copulatory piece (Fig. L) is narrowly elongate, distally dilated and ending in a truncate apex; peculiarly annellus is situated at apex (*an*); there is an elongate suspensorium on each side(*r*); distal apophysis is narrow (*a*). Lateral lobe (Fig. M) has broad middle apodeme (*m*); vellum is narrow. Distal segment is small and oblong; *a* is longer than others; *b* is close to the level of *c*; *d* is nearly completely reduced.

Length. 1.75 mm (head 0.23 mm long $\times$ 0.34 mm wide; pronotum 0.32 mm $\times$ 0.34 mm; elytra 0.31 mm $\times$ 0.46 mm).

Specimen examined: SWEDEN: 2 ♂♂, Lund, Thomson det. (ZML).

Genus *Disopora* Thomson, 1859

Type: *Homalota languida* Erichson, 1839

The genus is very close to *Aloconota* Thomson, 1861 in many respects, *a* sensilla of labral margin being campanulate etc., but the lateral area of prementum has a few pseudopores, which are absent in *Aloconota*.

Disopora languida (Erichson, 1839)

Fig. 3

Homalota languida Erichson, 1839: 318

Disopora languida; Thomson, 1859: 39

Aloconota languida; Palm, 1970: 157

♂. Brown in ground colour and shining; head is a little infuscate; pronotum and elytra are uniformly pigmented; abdomen is darker posteriorly; antennae are brown and with more or less bright basal segments; legs totally paler. Body is narrowly elongate. Head is too small for the corpus, nearly orbicular in outline and with alutaceous microsculpture. Eyes are moderately large. Post-gena is well-developed. Cervical carina is diverged. Antenna is not dilated towards the extremity; segment I is long; II, III are similarly elongate; IV-X are longer than wide. Among 6+6 major setae on labrum (Fig. A) *d*-2 is on the same level with *m*-2; proximal row of setae is subequal to distal row in length; 2+2 secondary setae are present. *a* sensilla of labral margin (Fig. B)

is campanulate form; *b* is thick; *c* is inconspicuous. Mandibles are briefly hooked at apices; the right mandible (Fig. C) has a fine molar toothlet behind the middle. Maxillary palpus is 4-segmented; segment II is dilated; III is much longer than II and obovate in outline; IV is short and with well-developed basal filamentous sensillae. Galea has short, densely ciliate distal lobe. Lacinia is slender as a whole; distal comb is composed of 8 compactly arranged teeth. Labial palpus (Fig. D) is 3-segmented; *r* is close to *a* in position; *a* is placed at about the centre of segment I; *tp* is large; *f* is posterior to *mp*; *e* is on the same level with *mp*. Glossa (Fig. E) is standing side by side and dilated at basis. Median area of prementum is much broader than lateral area and with numerous scattered pseudopores; in lateral area 3 real, 1 setal and a few pseudopores arranged in longitudinal row. Mentum (Fig. F) is shallowly emarginate in front; *v* seta is moderately long and placed lateral to *u*; *w* is well inside the lateral margin. Pronotum is gently convex above and along the middle depressed basally; lateral erect setae are conspicuous; secondary setae along the middle are directed posteriorly. Mesosternal process is pointed behind. Flabellum with some 10 long setae. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have segments I-IV subequal in length. Meso- and metatibiae have long macrosetae. Macrochaetotaxy as 01-22-22-22-23-34. Tergite VII with a small median carinula as previously known. Tergite VII (Fig. G) is in the posterior margin with 3+3 small, blunt protuberances,

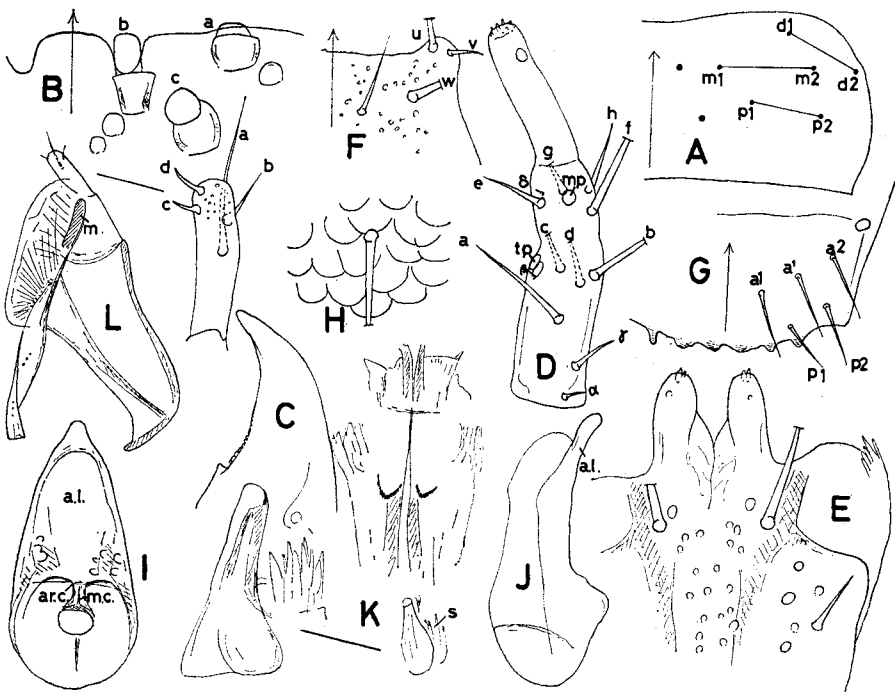


Fig. 3. *Disopora languida* (Er.), ♂ from Lund: A, B, labrum & its margin; C, right mandible; D, labial palpus; E, glossa & prementum; F, mentum; G, H, tergite VIII & its microsculpture; I, J, K, median lobe & its inner armature.

the median pair of which are broader than others; 5+5 long major setae are present; microsculpture (Fig. H) is imbricate pattern and well-defined.

Median lobe of aedeagus (Fig. I, J) is 0.51 mm long and gradually acuminate to a subtruncate apex; in lateral view distal lobe is evenly arcuate in full length. Costae *ar. c.* are lightly approximate in the middle and recurved distally; *m. c.* is present; *v. ap.* is not visible; on each side some large markings are occurred. Copulatory piece (Fig. K) is narrowly elongate, poorly sclerotized and with the apical part destroyed when it is detached. Distal apophysis is mostly membranous and with a bundle of spinulae (*s*) basally. Lateral lobe (Fig. L) is as follows: medial segment is fairly sinuate along the outer margin and with projecting basal corner; middle apodeme (*m*) is narrowly elongate; vellum is narrow. Distal segment is elongate; *a* is more than twice as long as *b*.

Length. ca. 4.1 mm (head 0.48 mm long $\times$ 0.54 mm wide; pronotum 0.57 mm $\times$ 0.68 mm; elytra 0.64 mm $\times$ 0.95 mm).

♀. Unknown.

Specimen examined. SWEDEN. 1 ♂ of *Disopora languida* Er., Lund, Thomson det. (ZML).

In the gross feature the species is closely allied to *A. gregaria* (Er.) (cf. Yosii et Sawada, 1976, p. 103). But *a* seta on labial palpus is removed basally far remote from *b*, and glossa is widened basally.

Genus *Aloconota* Thomson, 1861

Aloconota Thomson: Yosii et Sawada, 1976: 103

The genus may be subdivided. First of all it is *Geostiba* Thomson, 1858, which is probably the form adapted for the mountain or high altitude habitats in Europe. It is micropterous and with reduced elytra. *Aloconota* (s. str.) itself must be divided to various subgenera in future. Thus in two European species (*A. gregaria*, *A. insecta*) the copulatory piece is narrowly elongate and almost filiform, while it is normally broad in Japanese known species. Further researches are needed.

Homalota hepatica Er., 1840 has proved to be a member of *Aloconota* and that the genus *Enalodroma* Th., 1861 becomes a junior synonym of it.

