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Aleocharinae (Staphylinidae, Coleoptera) of the IBP-Station in the Shiga Heights, Central Japan, II

Contributions from JIBP-PT No. 101

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I have to revise the general account on the crucial taxonomic characters of Aleocharinae presented in the first part of the paper appeared in Bull. Sci. Mus. Tokyo 13 (1): 21–64. Close examination of various species of Aleocharinae has shown that labial palpus, antero-lateral setae of mentum, feature of abd.VIII and the apical part of paramere of aedeagus must be more intesively noted.

First of all it is the nomenclature of setae and setulae of labial palpus. It bears up to 8 setae (*a* to *h*) plus 4 setulae (α, β, γ. δ) together with twin pores (*tp*) and a median pore (*mp*) as represented in Fig. 1. The first segment bears 2 setae *a* and *b* on the outer side of the paired twin pores (*tp*), which were named as γ and δ in my previous report. The interior face of the same segment bears another 2 setae *c* and *d*. The second segment bears always a large median pore (*mp*) and on its outer side one seta *f*, which is the largest seta in the most of species. Opposite to *f*-seta one small seta *e* is present. Interiorly the segment has 2 distal setae *g* and *h* near the distal end of the segment. α-setula is usually located close to the base of the first segment. Opposite to α there is an another β-setula before the twin pores. γ is usually situated near *b*-seta. On the inner side of the second segment one setula δ is present. The number, arrangement and relative length of these elements of labial palpus are very constant and characteristic within one species beyond sexes.

The mentum bears three distinct setae antero-laterally (Fig. 6, f). The apicalmost seta is named as *u*, then follows the preapical seta *w*, the longest in most of the species. One setula named as *v* is the smallest and usually situated laterally near apex. Relative length and loci of them are to be noted as specific.

As already described in the foregoing paper tergite VIII of Aleocharinae is provided with some erecting setae, whose number and loci are again specific to each form (Fig. 4). The anterior row is named as *a*-1, *a*-2 and the posterior row is named *p*-1, *p*-2. In some species they are not differentiated (Fig. 10, L) and in others they are 6 in number (Fig. 11, G).

Sternite VIII is likewise beset with up to 10 erecting setae as in Fig. 4 to represent the specific character of each species.

Apical setae of the paramere is also characteristic (Fig. 5). Two setae of the outer side are named as *a*, *b* and other two setae of the inner side are named as *c*, *d*. Their position and relative length are strictly characteristic to each species.

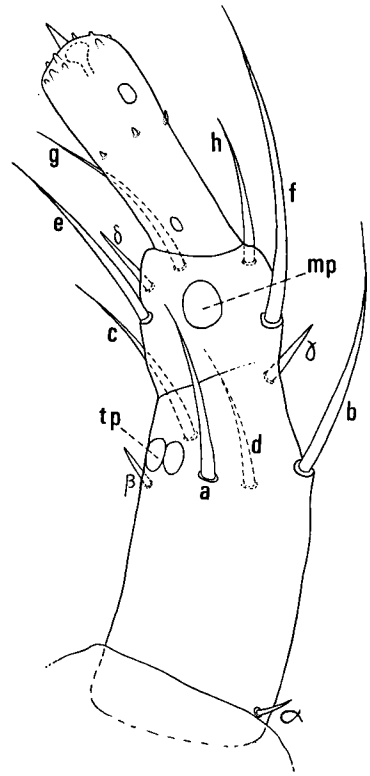

Fig. 1. Chaetal arrangement of labial palpus of Aleocharinae. Setae a–h; setulae α–δ; mp, median pore; tp, paired twin pores.

Complementary notes to the species treated in the first part are as follows.

1. ***Sipalia* (*Leptusa*) *deplanata*:** In *Sipalia* spp. the basal segment reduced (Fig. 2A), tp large, γ relatively short and *b* are proximal. In this species γ close to seta *f*; δ remote from *e*. Terg. VIII (Fig. 4, A) acuminate; *a*-1 shorter than the distance between *a*-1 and *a*-2. St. VIII (Fig. 4, A') arcuately produced, with 6+6 setae.

2. ***Sipalia* (*s. str.*) *kitazawai*:** In labial palpus (Fig. 2B) δ is close to *e*; γ proximal to *f*; *c* is distally dislocated. Terg. VIII (Fig. 4, B) sinuate laterally; 3 principal setae inconspicuous. St. VIII (Fig. 4, B') short, with 5+5 setae. Distal sclerite of paramere (Fig. 5, A) obtuse: seta *a*, b apical, *a* as long as the sclerite.

3. ***Gnypeta aokii*:** *tp* (Fig. 2, C) unusually small; β far proximal from tp; γ is near *b*; δ scarcely perceptible; *b* and *a* proximal; *e* close to mp. Terg. VIII (Fig. 4, C) rounded laterally. St. VIII (Fig. 4, C') produced to briefly truncate apex, with 7+7 setae. Distal sclerite of paramere (Fig. 5, B) narrow and constricted; *a* is not observed; *c* and *d* remote to each other.

4. ***Schistoglossa yosiiana*:** Setae of labial palpus (Fig. 2, D) robust; γ distal to *b*; δ at the same level with *f*; *a* and *b* subequal; *f* and *h* close to each other. Terg. VIII (Fig. 4, D) straight laterally, slightly emarginate posteriorly; all setae longer than the interspace between them. St. VIII (Fig. 4, D') transverse and acuminate; principal setae 8+8. Distal sclerite of paramere (Fig. 5,C) incurved; *a* is the longest, as long as the sclerite; *c* one half of *d*.