Aloconota (s. str.) *hepatica* (Erichson, 1840) new combination

Fig. 4

Homalota hepatica Erichson, 1840: 102

Enalodroma hepatica; Thomson, 1861: 51

♀. Ground colour is brown and shining; the fore-parts are similarly pigmented; abdomen is becoming darker towards the extremity; antennae and legs are uniformly brown. Body is robust. Head is evenly convex above and nearly glabrous. Eyes are moderate in size; post-gena is arcuately converging to the neck and apparently longer than the eye in diameter. Cervical carina is not diverged. Antenna is stout; segments I-III subequally long; IV as long as wide; X is transverse; XI is long. Labrum (Fig. A) is broad; proximal row of setae is much longer than others and subparallel to medial row; *m-2* is clearly separated from distal row; *d-2* is anterior to the level of *m-2*; 2+2 secondary setae are present. Labral margin (Fig. B) is nearly truncate in front;

a sensilla is campanulate form; *b* is broad at apex; *c* is acuminate. Mandibles are briefly hooked at apices; the right mandible (Fig. C) has a blunt molar tooth. Maxillary palpus (Fig. D) is 4-segmented and elongate; segment II is thick; III is much longer than II and gradually dilated distally; IV is very short. Galea is as usual. Lacinia is gradually dilated behind; distal comb is consisting of 8 compactly arranged teeth; the margin posterior to the comb is densely ciliate. Labial palpus (Fig. E) is 3-segmented; segment II is distinctly narrower than I; *tp* is large; *a* is close to *tp*; *f* is far remote from *b*; *e* is on the same level with *f*; *γ* is placed at the midway between *b* and *a*. Glossa (Fig. F) is bifurcate from the base into 2 lobate arms. From prementum the median area is very broad, retracted behind and with numerous pseudopores more or less closely distributed; in lateral area 3 real (4 in opposite side) and 1 setal pores are present. Mentum (Fig. G) is distinctly emarginate in front; *u* is on the lateral corner; *v* is short and posterior to *u*. Pronotum is about as long as wide, flat convex above and a little narrowed behind, with distinct but short lateral erect setae; secondary setae along the middle are directed posteriorly; microsculpture is rougher than head. Prosternum is raised to form a blunt median carina. Mesosternal process is pointed at apex. Elytron is fairly emarginate postero-externally. Flabellum with up to 11 long setae. Tarsal formula as 4, 5, 5, in which mesotarsus with segments I-IV subequal in length; metatarsus with segment I elongate, a little longer than II. Each tibia has short macrosetae. Macrochaetotaxy as 01-12-22-22-23-34. Abdomen is broad and subparallel; lateral erect setae are inconspicuous. Two lateral setae of tergite VI (Fig. H) are close together in position. Tergite VIII (Fig. I) is broadly truncate behind and gently emarginate in the middle; 4+4 major setae are similarly short; *a*-2 is posterior to the level of stigma; microsculpture (Fig. J) is transversely imbricate pattern. The posterior margin of sternite VIII (Fig. K) is clearly emarginate and fringed with a row of similarly short marginal setae. Spermatheca (Fig. L) is S-shaped and terminating in fairly reflected end; bursa is oblong and with a pointed umbilicus.

Length. ca. 4.0 mm (head 0.43 mm long × 0.62 mm wide; pronotum 0.70 mm × 0.83 mm; elytra 0.72 mm × 1.10 mm).

Specimen examined. SWEDEN, 1 ♀, Rsio, Lund, Thomson det. (ZML).

Although the male genital organ is not inspected the species belongs to *Aloconota* (s. str.) without doubt as may be indicated by the structures of maxillary palpus, prementum, etc. The lobate glossa, numerous pseudopores of the prementum and deeply emarginate sternite VIII are the features peculiar to the present species.

***Aloconota* (s. str.) *punctifoveata* (K. Sawada, 1970)**

The following new records for the species are to be added:

AOMORI: Tsugaru-Futamata, 1 ♂, 1 ♀ (31 X, 1970, G. Imadate). OSAKA: Mt. Izumi-Katsuragi, 2 ♀ (18 VI, 1968, K. Sawada). HYOGO: Mt. Rokko, 2 ♀, (12 VI, 1968, K. Sawada).

***Aloconota* (s. str.) *cuspidata* (K. Sawada, 1971)**

The following new records for the species are to be added:

IWATE: Iwaizumi, 1 ♀, (19 X, 1967, K. Sawada). KYOTO: Mt. Hiei, Yokawa,

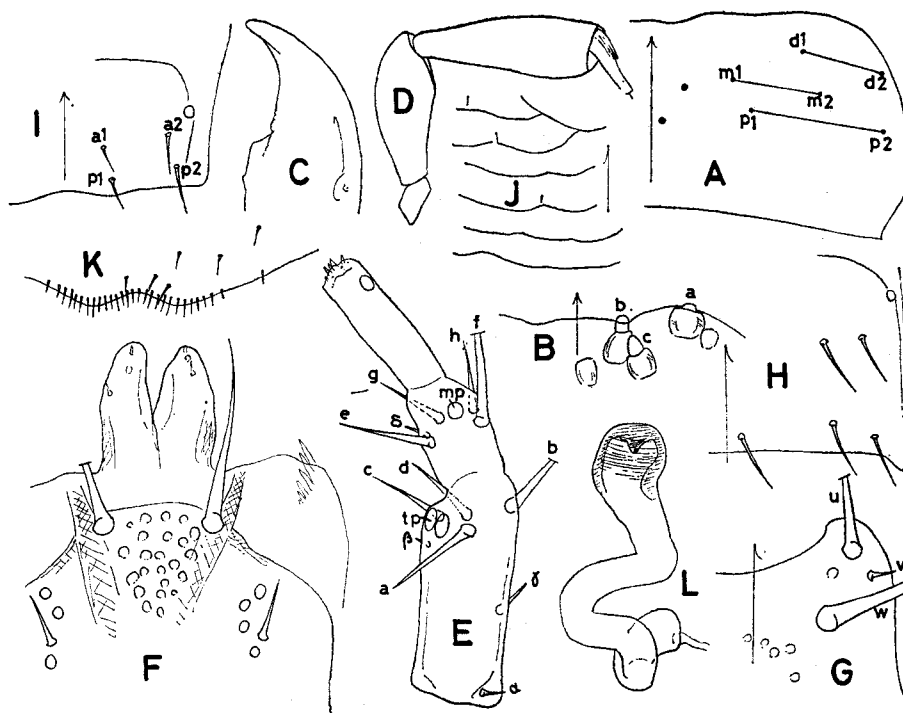


Fig. 4. *Aloconota* (s. str.) *hepatica* (Er.), ♀ from Lund: A, B, labrum & its margin; C, right mandible; D, maxillary palpus; E, labial palpus; F, glossa & prementum; G, mentum; H, tergite VI; I, J, tergite VIII & its microsculpture; K, ♀ sternite VIII; L, spermatheca.

1 ♂, (23 IX, 1971, K. Sawada).

* * *

Tachyusa series as defined in Yosii et Sawada, 1976, p. 127 includes such genera by which the abdominal segments are destitute of the anterior rows of macrosetae, and its glossa is without setulae. *Fenyesia*, *Brachyusa* and *Dilacra* are to be included in this series when the series is defined as above.

Key for the genera may be as:

1. Median area of prementum is broad and with pseudopores.....2
 Median area of prementum is narrow and without pseudopores4
2. Labrum is deeply incised. First segment of the hind legs is exceptionally elongate*Brachyusa*
 Labrum is normally formed. First segment of the hind legs is at most as long as two preceding together3
3. First segment of labial palpus is shorter than the third segment*Fenyesia*
 First segment of labial palpus is longer than the third segment*Dilacra*
4. Abdominal segments are deeply constricted basally*Tachyusa*
 Abdominal segments are not constricted basally*Gnypeta*

Genus *Dilacra* Thomson, 1856Type: *Homalota luteipes* Erichson, 1839

The genus *Dilacra* is characterized by the broad median area of prementum with pseudopores, and also by the position of *a* seta of labial palpus, which is located on the level of twin pores. The aedeagus has well-developed distal apophyses. *Dochmonota* Thomson, 1859 (Type: *D. clancula* Erichson, 1839) coincides well with *Dilacra* in all these respects as shown in the subsequent description, so that it is to be regarded a junior synonym of it.

***Dilacra luteipes* (Erichson, 1837) new combination**

Fig. 5

Homalota luteipes Erichson, 1837: 320*Atheta (Dilacra) luteipes*; Thomson, 1859: 39

♂. Dark brown in ground colour and subopaque; elytra are for the most part reddish brown; antennae and legs are uniformly brown. Body is subparallel, very densely graulate in the fore-parts and with extremely short macrosetae. Head is nearly orbicular in outline, too small for the corpus and without depression in the middle. Eyes moderate in size. Postgena is shorter than the eye in diameter. Antenna is long, stout and scarcely dilated towards the extremity; segments I-III subequally elongate; IV-X distinctly longer than wide; XI is long. Cervical carina is not diverged. In labrum (Fig. A) *d*-2 is close to the level of *m*-2; proximal row of setae is nearly horizontal; among 3+3 secondary setae one seta is mingled with the major setae. *a* sensilla of labral margin (Fig. B) is setaceous and converging; *b* is spiniform, curved; *c* is inconspicuous. Mandibles are abruptly narrowed to short obtuse apices; the right mandible (Fig. C) has an obsolete toothlet in the middle of the inner margin. Maxillary palpus (Fig. D) is slender as a whole; segment II is curved along its inner margin and ending in an angulate lobe; III is narrowly spindle-formed; IV is long and subparallel. Galea with a broad distal lobe. Lacinia is gradually narrowed behind and with two isolated teeth. Labial palpus (Fig. E) is 3-segmented; there is a deep constriction between segments I, II; *a* is the midway between *tp* and *b*; *r* is just behind *b*; *e* is on the same level with *mp*; *f* is far remote from *b*. Glossa (Fig. F) is normally long and forked from the middle to 2 obtusely rounded arms. Median area of prementum (Fig. F) is broad and with some 7 pseudopores; in lateral area up to 10 small pseudopores and together with 1 setal and 2 real pores, one real pore of which is by the border of median area. Mentum (Fig. G) is broadly emarginate in front, peculiarly *v* is dislocated posterior to *w*. Pronotum is evenly convex above and with an indication of the median depression before base; the sides are evenly arcuate in full length and with lateral erect setae which are nearly completely reduced; the secondary setae along the middle are directed posteriorly. Mesosternum is not carinate but briefly pointed behind. Elytron is a little longer than pronotum, dilated posteriorly and faintly emarginate postero-externally. Flabellum with up to 5 long and short setae. Legs are long and slender; tarsal formula as 4, 5, 5, in which the mesotarsus has segments I-IV subequal in length; metatarsus with segment I fairly longer than II. All tibiae have short, inconspicuous macrosetae. Macrochaetotaxy as 01-02-02-02-02-23. Abdomen is nearly parallel-sided; each tergite is

densely, finely punctured; there are some coarse punctures in the base of tergites. Tergite VIII (Fig. H) is not modified, but densely pubescent with long secondary setae, so that the major setae are mingled with them mostly; among 4+4 major setae *a*-2 is far remote from stigma.

Median lobe of aedeagus (Fig. I) is 0.50 mm long, elongate, ovate basally and gently narrowed to short apex; in lateral view apical lobe is nearly straight. Costae *ar. c.* are thin and becoming increase in width to the base; *m. c.* is developed; there is a strong transverse costa behind foramen. Copulatory piece (Fig. J) is weakly sclerotized and shortly pointed at apex; over the distal half membranous paired lobes (*s*) are present. Distal apophysis (*d*) is large, fairly curved distally to form a slender lobe. Lateral lobe (Fig. K) is with a broad vellum and a narrow middle apodeme (*m*). The distal segment is too small for the corpus, widened basally and constricted distally; *a* is reduced to a setula, whereas *b* is long; *c* is short, but *d* is exceptionally prolonged.

Length. 2.80 mm (head 0.38 mm long $\times$ 0.38 mm wide; pronotum 0.45 mm $\times$ 0.51 mm; elytra 0.47 mm $\times$ 0.60 mm).

♀. Tergite VIII is alike to that of the male. Sternite VIII (Fig. L) is rounded behind and emarginate at apex. Spermatheca (Fig. M) is twice coiled up; bursa is short and

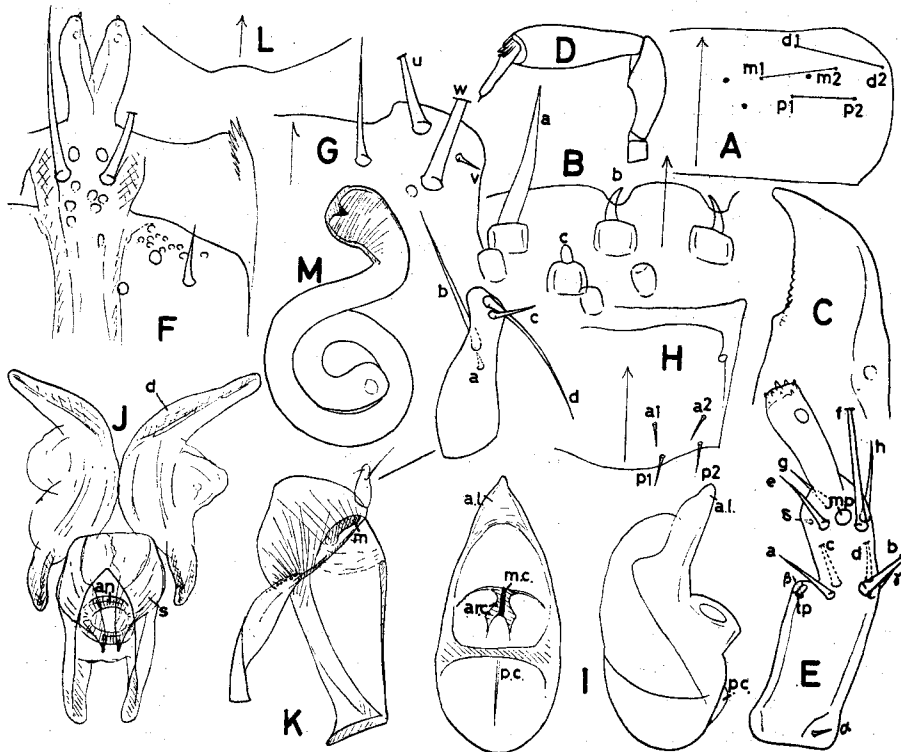


Fig. 5. *Dilacra luteipes* (Er.), ♂, ♀ from Sweden: A, B, labrum & its margin; C, right mandible; D, maxillary palpus; E, labial palpus; F, glossa & prementum; G, mentum; H, tergite VIII; I, J, median lobe & its inner armature; K, lateral lobe.

with a pointed umbilicus.

Specimen examined. SWEDEN. 1 ♀, Lund, Thomson det. (ZML). 1 ♂, Gotland, South Visby, 6 VI, 1982, M. Sörensson leg. & det.

***Dilacra clancula* (Erichson, 1837) new combination Fig. 6**

Homalota clancula Erichson, 1837: 331

Atheta (*Dochmonota*) *clancula*; Thomson, 1861: 98

♂. Ground colour is dark brown and shining; antennae and legs are evenly brown. Body is rather broad, with very short setae and densely punctured in the fore-parts. Head is orbicularly rounded in outline. Eyes are a little longer than the post-gena in diameter. Cervical carina is not diverged. Antenna is moderately long and slightly dilated towards the extremity; segment III is clearly shorter than II; IV as long as wide; V is similar to IV; X moderately transverse; XI is short. Among 6+6 major setae of labrum (Fig. A) *d*-2 is posterior to the level of *m*-2; proximal row is subparallel to medial row of setae; 2+2 secondary setae are present. In labral margin (Fig. B) *a* sensilla is finely setaceous and converging; *b* is spiniform and curved; *c* is obtuse. Mandibles are nearly triangular in outline and lightly hooked at apices; the right mandible (Fig. C) with a toothlet in the middle. Maxillary palpus is 4-segmented; segment II is rather slender; III is dilated in the middle; IV is long in relation to III. Galea has a densely ciliate distal lobe. Lacinia is gently dilated in the middle; distal comb (Fig. D) is consisting of 6 long teeth plus 2 short isolated teeth. Labial palpus (Fig. E) is 3-segmented and with an indication of constriction between segment I and II; *a* is close to *tp*; *r* is on the level of *b*; *e* is posterior to *mp*; *f* is close to *h* in position. Glossa (Fig. F) is broad and forked from the middle to 2 short arms. From prementum (Fig. F) median area is broad and without pseudopores (always?); on the contrary, distal setae are standing together; lateral area bears several pseudopores plus 1 setal and 2 real pores, the setal pore is widely separated from the real pore. Mentum (Fig. G) is emarginate in front; *v* is reduced to a setula and on the same level with *w*. Pronotum is evenly rounded bilaterally and with short, dense secondary setae which are scattered throughout; lateral erect setae are scarcely perceptively reduced; secondary setae along the middle are directed anteriorly. Mesosternal process is acuminate behind and rounded at the extreme apex. Elytron is broader than the pronotum and fairly emarginate postero-externally. Flabellum with up to 6 long and short setae. All tibiae have very short macrosetae. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have segments I-VI similarly short. Macrochaetotaxy as 01-02-02-02-02-34. Tergites VII, VIII are densely punctured and with imbricate ground pattern; in the latter tergite (Fig. H) 4+4 major setae are similarly short and clearly separated from stigma.