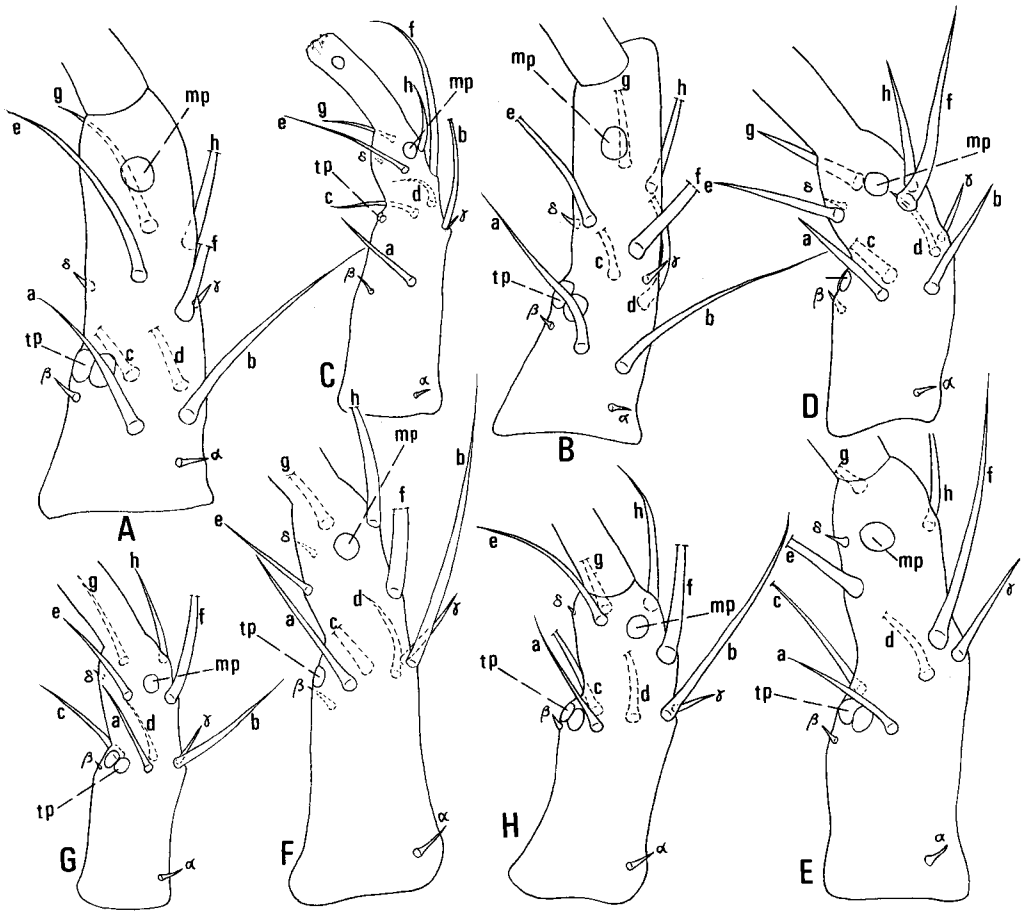

Fig. 2. Chaetotaxy of right labial palpus. A, *Sipalia* (*Leptusa*) *deplanata* K. SAWADA; B, *Sipalia* (*s. str.*) *kitazawai* K. SAWADA; C, *Gnypeta aokii* K. SAWADA; D, *Schistoglossa yosiiana* K. SAWADA; E, *Ischnopoda* (*Anopleta*) *tortuosa* K, SAWADA; F, *Ischnopoda* (*Coproceramius*) *separata* K. SAWADA; G. *Ischnopoda* (*Coproceramius*) *constricta* K. SAWADA; H, *Ischnopoda* (*Coproceramius*) *longisetosa* K. SAWADA.

5. ***Ischnopoda* (*Anopleta*) *tortuosa*:** *b* of labial palpus (Fig. 2, E) absent; γ is long and near *f*; δ is on the level of mp; *f* remote from *h*; Terg. VIII (Fig. 4, E) sinuately narrowed, with rectangular posterolateral angle; *p*-2 the longest among 4 setae. St. VIII (Fig. 4, E') with 8+8 principal setae together with ca. 10+10 setulae apically. Distal sclerite of paramere (Fig. 6, D) ovate; *a* as long as the sclerite and much longer than others.

6. ***Ischnopoda* (*Coproceramius*) *separata*:** On labial palpus (Fig. 2, F) γ is long and near *b*; *e* shorter than *a* and proximal from δ; *d* is much shorter than *c*. Terg. VIII (4, F) is acuminate, emarginate postero-laterally; *a*-1 and *p*-1 are shorter than other conspicuous setae. St. VIII (Fig. 4, F') as long as wide, with 7+7 principal setae. Distal sclerite of paramere (Fig. 5, E) is parallel; *b* is the longest and two thirds of the sclerite; *c* are short.

7. ***Ischnopoda* (*Coproceramius*) *constricta*:** Labial palpus (Fig. 2, G) similar to the preceding,

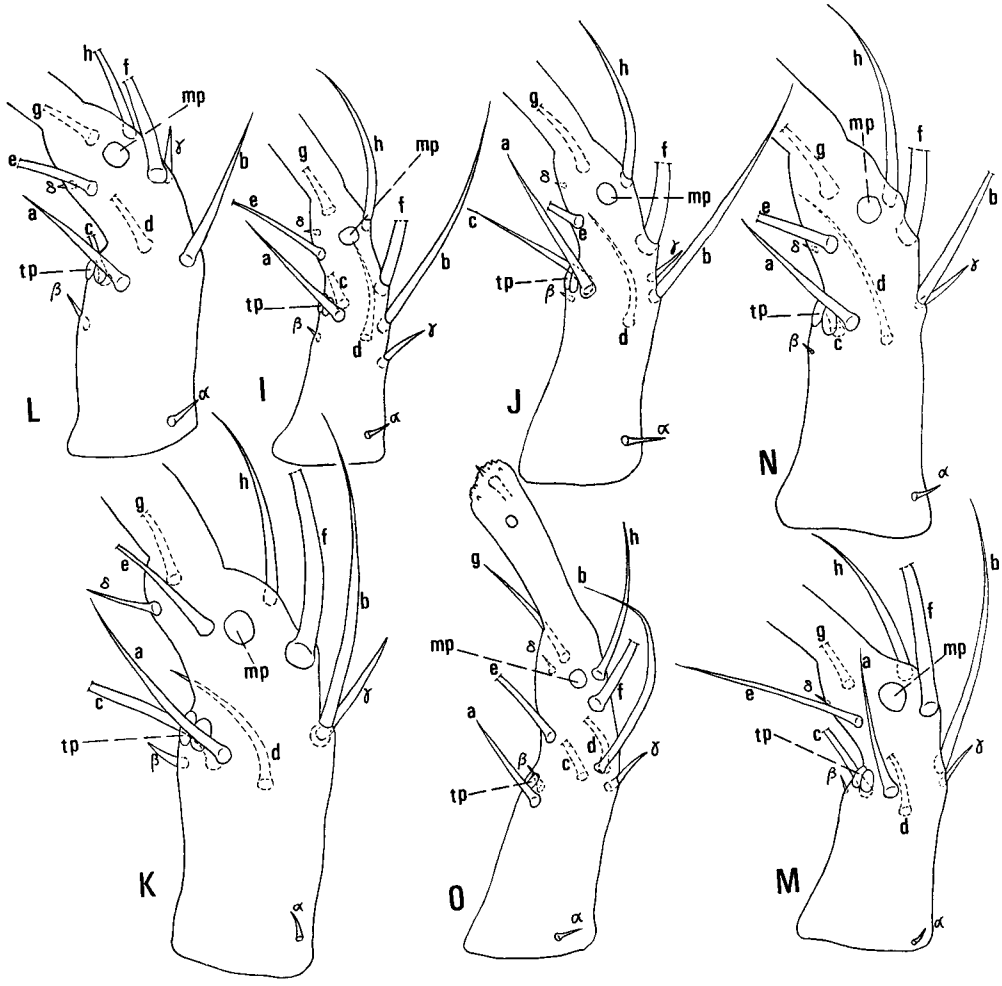

Fig. 3. Chaetotaxy of right labial palpus. I. *Ischnopoda* (*Coproceramius*) *multispina* K. SAWADA; J, *Ischnopoda* (*Coproceramius*) *tenuiducta* K. SAWADA; K, *Ischnopoda* (*s. str*). *yosii* K. SAWADA; L, *Ischnopoda* (*Plataraea*) *punctifrons* K. SAWADA; M, *Ischnopoda* (*Hygroecia*) *spinula* K. SAWADA; N, *Ischnopoda* (*Microdota*) *oviformis* K. SAWADA; O, *Ischnopoda* (*Brundinia*) *prolata* K. SAWADA.

but γ is not so large; *e* is near mp; *f* closer to *h* than to *b*. Terg. VIII (Fig. 4, G) oblique laterally and straight postero-laterally. St. VIII (Fig. 4, G') acuminate, rounded behind, with 10+10 short principal setae.

8. ***Ischnopoda* (*Coproceramius*) *longisetosa*:** Labial palpus (Fig. 2, H) as in the preceding; *e* distally dislocated and on the same level with δ; *a* is shorter than *b*. Terg. VIII (Fig. 4, H) straight laterally and narrowly sinuate postero-laterally; principal setae unusually long. St. VIII (Fig. 5, H) alike to *I. separata:* principal setae unequal in length. Distal sclerite of paramere (Fig. 6, G) oblong; *a* twice as long as the sclerite; the other setae reduced, remote to each other.