Median lobe of aedeagus (Fig. I, J) is 0.38 mm long; ventrally apical lobe is triangularly pointed; in lateral view apical lobe is too much short for the corpus. Costae *ar. c.* are thin and broad; *m. c.* is present; *p. c.* is a low projection; there is a transverse costa posterior to the foramen. Copulatory piece (Fig. K) is elongate and with truncate apex; annellus is large and situated near apex; suspensorium is quite obliterate. Distal apophysis is represented by well-sclerotized, long paired processes which are fairly

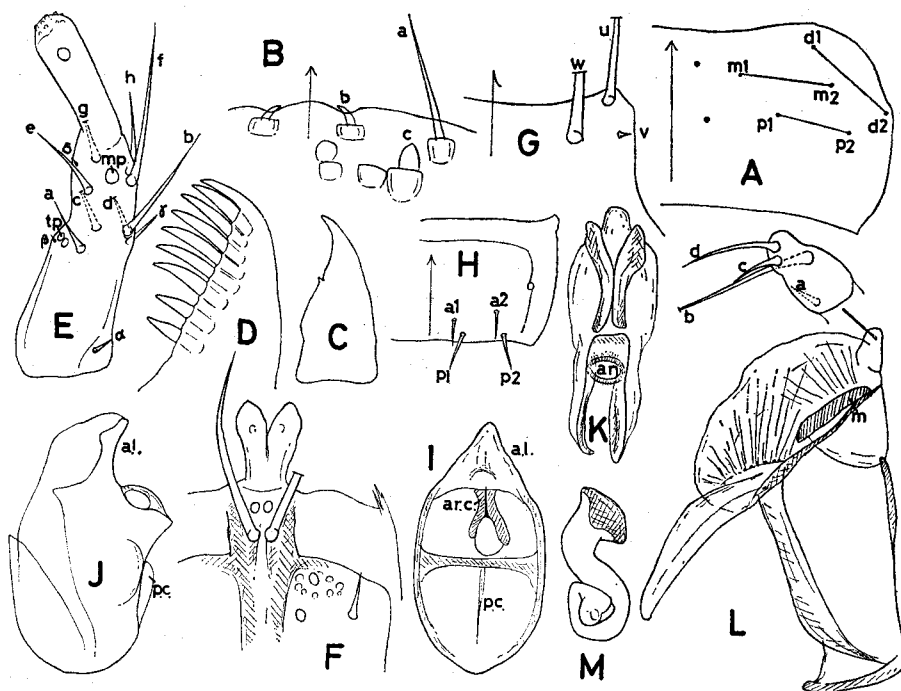


Fig. 6. *Dilacra clancula* (Er.), ♂, ♀ from Sweden: A, B, labrum & its margin; C, right mandible; D, lacinia; E, labial palpus; F, glossa & prementum; G, mentum; H, tergite VIII; I, J, median lobe & its inner armature; L, lateral lobe; M, spermatheca.

diverging distally; apically an obtuse, upwardly bent median process is present. Medial segment of lateral lobe (Fig. L) is broad and with a narrow middle apodeme (*m*); vellum is well-developed. Distal segment is small and oblong; *a* is strongly reduced, but *b* is fairly long; *d* is longer than *c*.

Length. ca. 2.30 mm (head 0.21 mm long $\times$ 0.36 mm wide; pronotum 0.37 mm $\times$ 0.48 mm; elytra 0.39 mm $\times$ 0.56 mm).

♀. Tergite VIII is not modified as in the male. Sternite VIII is subtruncate at apex, where there is a row of some 18+18 long and short marginal setae. Spermatheca (Fig. M) is coiled narrowly; bursa is relatively large, expanded and muchroomlike, and with a large, low umbilicus.

Specimen examined. SWEDEN, 1 ♂, 1 ♀, Gotland, Sproge, 21 VI, 1982, M. Sörensson leg. & det.

From *D. luteipes* the species differs in closely located paired basal setae of glossa, much finer *a* sensilla of labral margin, very short apical lobe of aedeagus and by the apically truncate copulatory piece.

Genus *Brachyusa* Mulsant et Rey, 1874

Type: *Homalota concolor* Erichson, 1839

In the general feature *Brachyusa* differs completely from *Tachyusa* by its abdominal

segments being not at all constricted. But in the finer details they are not much different and may be separated by the following points. In *Brachyusa* the labrum is deeply bilobed (Fig. A), the labial palpus has very elongate β and γ sensillae and seta a is represented by two setae ($a\ 1$, $a\ 2$ in Fig. E). Glossa is rather short.

***Brachyusa concolor* (Erichson, 1839)**

Fig. 7

Brachyusa concolor; Palm, 1968: 90

♀. Black throughout and subopaque; legs and antennae are slightly paler in colour. Body is broad, flat above, densely granulose and with fine distinct secondary setae all over. Head is small and without depression in the middle. Eyes are large and convex beyond the head contour. Cervical carina is not diverged. Antenna is long and only dilated towards the extremity; segment III is much shorter than II; IV is longer than wide; V-X are gradually decrease in length; X as long as wide; XI is short. Labrum (Fig. A) is highly modified: it is deeply incised in the middle, so that the large lobe is formed on each side; among 6+6 major setae proximal row of setae is short and nearly horizontal in arrangement, whereas medial row is oblique; $m-1$ is basally removed on the same level with $p-1$; $d-2$ is posterior to the level of $m-2$; 1+1 secondary setae are present. a sensilla of labral margin (Fig. B) is short, spiniform and with broad base; b is also spiniform like a ; c is not observed in the specimen examined. Mandibles are narrowly elongate and gently bent towards the apex; the right mandible (Fig. C) may be edentate. Maxillary palpus is 4-segmented and densely setose all over; segment III is strongly dilated in the middle and a little longer than II; on the contrary IV is very short and twisted before the apex. Galea with densely ciliated distal lobe. Lacinia is narrow and actually not dilated; distal comb is consisting of 6 slender teeth. Along the inner margin there is a row of up to 7 short spines (Fig. D) posterior to the isolated teeth. Labial palpus (Fig. E) is 3-segmented; segment I is stout and much longer than III; there is a deep constriction in the inner margin between segments I and II; peculiarly a is accompanied with a similar long seta ($a\ 1$, $a\ 2$), and situated far remote from tp ; β is unusually elongate and placed at about the middle of segment I; γ is very long like β and near by b ; e is on the level of f ; tp is smaller than mp . Glossa (Fig. F) is short and with 2 obtuse arms forked from the base; paired basal pores are contiguous. In prementum the median area is broad and with a few pseudopores; lateral area bears 2 real, 1 setal and numerous small pseudopores. Mentum (Fig. G) is transverse, nearly truncate in front; the antero-external corner is fairly effaced; v is reduced to a setula; u is clearly separated from v ; w is on the level of v and well inside the lateral margin. Pronotum is broad, flat above and with a large median depression which is gradually increase in depth to the base and ending in a small fovea before the base; the sides are gently contracted behind; lateral erect setae are nearly completely reduced; secondary setae along the middle are directed posteriorly. Mesosternal process is short and rather obtuse at apex. Tarsal formula as 4, 5, 5, in which mesotarsus with segments I-IV subequal in length; metatarsus with segment I fully twice as long II; V is short as IV and much shorter than I. All tibiae have extremely short macrosetae. Elytron is faintly emarginate postero-externally and subrugosely granulate

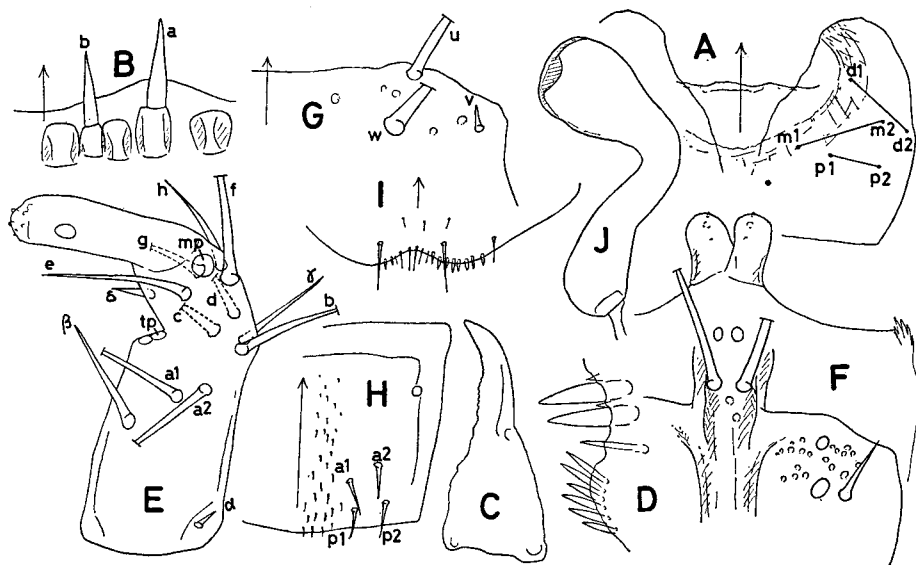


Fig. 7. *Brachyusa concolor* (Er.), ♀ from Sweden: A, B, labrum & its margin; C, right mandible; D, isolated teeth of lacinia; E, labial palpus; F, glossa & prementum; G, mentum; H, tergite VIII, I, ♀ sternite VIII; J, spermatheca.

like pronotum. Flabellum with some 6 long setae. Macrochaetotaxy as 01-02-02-02-02-24, the internal setae of which are strongly reduced. Abdomen is fusiform more or less and with fairly reduced lateral erect setae; tergite VII is much longer than VI. Tergite VIII (Fig. H) is not modified; 4+4 major setae are very short and aggregated together; *a*-2 is far remote from stigma; secondary setae are extremely dense and gradually increase in length towards the extremity. Sternite VIII (Fig. I) is broadly rounded at apex, where it is deeply emarginate and with a row of some 10+10 long and short marginal setae. Spermatheca (Fig. J) is simple; bursa is large, obovate and with a low umbilicus; duct is gently bent and widened distally.

Length. ca. 2.20 mm (head 0.25 mm long×0.43 mm wide; pronotum 0.44 mm×0.62 mm; elytra 0.47 mm×0.78 mm).

Specimen examined. SWEDEN, 1 ♀, Sisk, Löeröd, 7 V, 1976, M. Sörensson leg. & det.

Genus *Fenyesia* Cameron, 1920

Type: *Fenyesia nigra* Cameron, 1920

The genus is near *Dilacra* Thomson, 1858 in many respects, but differs by the fairly incrassate first segment of labial palpus and by the elongate spiniform *b* sensilla of labral margin. It is alike to a *Tachyporus* in appearance.

Fenyesia nigra Cameron, 1920

Fig. 8

Fenyesia nigra Cameron, 1920: 271

♀. Nearly black throughout and strongly shining; antennae are a little paler towards the extremity. Body is convex and fusiform more or less. Head is transverse. Eyes

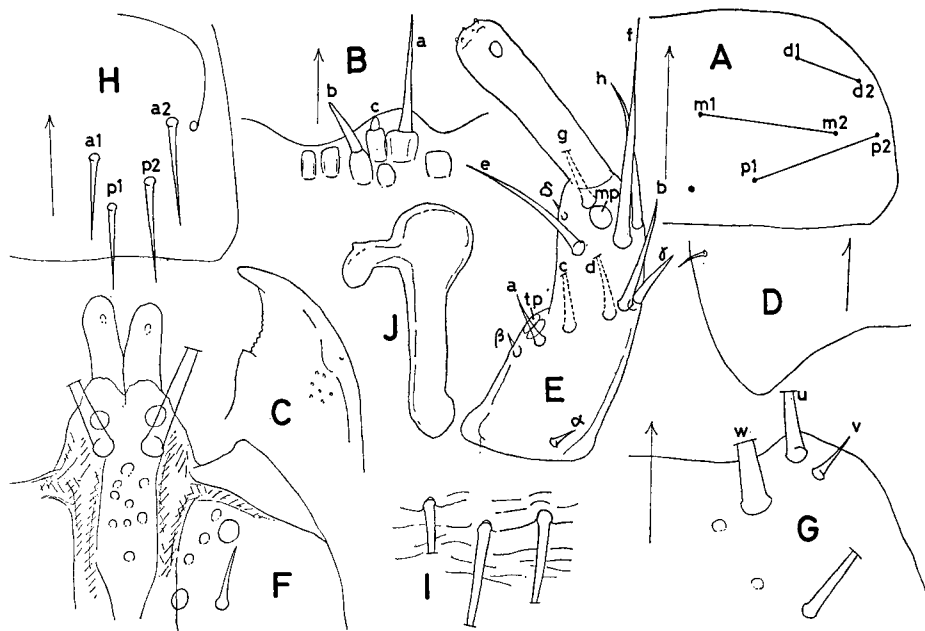


Fig. 8. *Fenyesia nigra* Cam., ♀ from Singapore: A, B, labrum & its margin; C, right mandible; D, pronotum; E, labial palpus; F, glossa & prementum; G, mentum; H, I, tergite VIII & its microsculpture; J, spermatheca.

are nearly as long as the post-gena. Antennal segment I is short compared to II; III is a little shorter than II; IV is like V; V-X gradually increase in width; XI is obtuse; each antennal segment bears very short fine macrosetae. Chaetotaxy of labrum (Fig. A) is modified; distal row of setae is as usual, but both medial and proximal rows are very long and proximally located; *m-2* is clearly separated from *d-2* and close to *p-2* in position; 1+1 secondary setae are present. Mandibles are broad, abruptly narrowed distally and ending in short obtuse apex; the right mandible (Fig. C) is with a thick molar tooth. *a* sensilla of labral margin (Fig. B) is short and setaceous; *b* becomes elongate and spiniform. Maxillary palpus is 4-segmented; segment II is narrowly elongate; III is much broader than II; IV is subulate and normally long. Lacinia is gradually dilated and with 2 well-defined isolated teeth. Labial palpus (Fig. E) is 3-segmented; segment I is thick and much shorter than III; II is elongate compared to I; *tp* is large and similar to *mp*; *a* is converted to a setula and is close to *tp*; *b* is anterior to the level of *a*; *e* is posterior to *mp*; *f* is on the level of *e*; *r* is lateral to *b*. Glossa (Fig. F) is forked from the base into two subparallel, apically rounded arms. In prementum median area is broad, well sclerotized bilaterally and with up to 8 pseudopores; lateral area possesses 2 large real, 1 setal plus some 3 pseudopores. Mentum (Fig. G) is nearly truncate in the anterior margin and with weakly protruded antero-external corner; *v* is short and close to *u*; *w* is well inside the lateral margin. Pronotum is transverse, evenly arcuate in front and behind; lateral erect setae are inconspicuous and the posterior margin is broadly emarginate in full length, so that the basal corner is well-defined; secondary

setae along the middle are directed posteriorly. Prosternum is entirely carinate in the middle; mesosternal process is pointed behind. Elytron is short in relation to the pronotum and fairly emarginate postero-externally. Tarsal formula as 4, 5, 5, in which metatarsus with segment I elongate, as long as 2 preceding together. Meso- and meta-tibiae have very short macrosetae. Macrochaetotaxy as 01-02-03-03-03-23. Tergite VIII (Fig. H) is not modified; among 4+4 major setae *a*-2 is lateral to the stigma; *p*-2 is at about the midway between stigma and the posterior margin; the surface with distinct transverse pattern (Fig. I). Spermatheca (Fig. J) is oddly formed; bursa is nearly ovate in one side, and in opposite side it is protruded a short lobe whose apex is expanded; duct is nearly straight and subparallel; umbilicus is not observed.

Length. ca. 1.90 mm (head 0.22 mm long $\times$ 0.48 mm wide; pronotum 0.45 mm $\times$ 0.90 mm; elytra 0.36 mm $\times$ 0.80 mm).

♂. Unknown.

Specimen examined. SINGAPORE, type (♀), Woodland, Cameron leg. (BMNH)

* * *

Following additions to the *Atheta* series are to be made.

Genus *Alaobia* Thomson, 1858

Type: *Homalota scapularis* R. C. Sahlberg, 1834

Cervical carina is not diverged as in *Dinaraea* of *Atheta* and *Alianta*. Besides, *c* sensilla of labral margin is exceptionally well-developed, and glossa has broader, fusiform arms. From *Alianta* it differs also by the normally punctured abdomen.