9. ***Ischnopoda* (*Coproceramius*) *multispina*:** Labial palpus (Fig. 3, I) allied to *I. separata,*

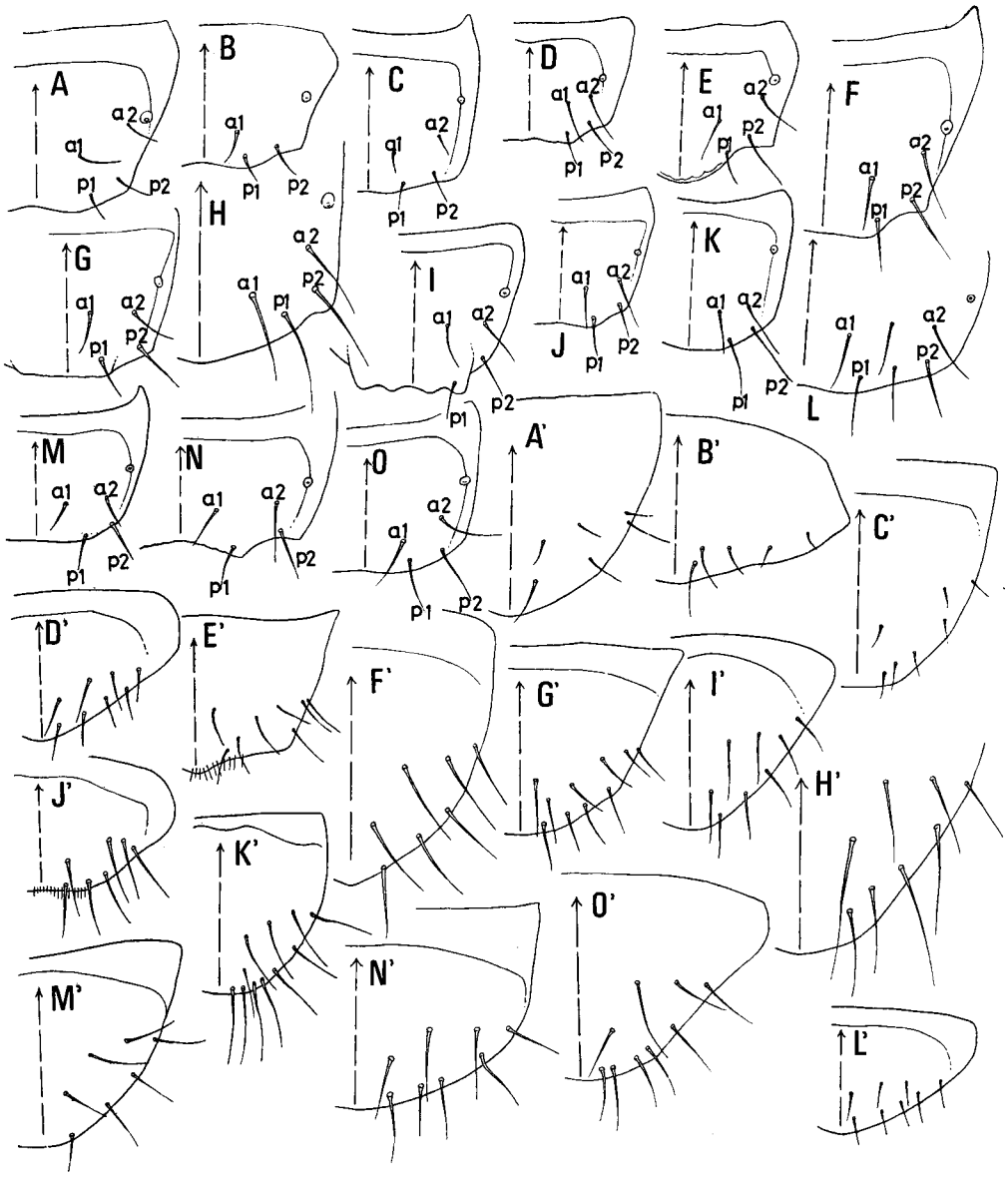

Fig. 4. A–O Tergite VIII, A'-O' Sternite VIII. AA', *Sipalia* (*Leptusa*) *deplanata* K. SAWADA; BB', *Sipalia* (*s. str.*) *kitazawai* K. SAWADA ♂; CC', *Gnypeta aokii* K. SAWADA ♂; DD', *Schistoglossa yosiiana* K. SAWADA ♂; EE', *Ischnopoda* (*Anopleta*) *tortuosa* K. SAWADA ♂; FF', *Ischnopoda* (*Coproceramius*) *separata* K. SAWADA ♂; GG', *Ischnopoda* (*Coproceramius*) *constricta* K. SAWADA ♂; HH', *Ischnopoda* (*Coproceramius*) *longisetosa* K. SAWADA ♂; II', *Ischnopoda* (*Coproceramius*) *multispina* K. SAWADA ♂; JJ', *Ischnopoda* (*Coproceramius*) *tenuiducta* K. SAWADA ♀; KK', *Ischnopoda* (*s. str.*) *yosii* K. SAWADA ♂; LL', *Ischnopoda* (*Plataraea*) *punctifrons* K. SAWADA ♂; MM', *Ischnopoda* (*Hygroecia*) *spinula* K. SAWADA ♂; NN', *Ischnopoda* (*Microdota*) *oviformis* K. SAWADA ♂; OO', *Ischonpoda* (*Brundinia*) *prolata* K. SAWADA ♂.

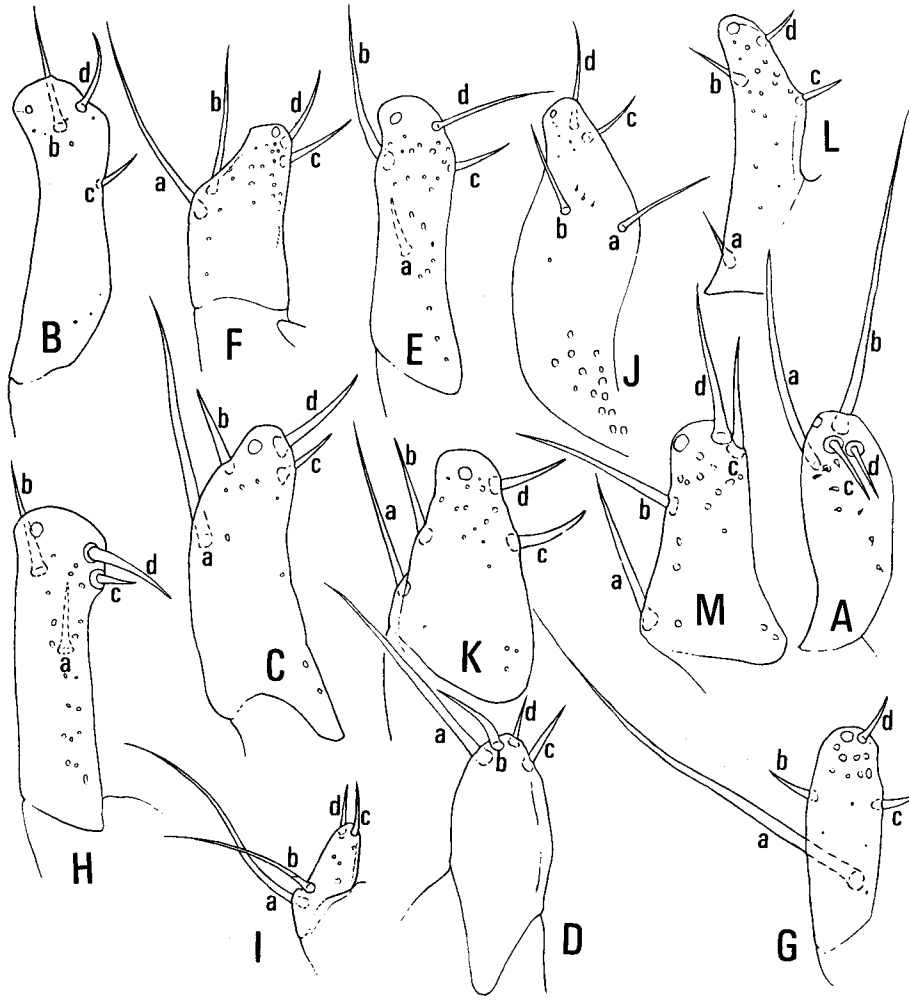

Fig. 5. Distal sclerite of left paramere. A, *Sipalia* (*s. str.*) *kitazawai* K. SAWADA; B, *Gnypeta aokii* K. SAWADA; C, *Schistoglossa yosiiana* K. SAWADA; D, *Ischnopoda* (*Anopleta*) *tortuosa* K. SAWADA; E, *Ischnopoda* (*Coproceramius*) *separata* K. SAWADA; F, *Ischnopoda* (*Coproceramius*) *constricta* K. SAWADA; G, *Ischnopoda* (*Coproceramius*) *longisetosa* K. SAWADA; H, *Ischnopoda* (*Coproceramius*) *multispina* K. SAWADA; I, *Ischnopoda* (*s. str.*) *yosii* K. SAWADA; J, *Ischnopoda* (*Plataraea*) *punctifrons* K. SAWADA; K, *Ischnopoda* (*Hygroecia*) *spinula* K. SAWADA; L, *Ischnopoda* (*Microdota*) *oviformis* K. SAWADA; M, *Ischnopoda* (*Brundinia*) *prolata* K. SAWADA.

but γ is proximal from *b*; β is apart from tp; *f* closer to *b* than to *h*. Terg. VIII (Fig. 4, I) alike to I. *constrica*, but hind margin crenated. St. VIII (Fig. 4, I') acuminate to narrowly rounded apex; principal setae 8+8. Distal sclerite of paramere (Fig. 5, H) elongate; seta *a* and *b* subequally short, half the length of the sclerite; *c* is shorter.

10. ***Ischnopoda* (*Coproceramius*) *tenuiducta*:** Labial palpus (Fig. 3, J) as in the preceding, but γ is distal between *b* and *f*; Terg. VIII (Fig. 4, J) slightly emarginate postero-laterally; *p*-2 shorter than

p-1. St. III (Fig. 4. J') short, truncate apically and with 7+7 principal setae and ca. 10+10 apical setulae.

11. ***Ischnopoda* (*s. str.*) *yosii*:** δ of labial palpus (Fig. 3, K) remarkably prolonged; β large and thick; γ large and just beneath *b*; *e* close to mp. Terg. VIII (Fig. 4, K) straight laterally; *p*-2 the longest. St. VIII (Fig. 4, K') arcuately produced, with 11+11 long setae. Distal sclerite of paramere (Fig. 5, I) reduced; *a*, *b* much longer than the sclerite and placed basally; *b* reduced and apically located.

12. ***Ischnopoda* (*Plataraea*) *punctifrons*:** β of labial palpus (Fig. 3, L) remote from tp; γ near *f*; δ close to *e*; Terg. VIII (Fig. 4,L) with 6+6 principal setae. St. VIII (Fig. 5, L') short, with 8+8 short princiapl setae. Distal sclerite of paramere (Fig. 5, L) broad; *c*, *b* are near togheter; *a b* are longer.

13. ***Ischnopoda* (*Hygroecia*) *spinula*:** On labial palpus (Fig. 3, M) γ close to *b*; *e* on the level of *f*. Terg. VIII (Fig. 4, M) with *p*-1, *p*-2 standing marginally. St. VIII (Fig. 4, M') arcuately acuminate, with 7+7 principal setae. All setae of distal sclerite of paramere (Fig. 6, K) relatively short; *a* is longer.

14. ***Ischnopoda* (*Microdota*) *oviformis*:** On labial palpus (Fig. 3, N) β is proximal from tp; δ very proximal; *d* on the level of *c* and longer than *a*. Terg. VIII distinctly modified in the male. St. VIII (Fig. 4, N') transverse, with 8+8 principal setae. Distal sclerite of paramere (Fig. 5, L) narrow; *a* is basal, *b* is near apex, while *c*, *d* separating. All of them subequally short.

15. ***Ischnopoda* (*Brundinia*) *prolata*:** On labial palpus (Fig. 3, 0) β is on the level of tp; δ is distal, far remote from *e*; *f* close to *h*. Terg. VIII (Fig. 4, O) acuminate, with 9+9 principal setae. On distal sclerite of paramere (Fig. 6, M) *a* is basal-most in position, as long as *b*; *c*, *d* standing close together.

16. ***Gyrophaena* (*Leptarthrophaena*) *hanedai*** sp. n. Fig. 6

♂. Ferrugineous and moderately shining. Head and pronotum clouded with reddish colour; elytra similarly coloured, but a little paler; antennae pale yellow and uniformly pigmented; legs pale brown. Head deplanated above and slightly depressed on each side of the cranium; integument coarsely, regularly punctured together with distinct micro-sculpture. Eyes large, convex. Antennae typical of the genus; ratio of their segments as: I 23×9.5 : II 17×6 : III 11×5 : IV 8×7 : X 10×12 : XI 19×12. Labrum (Fig. B) moderately transverse and broadly emarginate; proximal setae not reduced, subequal in length to *m-1* and *d-2*; medial row of setae slightly shorter than the distal row; proximal row fairly longer than the medial row and remote from it. *a*-sensillae of the labral margin (Fig. C) are lightly convergent and broad at the base; *b* well developed and conical in outline; *c* robust, with a small exposed process. Right mandible with a toothlet at the base. Maxillary palpus robust; segment II dilated in anterior one-third and its inner margin is lightly incurved in its full length; micro-sculputre visually absent; segment III strongly dilated distally; long setae of the apical margin are present; segment IV relatively broad, each side subparallel, with a briefly pointed apex and without apical spinula; basal filamentous sensillae normal in length. Lacinia narrow; its inner margin not produced in the middle and gently rounded, but the portion behind the distal comb is slightly emarginate; distal comb consisting of 12 short spines and additional 3 larger ones behind. Galea dilated in the middle; sensory pores are present on anterior one-third near antero-internal angle; the distal lobe poorly developed, with subtruncate apex and covered with rough cilia; a long spine is present at the base of the outer margin. Glossa (Fig. D) typical of the genus; it is entirely rounded in apex, then lightly constricted in the middle and with a pair of large pore on the middle. Labial palpus (Fig. E) robust; setula α well-re-