Alaobia scapularis (R. C. Sahlberg, 1834)

Fig. 9

Homalota scapularis R. C. Sahlberg, 1834: 372

Alaobia scapularis; Thomson, 1858: 36

♂. Ground colour is reddish brown and shining; head is a little darker than pronotum; elytra similarly pigmented to the pronotum; abdomen is brown and distinctly infuscate in the distal segments; antennae and legs are uniformly brown. Body is broad. Head is too small for the corpus and beset with dense setae. Antenna is apparently dilated towards the extremity; segments I-III similarly short; IV is the smallest and transverse; V-X becoming increase in width; XI is long. Cervical carina is not diverged. Labrum (Fig. A) is shallowly emarginate in front, and all rows of setae are similarly short; *m*-2 is separated from distal row and close to the level of *d*-2; 2+2 secondary setae are present. *a* sensilla of labral margin (Fig. B) is setaceous; *b* is obtusely pointed; *c* is markedly developed compared to *b* and pointed at apex. Mandibles are only hooked at apices; the right mandible (Fig. C) is with a distinctive molar tooth. Maxillary palpus is 4-segmented; segment III is larger than II; IV is short. Galea is as usual. Lacinia is indistinctly dilated behind; distal comb is composed of 6 slender teeth plus 2 isolated teeth, the latter are not separated from a row of the distal teeth. Labial palpus (Fig. D) is 3-segmented; *r* is close to *b* in position and posterior to the level of *tp*; *a* is placed before the middle of segment I; *f* is located in the midway between *b* and *h*. Glossa (Fig. E) is rather broad and forked from behind the middle to two fusiform arms. Median area of prementum is broad, subparallel and with some large pseudopores; in

lateral area 1 setal, 2 real and several small pseudopores are observed. *v* seta of mentum (Fig. F) is moderately long and on the level of *u*. Pronotum is evenly convex above; lateral margin is nearly straight in the posterior half; lateral erect setae are short; secondary setae along the middle are directed posteriorly. Mesosternal process is pointed, but obtuse at the extreme apex. Elytron is broad compared to the pronotum and emarginate postero-externally. Flabellum with 6 long setae. Tarsal formula as 4, 5, 5, in which mesotarsus has segment I shorter than II; metatarsus has segment I about as long as II. All tibiae have inconspicuous short macrosetae. Macrochaetotaxy as 01-12-22-22-23-33. Abdomen is broad and dilated in the middle. Tergite VIII (Fig. G) is 4-dentate, each outer tooth is longer than the inner one and pointed at apex; among 4+4 major setae *a-2* is separated from stigma.

Median lobe of aedeagus (Fig. H, I) is 0.36 mm long; in ventral view apical lobe is ovate, gently constricted basally and acute at apex; laterally apical lobe is feebly bent in full length. Costae *ar. c.* is subparallel and recurved distally; *m. c.* is fine; *v. ap.* is not developed. Copulatory piece (Fig. J) is short, nearly triangular in outline and with a shortly projecting apex; there is a membranous, broad lobe (*l*) over the corpus.

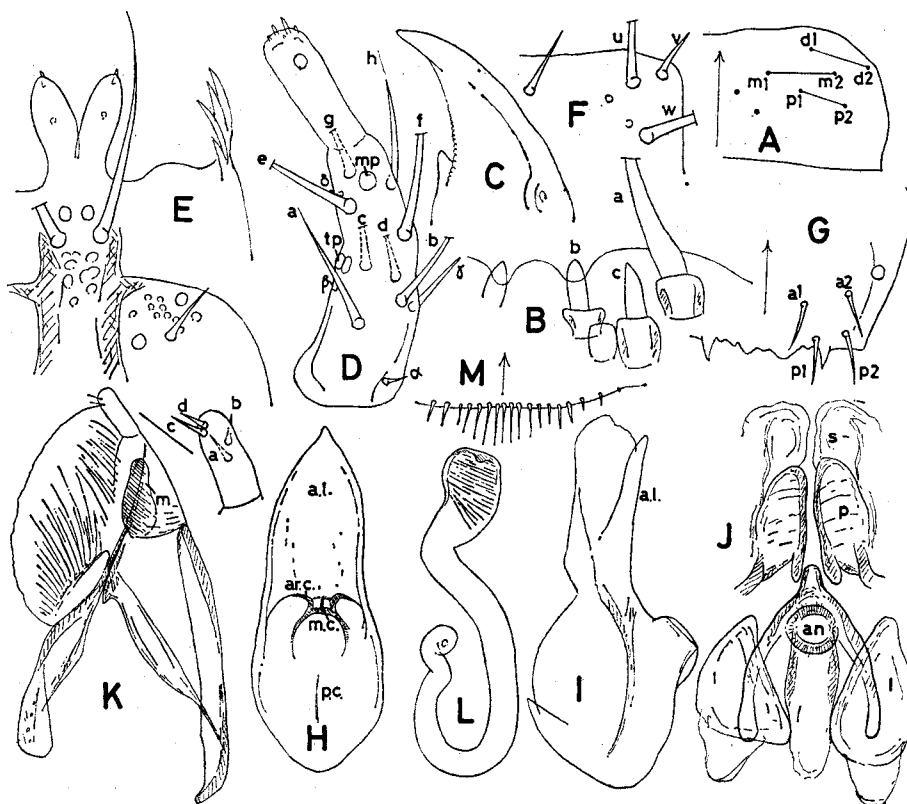


Fig. 9. *Alaobia scapularis* (Shl.), ♂, ♀ from Lund: A, B, labrum & its margin; C, right mandible; D, labial palpus; E, glossa & prementum; F, mentum; G, tergite VIII; H, I, J, median lobe & its inner armature; K, lateral lobe; L, spermatheca.

Distal apophyses are developed, but weakly chitinized, and composed of an elongate proximal lobe (*p*) and a rounded narrow distal lobe (*s*). Medial segment of lateral lobe (Fig. K) becomes narrow in the basal corner; median apodeme (*m*) is broad; vellum is well-developed. Distal segment is elongate; all setae are similarly short; *a* is close to *b* in position.

Length. 2.60 mm (head 0.28 mm long $\times$ 0.46 mm wide; pronotum 0.45 mm $\times$ 0.69 mm; elytra 0.52 mm $\times$ 0.84 mm).

♀. Tergite VIII is not modified. Sternite VIII (Fig. M) is very broadly rounded behind and with a row of short and long marginal setae. Spermatheca (Fig. L) is elongate, recurved distally and with twisting end; bursa is short and with a low umbilicus.

Specimen examined. SWEDEN 1 ♂, 1 ♀, Thomson det. (ZML).

***Atheta (Microdota) annuliventris* (Kraatz, 1859)**

Fig. 10

Homalota annuliventris Kraatz, 1859: 40

?*Atheta (Acrotona) annuliventris*; Cameron, 1939: 409

?*Ischnopoda* (s. str.) *annuliventris*; K. Sawada, 1971: 68

♂. Ground colour is bright yellowish brown and weakly shining; head and elytra are a little darker than the pronotum; abdomen is yellowish brown except for blackish tergite VI; antennae and legs are totally paler. Head is moderately densely punctulate throughout. Eyes are large. Post-gena is short compared to the eye and beset with several rigid setae. Cervical carina is not diverged. Labrum (Fig. A) is rather deeply emarginate in front; among 6+6 major setae *m-2* is behind the level of *d-2*; distal row of setae is similarly long to the medial row; 1+1 secondary setae are present. *a* sensilla of labral margin (Fig. B) is setaceous and very fine; *b* is truncate at apex; *c* is obtuse. Mandibles are abruptly acuminate to a shortly hooked apices; the right mandible (Fig. C) bears a fine molar tooth behind the middle of the inner margin. Labial palpus (Fig. D) is 3-segmented and segment III is damaged in the specimen examined; β is separated from *tp*; *r* is behind *f*; *a* is lateral to *tp* and on the level of *b*; *e* is inside the margin and close to the posterior end of *mp*; *f* is on the level of *e*. Glossa (Fig. E) is forked from the middle into two diverged, narrow arms. Median area of prementum is narrow, fairly retracted behind and without pseudopores; in lateral area 2 real, 1 setal pores plus a few small pseudopores. Mentum (Fig. F) is clearly emarginate in front; *v* seta is short and placed behind *u*; *w* is close to *v*. Pronotum is fairly transverse and fluently arcuate bilaterally; lateral erect setae are strongly reduced; secondary setae along the middle are directed posteriorly; the surface clothed with fine, densely distributed setulae. Mesosternal process is pointed behind. Elytron is obsoletely emarginate postero-externally, and with a stout macroseta on each antero-external corner. Flabellum with up to 3 long setae. Macrochaetotaxy as 01-02-13-13-13-33. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have segment I shorter than II. All tibiae have short, rigid macrosetae. Tergite VIII (Fig. G) is not modified; 4+4 major setae are similarly long; *a-2* is fairly posterior to stigma and close to the level of *a-1*.

Median lobe of aedeagus (Fig. H, I) is 0.28 mm long; ventrally the apical lobe is subparallel-sided, and broadly truncate at apex; the surface is depressed along the

middle and gently convex on each side of the depression; in lateral view the apical lobe is evenly bent in full length. Costae *ar. c.* are short, subparallel and recurved distally; *m. c.* is entire; *p. c.* is well-developed. Copulatory piece (Fig. J) is poorly chitinized and fairly emarginate at apex; there is a pair of pointed dorsal sclerites (*h*). The distal apophysis is short and converted to a papilionaceous plate (*p*). Medial segment of lateral lobe (Fig. K) is narrowly elongate and with nearly rectangular basal corner; middle apodeme (*m*) is elongate. Distal segment (Fig. L) is fairly reduced and oblong; *a* seta is short as *b*; *b* is posterior to the level of *c*; *d* is much longer than *c*.