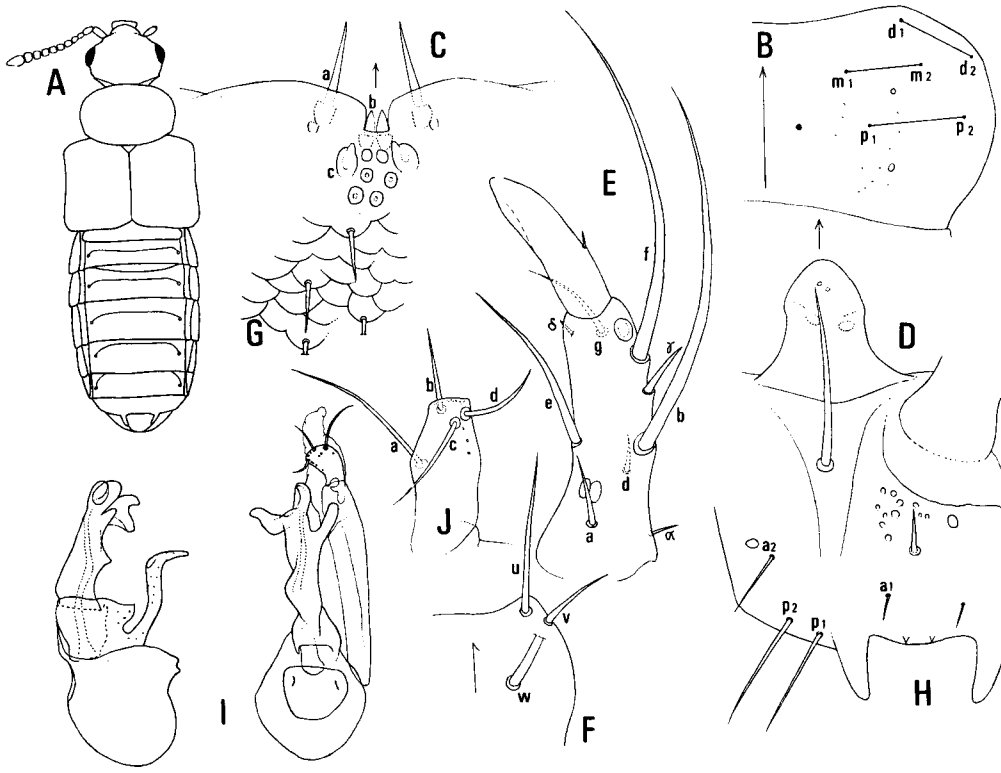

Fig. 6. *Gyrophaena* (*Leptarthrophaena*) *hanedai* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labral margin; D, labium; E, labial palpus; F, setae of mentum; G, microsculpture of tergite VIII; H, tergite VIII of male; I, aedeagus (dorsal and lateral view); J, distal sclerite of left paramere.

presented; β completely reduced, whereas γ is well-developed, subequal in length to *a* and located at about the middle between *b* and *f*; δ strongly reduced and situated nearly at the same level as *g*; *c* and *h* are missing; *a* and *d* unusually reduced, when compared to strikingly prolonged *b* which is subequal to *f* in length and more than 4 times as long as *a*. The median area of prementum (Fig. D) distinctly convergent behind and devoid of pseudopores; the distal setae are represented by one stout spine, not reaching the apex of glossa; on the lateral area there are one real pore and one setal pore in addition to several pseudopores aggregated in the middle. Mentum (Fig. F) emarginate in front and slightly rounded at the sides; *u* is close to the briefly rounded apical angle; *v* is very long, fully one-third the length of the apical seta and placed close to it, while *w* is far remote from the apical one. Pronotum slightly convex above, not or feebly narrowed behind and has broadly rounded posterior angle; there are 4 to 5 pairs of setigerous punctures on the disc, the foremost of them and the medial ones bear long black setae; the sides are armed with 4 conspicuous setae; 2 additional setae are placed between a row of discal punctures and the lateral margin; the punctures similar to that

of head. Elytra not emarginate behind and rather sparsely punctured. Metathoracic wings present. Abdomen minutely but densely punctured, becoming sparser toward the extremity. Tarsi with segments as: 10 : 10 : 11 : 23 in fore-; 11 : 11 : 11 : 25 in mid;- 14 : 12 : 12 : 12 : 25 in hind-legs. Empodium of all tarsi is short. Tergite VII bears 8 short carinae along its hind margin. Tergite VIII (Fig. H) with 2 large teeth as in *G. futamata* Cameron. 1933, but in the cited species they are clearly more slender and longer; the principal setae 4+4 in number; seta *a*-1 strongly reduced, while *a*-2 is longer and close to the stigma; *p*-1 lateral to the base of this tooth; a pair of minute processes is present between these large teeth; micro-sculpture on the middle area (Fig. G) typically imbricate and with short pubescence. Sternite VIII merely rounded distally; principal setae 8+8; all three anterior setae are reduced and much shorter than the posterior ones.

Aedeagus highly modified (Fig. I), 0.68 mm long; the median lobe roughly ovate in outline and with a slender apical lobe, which is decidedly surpassing the corpus and bowed subapically. Copulatory piece rather large for the median lobe, prolonged, asymmetrical and briefly trifurcate on apex; it has a robust process ventrally. The distal sclerite of paramere (Fig. J) rather short compared to corpus and provided with 4 setae, seta c, d are placed near the apex, very close to each other, while a, b are fairly remote from one another; the proximal one standing at about the middle of the sclerite.

Length. 2.20 mm (Head long 0.40 mm × wide 0.50 mm; pronotum 0.42 × 0.60; elytra 0.61 × 0.80).

♀. Tergite VII and VIII have no carinae and dentation of the male. Sternite VIII with posterior row of setae, which may be reduced to 4 in number. Spermatheca seems to be obliterated.

Holo-(♂), allo- and paratypes: Shiga (1,770 m), Nagano Pref., 15. VIII. 1967, K. Sawada leg., taken in humus of Betula-Sasa association on the slope.

This species is closely allied to *G. futamata* Cameron, 1933 of Japan, but the setal arrangement of eighth abdominal segment and the copulatory piece are quite different. It is dedicated to Prof. K. Haneda of the Shinshu University, the chief leader of the Shiga IBP area.

17. ***Ditropalia lobata*** sp. n. Fig. 7

♂. Reddish brown and shining. Head and legs brownish; postero-external half of pronotum and the abdomen along median area diffusely black; antennae lightly paler proximally. Head nearly rounded, convex above and with broadly subtruncate clypeal margin; puncture is fine and moderately dense throughout and with asperate micro-sculpture; pubescence inconspicuous. Eyes moderate in size and subequal in length to post-genae. Antennae distinctly dilated distally; ratio of segments as: I 23 × 11 : II 23 × 9 : III 20 × 9.5 : IV 12 × 10.5 : X 13 × 18 : XI 26 × 19. Labrum (Fig. A) broadly emarginate; seta *m-1* longer than *p-1*; *m-2* located very close to the middle portion of the distal row, which is more than one-fourth the medial row and more than half the length of the proximal row; 4 secondary setae and numerous

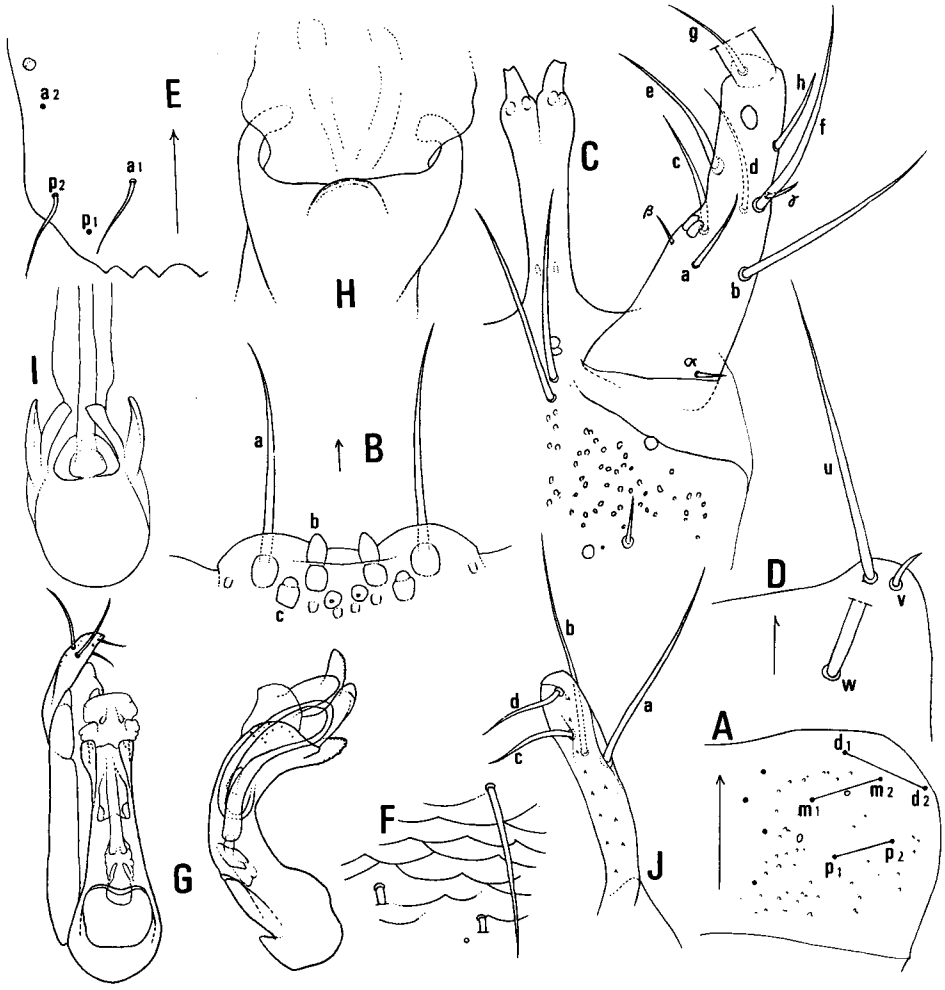

Fig. 7. *Ditropalia lobata* sp. n. A, Chaetotaxy of labrum; B, labral margin; C, labium; D, setae of mentum: E, tergite VIII; F, micro-sculpture of tergite VIII; G, aedeagus (dorsal and lateral view); H, apex of median lobe (ventral view); I, copulatory piece (dorsal view); J, distal sclerite of right paramere.

micropores are present. *a*-sensilla of labral margin (Fig. B) long, acicular and curved outward on apex; *b* broad and conical, with more or less pointed apex; *c* with rather reduced round process. Mandible edentate and sharply pointed on apex. Maxillary palpus moderate in size; segment II gently dilated on anterior one-third and almost glabrous except for the pubescence along the margin and a few distal micro-pores; segment III slightly longer than II, slender and poorly narrowed distally on anterior one-third, a few micropores are present on the middle portion; segment IV long, without spinula on apex; its filamentous basal sensillae very fine, being about one-third the length of the segment. Lacinia distinctly narrowed toward the extremity

and the distal comb is composed of 6 loosely arranged spines. Behind them there is a row of 10 long spines along the basal part of the inner margin. Galea evenly rounded on its outer margin and with a pore at the middle; distal lobe normal, with rounded outer margin and 2 setaceous sensillae at the base, but the proximal one is reduced. Glossa (Fig. C) elongated, lightly constricted toward the base and forked on distal one-third; each arm broad at the base and gently narrowed toward the lightly emarginate tip. Labial palpus (Fig. C) elongate and subsegmented; β-setula well represented, apart from the twin pores; γ located close to or just beneath the *f*-seta and not much surpassing β: *b* twice as long as *a*, subequal in length to *f* and situated on the same level as *a*. Prementum (Fig. C) has relatively short distal setae, which reach the middle of the glossa and is arranged in a longitudinal row as in the case of the genus *Sipalia*; median area with fine pseudopores and distinctly narrower than the lateral area; pseudopores of the lateral area are numerous in number and widely distributed; two real pores and one setal pore among them are well differentiated; one of the former is on the fore margin of prementum. Mentum (Fig. D) distinctly emarginate in front; *u* longer than usual and close to the short *v*; *w* fairly remote from the apical one. Pronotum feebly retracted behind, deplanate on the disc; the median depression broad, becomes deep posteriorly and ending in an obsolete basal fovea; the lateral margins rounded in front and clearly sinuate before the base, so that the basal angle appears to be prominent; posterior margin evenly rounded in its full length and with long marginal setae; integument densely granulate all over. Elytra not emarginate postero-externally, but the posterior angle is strongly produced behind; integument covered with deep, coarse punctures, so that it gives a rugose appearance. Metathoracic wings well developed. Abdomen finely and sparsely punctured, with a few coarse punctures on the base of each segment. Legs slender and long; tarsal segments as 10 : 11 : 11.5 : 26 in fore-; 13 : 14 : 15 : 31 in mid-; 22 : 14 : 15 : 15 : 31 in hind-legs. Empodium of all tarsi subequal in lenght to claw. Tergite VIII (Fig. E) with subtruncate hind margin, bearing about 6 small teeth at the middle; principal setae 4+4 in number and standing upwards; the distance between the stigma and *a*-2 is about one third of the distance between *a-1* and *a-2*; the *p-1* remote from the marginal serration; micro-sculpture transversely imbricate. Sternite VIII is triangularly produced posteriorly.

Aedeagus 0.69 mm (Fig. G), compressed and bowed, with a truncate apex; the apical lobe short and excavated along the mid-line; the valves are elongated, composed of 3 asymmetrical lobes guarding the orifice. Copulatory piece filamentous and very long, deeply revolved and with a small bulbous basal portion, bearing in front 2 pairs of short, strongly sclerotized suspensoria. Paramere narrow; distal sclerite (Fig. J) also narrow, straight and with 4 setae; *c*, *d* situated anterior one-third of the sclerite and close to the obtuse apex; *a*, *b* twice as long as the inner ones and located more proximal than *c*.

Length. 3.90 mm. (Head long 0.52 mm × wide 0.54 mm; pronotum 0.50 × 0.58; elytra 0.76 × 0.85).

Holotype: ♂ Shiga (1,770 m), Nagano Pref., 14. VIII. 1967, K. SAWADA leg.

This species resembles *D. varipes* SHARP, 1888, but may be recognized by the roughly punctured pronotum, different sexual character in male sex and by larger body size.