Length. ca. 2.30 mm (head 0.28 mm long $\times$ 0.34 mm wide; pronotum 0.33 mm $\times$ 0.51 mm; elytra 0.28 mm $\times$ 0.59 mm).

♀. Unknown.

Specimen examined. SRI LANKA, type (♂) of *Homalota annuliventris* Kr., Ceylon, J. Nietner (IPAL).

As the posterior margin of the abdominal tergites are smooth, and the median area of prementum is devoid of pseudopores it must be included in the subgenus *Microdota* and not in *Acrotona*. The species is nearer to *A. (M.) aliena* Cameron, 1939 (cf. Sawada, 1982, p. 148), but in *A. annuliventris* the labrum is more deeply emarginate and with truncate *b* sensilla. Glossa is broader. Copulatory piece is emarginate at apex. As the specimen from Java (Sawada, 1971, p. 68) is based on female, the identity is not quite sure.

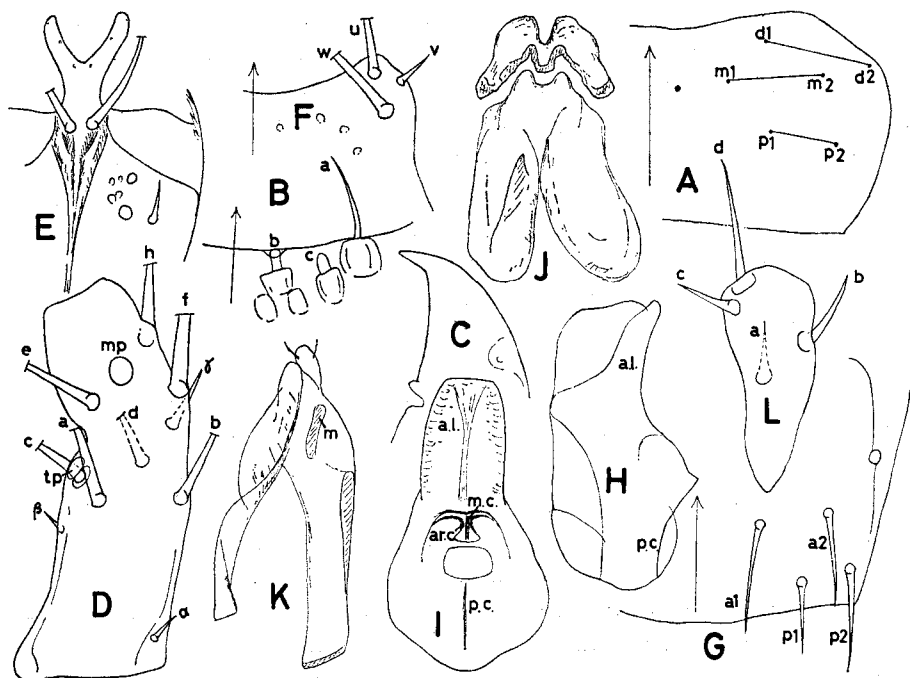


Fig. 10. *Atheta (Microdota) annuliventris* (Kr.), type, ♂ from Sri Lanka: A, B, labrum & its margin; C, right mandible; D, labial palpus; E, glossa & prementum; F, tergite VIII; G, H, I, median lobe & its inner armature; J, K, lateral lobe & its distal segment.

***Atheta (Xenota) rhyssoptera* Kraatz, 1859**

Fig. 11

Homalota rhyssoptera Kraatz, 1859: 37*Atheta (Acrolona) fungi*; Cameron, 1939: 402

♀. Brown to yellowish brown in ground colour and weakly shining; head is infusate; pronotum tinged with red; elytra are brighter than the pronotum; abdomen is becoming darker behind; antennae are yellowish brown; legs paler. Body is elongate and more or less convex above. Head is flat convex above and with moderately dense punctures all over. Eyes are large. Post-gena is subequal to eye in diameter. Cervical carina is diverged. Antenna is a little dilated towards the extremity; segment III is slightly shorter than II; IV-VI are nearly as long as wide and quite similar to one another. Mandibles are stout, acuminate to weakly hooked apex; the right mandible (Fig. A) is with a fine molar tooth. Maxillary palpus is short; segment II is subequal to III in length; IV is long in relation to III. Galea with a large, densely ciliate distal lobe. Lacinia is abruptly dilated in the inner margin; distal comb is consisting of 6 slender teeth; isolated teeth are in fact not differentiated. Glossa (Fig. B) is short, forked from the middle into two subparallel, apically subtruncate arms. In prementum (Fig. B) median area is relatively narrow and with a few pseudopores; lateral area bears 2 small real, 1 setal pores plus some 6 fine pseudopores. Pronotum is gently convex above, a little retracted behind and evenly arcuate in full length; lateral erect setae are indistinct; secondary setae along the middle are directed anteriorly in the anterior half and posteriorly in the posterior half. Mesosternal process is narrowed behind, but not sharply pointed at apex. Elytron is rather short compared to the pronotum and emarginate postero-externally. Meso- and metatibiae have short but rigid macrosetae. Tarsal formula as 4, 5, 5, in which meso- and metatarsi have segment I fairly short. Abdomen is broadest at about the middle. Tergite VIII is not modified; among 4+4 major setae the anterior row of setae is placed clearly anterior to the level of stigma; the surface with scarcely perceptible microsculpture. Sternite VIII (Fig. C) is short, semicircular in outline and with a row of some 6+6 long and short marginal setae. Spermatheca (Fig. D) is twice coiled; bursa is thick and devoid of umbilicus within.

Length ca. 2.20 mm (head 0.31 mm long $\times$ 0.38 mm wide; pronotum 0.37 mm $\times$ 0.56 mm; elytra 0.34 mm $\times$ 0.65 mm).

♂. Unknown.

Specimen examined. INDIA, syntype (♀) of *Homalota rhyssoptera* Kraatz, Ind. post., Helfer. (IPAL).

The species is almost equal with *A. (X.) fungi* (Gr.) as already cited in Cameron 1939, p. 402. But as the so called *fungi* of Europe can be a composite group of species, the final decision is retained.

ADDENDUM

***Brachida crassiuscula* (Kraatz, 1859)**

Fig. 11

Homalota crassiuscula Kraatz, 1859: 41*Brachida crassiuscula*; Cameron, 1939: 52

♂. Ground colour is bright reddish brown and shining; head is infusate; pronotum

is evenly coloured; elytra are more yellowish; abdomen is fairly infusate in the distal segments; antennae are brown, with brighter basal segments; legs paler. Body is stout and thick. Head is evenly convex above and with moderately dense, fine punctures all over. Eyes are small and fairly protruded beyond the head contour. Post-gena is about as long as the eye in diameter. Antenna is short and with conspicuous macrosetae; segment II is dilated; III is much smaller than II; IV about as long as wide; V-X gradually increase in width; XI is robust and oblong. Cervical carina is not diverged. In labrum (Fig. E) medial row of setae is placed at about the middle of disc; distal row is very short, subsequently $m-2$ is far remote from $d-2$; $1+1$ secondary setae are present. a sensilla of labral margin (Fig. F) is setaceous; b is not emarged from the labral margin and with very large bulbous base. Mandibles are fairly slender, gently bent and pointed at apices; the right mandible (Fig. G) bears a distinct molar tooth. Maxillary palpus (Fig. H) is 4-segmented; segment II is slender; III is much larger than II; IV is short relatively. Galea is narrowly elongate, with a short distal lobe. Lacinia (Fig. H) is arcuate in the inner margin to give a bladelike appearance and ending in an angulate basal lobe; the margin is furnished with dense, short cilia and basally pectinate with short teeth. Labial palpus (Fig. I) is indistinctly 3-segmented; segment I is fairly reduced compared to II; III is elongate, about as long as two basal segments; mp is located at the extreme apex of segment II; a is very long and behind tp ; b is removed to the level of δ ; d is strongly reduced; e is long like a and close to tp in position; r is behind f ; β , h are missing. Glossa (Fig. J) is semicircular in outline and with a setula on each side; basal paired setae are substituted by only one long seta. Median area of prementum is not delimited by the boundary; lateral area bears 1 real, 1 setal and ca. 6 aggregated pseudopores. Mentum (Fig. K) is truncate in front; peculiarly u is on the anterior margin; v is long and on the protruded lateral corner; w is close to v . Pronotum is convex above, transverse and strongly rounded laterally; lateral erect setae are long and conspicuous. Mesosternum is broadly truncate behind; the truncate margin is emarginate. Flabellum without setae. All the tibiae have long macrosetae. Tarsal formula as 4, 4, 5, in which metatarsus with segments I-IV subequal in length. Macrochaetotaxy as 01-02-03-03-03-03. Tergite VIII (Fig. M) is not modified, and with 5 (6 in one side) long major setae; microsculpture is imbricate pattern and gradually disappeared towards the extremity. Sternite VIII is short and with peculiar rounded marking of costa (Fig. L) near the base.