18. ***Tomoglossa punctifoveata*** sp. n. Fig. 8

♂. Fuliginous and shining. Head piceous; abdomen paler toward the base; antennae reddish brown, the basal segments infuscate; trophi and legs lighter in colour. Head nearly ovate in outline, poorly convex above and feebly foveolate along the

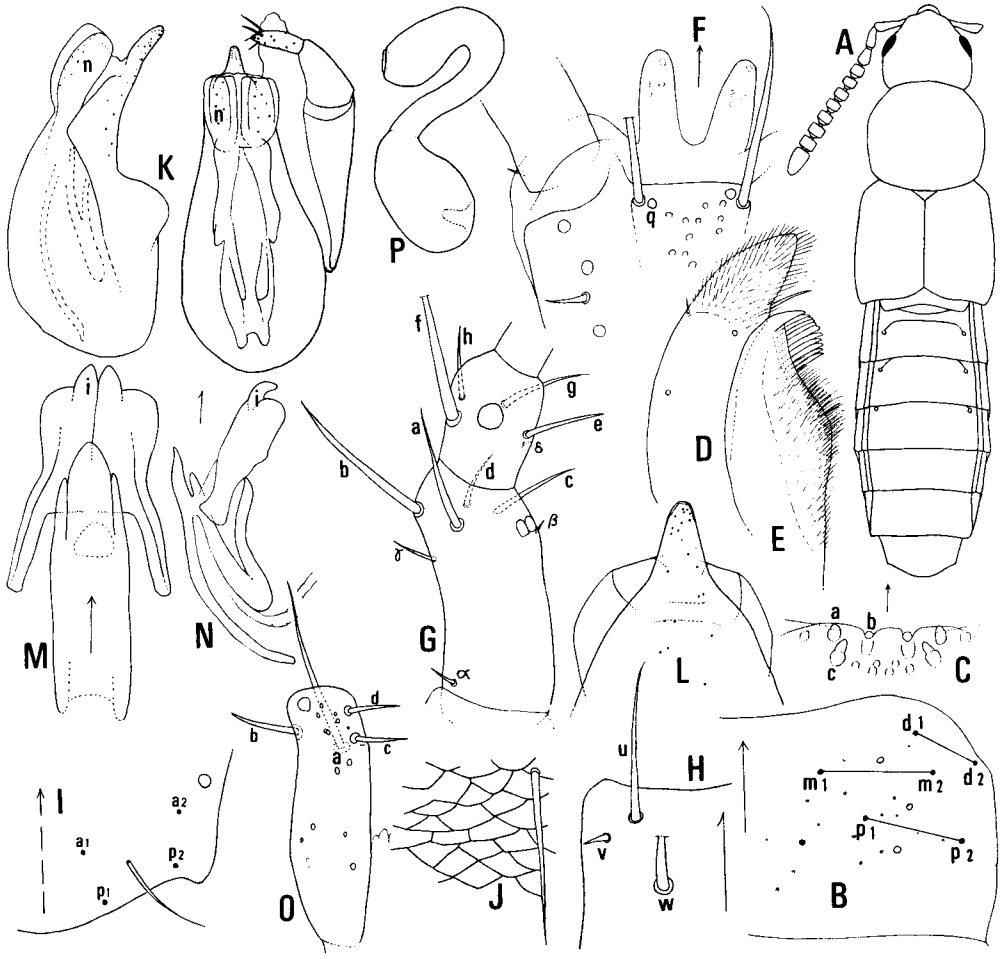

Fig. 8. *Tomoglossa punctifoveata* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labral margin; D, E, galea and lacinia; F, labium; G, labial palpus; H, setae of mentum; I, setal arrangement of tergite VIII; J, micro-sculpture of tergite VIII; K, aedeagus (dorsal and lateral view); L, apical portion of median lobe (ventral view); M, copulatory piece (ventral view); N, do, (lateral view); O, distal sclerite of left paramere; P, spermatheca.

mid-line; integument finely asperate and densely coriaceous throughout. Eyes moderately convex above and relatively large and a little shorter than the post-genae. Antennae not dilated distally; ratio of segments as: I 13×6: II 9×4.5 : III 8×6 : IV 6×7 : X 6×8 : XI 14×7.5. Labrum (Fig. B) lightly emarginate in front, with coarse reticulation; seta *m-1* slightly shorter than *d-1*; *m-2* remote from the distal row of setae; the proximal row subequal in length to the medial one and fairly longer than the distal row; 1 or 2 secondary setae are present. *a*-sensilla of the labral margin (Fig. C) not setaceous, but strongly reduced, alike to obscure *b*; *c* has a small exposed process. Mandible edentate, with robust base. Maxillary palpus slender; segment II lightly incurved, with coarse micro-sculpture on its interior surface; segment III gradually dilated toward the middle and poorly narrowed distally; segment IV feebly tapering toward the apex, where no apical spinula is present and with filamentous basal sensillae longer than usual. Lacinia (Fig. E) fusiform, devolid of the abrupt dilation on its inner margin; the distal comb composed of ca. 10 slender teeth and without large proximal spines. Galea (Fig. D) well developed, with apical and middle pores normal in position; distal lobe elongate, acuminate and densely ciliated. Glossa (Fig. F) entirely forked from the base as characteristic to the genus; each arm is poorly narrowed toward the obtuse apex. Labial palpus (Fig. G) distinctly segmented and without subsegment; setula β strongly reduced and very close to the paired twin pores, whereas γ is long, subequal in length to one-half of seta *e* and proximal to *b*; seta *a* far remote from the paired twin pores and closer to *b*; δ insignificant, visible only under oil-immersed lens; *h* unusually proximal and placed at the same level with *g*. Prementum (Fig. F) ample; the median area nearly truncate in front, exceptionally broad, as broad as the lateral area; one real pore (q in Fig. F) is always near each distal seta and other pseudopores are scattered; the lateral area is peculiar, having 3 real pores and one setigeous pore arranged in a longitudinal row, but without any pseudopores. Mentum (Fig. H) lightly emarginate in front; *u* remote fromt the antero-lateral angle and not much longer than the proximal seta as usual; *v* short, normal in position; *w* far remote from the apical one; munerous micropores are present. Pronotum gently convex above, obsoletely depressed behind the middle, imcompletely canaliculate along the mid-line and usually with 4 rectangularly arranged, punctiform foveae on the disc; the lateral margin feebly arcuate in full length and with a broadly rounded anterior angle; integument devoid of distinct punctures, but bearing a minute sculpture alike to head; the marginal erecting setae moderately long. Elytra subparallel, merely sinuate postero-externally and similarly sculptured as the pronotum. Metathoracic wings present. Abdomen obsoletely punctulate, especially on posterior segments. Ratio of tarsal segments as: 7 : 8 : 9 : 20 in fore-; 9 : 12 : 11 : 10 : 19 in mid-; 17 : 15 : 15 : 13 : 20 in hind-legs. Empodium of all tarsi a little shorter than the claw. Tergite VIII (Fig. I) broadly rounded behind, with an obtusely produced postero-external angle; micro-sculpture of the middle area is irregular reticulation with slight imbrication; the principal setae 5+5 in number; one seta is present between anterior and posterior rows of setae; *a-2* placed closer to the stigma than to *p-2*. Sternite VIII triangularly produced behind;

number of the principal setae of the segment varies from 4 to 5 on the posterior row and 3 to 4 on the anterior row; the anterior inner seta more distally located than the remainder.

Aedeagus (Fig. K) 0.54 mm in length. In dorsal view the median lobe is oblong-ovate, with elongate valves (n in Fig. K); the apical process (Fig. L) distinctly acuminate apically. Copulatory peice (Figs. M, N) oblong, obtuse on apex and divided into 3 lobes, lateral lobe very narrow; in front of the corpus there is a large lobate sclerite functioned as a suspensoria, whose apex bears a pair of obtuse curved projections (i in Figs. M, N). Postero-external angle of the suspensoria is produced behind to form a slender arm. The suspensoria apparently jointed with the copulatory piece by means of the connective membrane lying between them. Paramere (Fig. K) relatively short compared to the median lobe; the distal sclerite (Fig. O) short, only one-fourth of the corpus and provided with 4 short setae; among them *c*, *d* smaller and placed on distal one-fourth of the sclerite; *a*, *b* similarly situated and *b* on the outer margin, while *a* more medially located.