Median lobe of aedeagus (Fig. N) is 0.76 mm long, narrowly elongate, strongly sclerotized and compressed bilaterally; the marginal part is becoming thin and transparent; basally a small rounded protuberance (a) is present. Vellum of lateral lobe (Fig. O) is large; proximal segment is lost; medial segment is broad, briefly hooked at the basal corner and with a broad, quite effaced middle apodeme (m). Distal segment is oddly formed; a seta is long and basal-most; b is close to a ; c , d are rather long and apical-most in position.

♀. Tergite VIII is like the male. Sternite VIII is without basal marking. Spermatheca (Fig. P) is highly modified: bursa is large, globose and with a low umbilicus; duct is converted to dilated tube and with two thick diverticula.

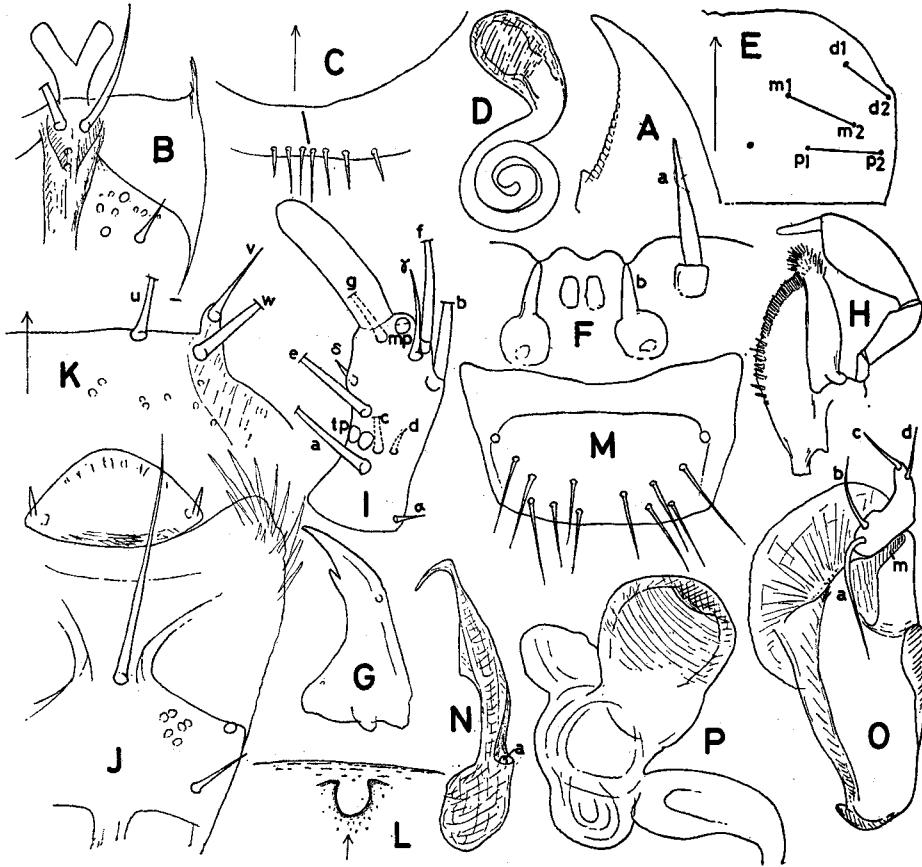


Fig. 11. *Atheta (Xenota) rhyssoptera* Kr., ♀ from India: A, right mandible; B, glossa & prementum C, ♀ sternite VIII; D, spermatheca.
Brachida crassiuscula (Kr.), ♂, ♀ from Sri Lanka & India: E, F, labrum & its margin; G, right mandible; H, first maxilla; I, labial palpus; J, glossa & prementum; K, mentum; L, sternite VIII; M, tergite VIII; N, median lobe; O, lateral lobe; P, spermatheca.

Specimen examined. SRI LANKA, 1 ♂ of *Homalota crassiuscula* Kr., Ceylon, J. Nietner, syntype; INDIA, ♀, Ind. post., Helfer, Kraatz det. (IPAL).

As already mentioned in Cameron 1939 the species is to be included in *Brachida* Mulsant et Rey, 1871. The species is similar to *B. clara* (Weise, 1877) of Japan, but in *B. crassiuscula* the labial palpus is longer, sternite VIII of male has the different pattern of marking. Tergite VIII bears 4+4 major setae in *B. clara*, whereas they are 5+5 in this species.

Distribution. East India, Sri Lanka.

Acknowledgements

Hearty thanks are directed to Dr. R. Danielsson (ZML), Prof. Dr. habil. G. Morge (IPAL), Dr. P. M. Hammond and Dr. M. E. Bacchus (BMNH) and Dr. E. H. Smith

(FMNH) for giving me access to the type series of the species concerned. I am also grateful to Mr. M. Sörensson for his supply of nice specimens of the Swedish Aleocharinae. To Prof. Saburo Nishimura of the Kyoto University I must express my cordial thanks for his constant encouragement and guidance. Last but not least I am particularly grateful to Prof. emeritus Ryozyo Yoshii (=Riozo Yosii) of the Kyoto University for his critical review, as well as to the Biological Laboratory of the Kyoto University for the publication of the thesis.

References

- Bernhauer, M. 1943. Neuheiten der palaearktischen Staphylinidenfauna, *Mitt. Münchner Ent. Ges.*, 33: 169-188.
- Brundin, L. 1943. Zur Kenntnis einiger in die *Atheta*-Untergattung *Metaxya* M. & R. gestellten Arten, *Lunds Univ. Ars. N. F. Avd. 2*, 30(4): 3-37.
- Cameron, M. 1920. New species of Staphylinidae from Singapore, Part III, *Trans. Ent. Soc. London*, 1920: 212-284.
- 1939. Coleoptera Staphylinidae, (in) *The Fauna of British India*, IV; 691 pp. London.
- 1949. New species and records of staphylinid beetles from Formosa, Japan, and South China. *Proc. U. S. Nat. Mus.*, 99: 455-477.
- Kraatz, G. A. 1859. Die Staphylinen Fauna von Ostindien, insbesondere der Insel Ceylan, *Arch. Naturgesch.*, 25: 196 pp. Berlin.
- Lohse, G. A. 1974. *Die Käfer Mitteleuropas*, Bd. 5, Staphylinidae II: 381 pp. Krefeld.
- Palm, T. 1970. *Swensk Insektfauna*, 9(6): 118-296. Stockholm.
- Sawada, K. 1970. Aleocharinae (Staphylinidae, Coleoptera) of the IBP-Station in the Shiga Heights, Central Japan II, *Contr. Biol. Lab. Kyoto Univ.*, 23(1): 33-60.
- 1971. Aleocharinae (Staphylinidae, Coleoptera) from the campus of the Seto Marine Biological Laboratory, *Publ. Seto Mar. Biol. Lab.*, 18(5): 291-315.
- 1971. Some Aleocharinae (Staphylinidae, Coleoptera) collected from Philippines and Java, *Contr. Biol. Lab. Kyoto Univ.*, 23(2): 61-76.
- 1972. Methodological research in the taxonomy of Aleocharinae, *Contr. Biol. Lab. Kyoto Univ.*, 24(1): 31-59.
- 1977. Studies on the genus *Atheta* Thomson and its allies, III: Japanese species described by the previous authors, *Contr. Biol. Lab. Kyoto Univ.*, 25(2): 171-222.
- 1982. *Atheta* and its allies of Southeast Asia, III. Oriental species described by V. von Motschulsky and G. Kraatz, *Contr. Biol. Lab. Kyoto Univ.*, 26(2): 141-187.
- Weise, J. 1877. Japanische Staphylinidae und Pselaphidae, *Deut. Ent. Zeit.*, 21: 88-97.
- Yosii, R. & K. Sawada. 1976. Studies on the genus *Atheta* Thomson and its allies II: Diagnostic characters of genera and subgenera with description of representative species. *Contr. Biol. Lab. Kyoto Univ.*, 25(1): 11-140.

Address of the author:

(Mr) Kohei Sawada, D. Sc. 澤田高平

Shukugawa Gakuin Junior College 夙川学院短期大学

Koyoen, Nishinomiya, Hyogo Prefecture, JAPAN 662 西宮市甲陽園