Length. 3.30 mm (Head long 0.42 mm × wide 0.39 mm; pronotum 0.48 × 0.50; elytra 0.54 × 0.57).

♀. Spermatheca (Fig. P) abruptly recurvate, with a distinct foramen at apex; the bursa relatively large, with a strong umbilicus.

Holotype (♂) and allotype: Shiga (ca. 1,710 m), Nagano Pref., 22. VI. 1968, K. SAWADA leg., paratypes (♂,♀): the same data as the type.

This species is near the European *T. luteicornis* ERICHSON, 1837 (sensu FENYES, 1920) in general, but distinguished by the more slender pronotum, much more finely punctured elytra and larger body, etc.

19. ***Ischnopoda* (*Ousipalia*) *nakanei*** sp. n. Fig. 9

♂. Brownish and weakly shining. Head a little infuscate; abdomen posteriorly piceous except for the rufescent extremity; antennae with lighter basal segments; legs and trophi a little paler. Head rather transversely rounded and thick dorsoventrally; cranium deplanate above, with an obsolete depression on the middle; reticulation and punctures almost obliterate. Eyes poorly convex, small, subequal to onethird of the post-genae in length. Antennae normal; with segments related as: I 15 × 10 : II 14 × 7.5 : III 9 × 7 : IV 7 × 8 : X 9 × 12 : XI 18 × 11.5. Labrum (Fig. B) lightly emarginate; chaetotaxy nearly as in *I. prolata* K. SAWADA, 1970, but the distal row fairly longer than the medial row, which subequal in length to the proximal row; *d-1* is slightly shorter than *m-1*; 2 secondary setae are present. *a*-sensilla of the labral margin (Fig. C) is short and lightly convergent; *b* is quite obtuse as usual; *c* is dilated distally. Mandible robust and abruptly narrowed toward the pointed apex; the right mandible has a toothlet at the base. Maxillary palpus relatively short; segment II distinctly dilated at the middle, with several long pubescence and coarse reticulation; segment III dilated to the middle and feebly retracted toward the apex; segment IV long, with a long apical spinula and some fine basal filamentous sensillae, located about one-third the length of the spinula. Lacinia (Fig. D) broad, with an abrupt dilation

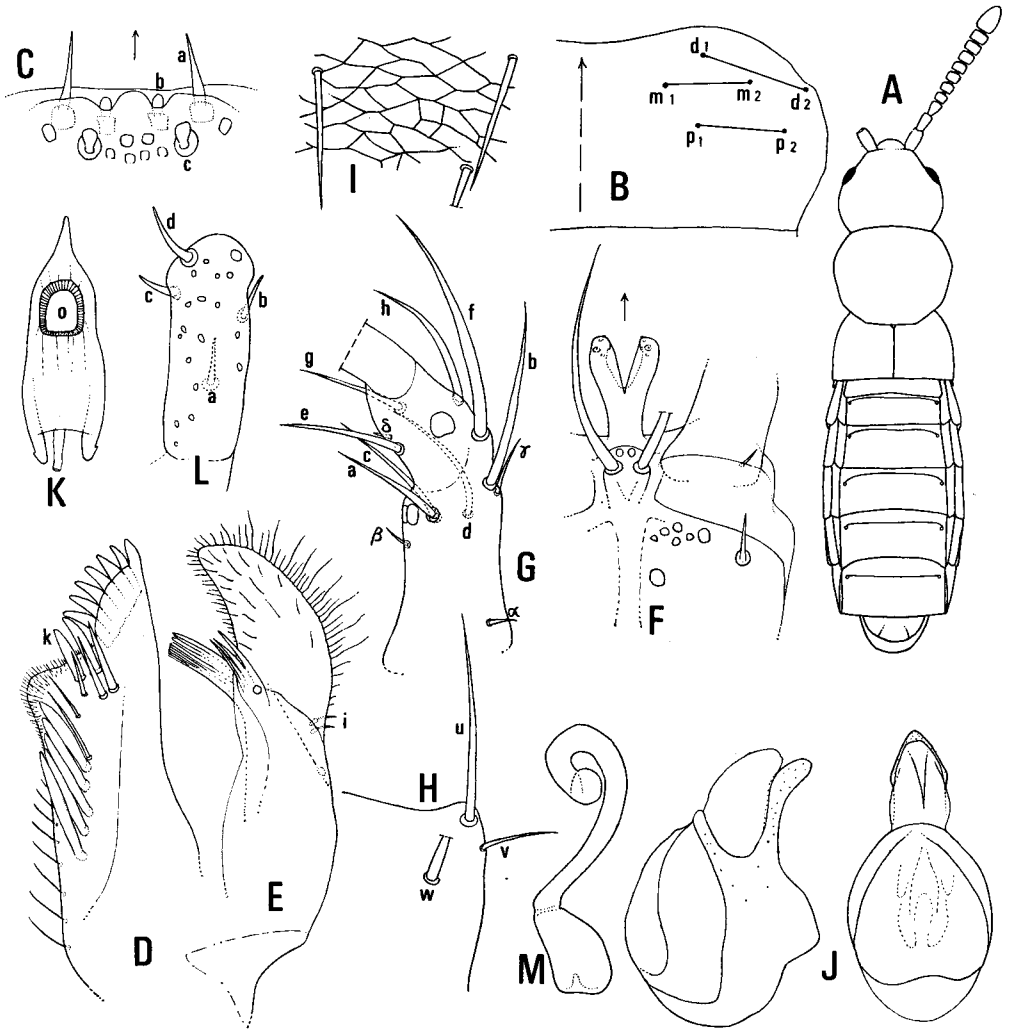

Fig. 9. *Ischnopoda* (*Ousipalia*) *nakanei* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labral margin; D, lacinia; E, galea; F, labium; G, labial palpus; H, setae of mentum; I, micro-sculpture of tergite VIII; J, aedeagus (dorsal and lateral view); K, copulatory piece; L, distal sclerite of left paramere; M, spermatheca.

on its inner margin; the distal comb is consisting of 6 teeth. Each of them strongly acuminate to give a coarsely serrate appearance to the comb; 2 large isolated spines (k in Fig. D) and 3 strong setae are behind it. Peculiar to this species 5 unusually enlarged spines are arranged basally in a longitudinal order. Galea (Fig. E) broad, well-developed distal lobe nearly as large as the corpus; the external surface has cilia markedly reduced in number; the outer margin with long and short cilia as in *I. oviformis* K. SAWADA, 1970; 2 basal sensillae (i in Fig. E) bearing a fine setula. Glossa

(Fig. F) as usual; forked from the middle; the stem lightly constricted; each arm slightly rounded on its outer margin ending in an obtuse apex. Labial palpus subsegmented; setula-β short, slightly separated from the paired twin pores; γ twice as long as β, often concealed by the seta *b*; δ reduced and scarcely perceptible, slightly anterior to *e*; *a* is near the paired twin pores and much shorter than *b*; *d* subequal in length to *c* and on the same level. The last segment distinctly dilated toward the apex, where there is a flasklike vesicle as in the case of *I. spinula* K. SAWADA, 1970. The median area of the prementum (Fig. F) narrow, without pseudopores; a few pseudopores of the lateral area aggregated anteriorly; the setal pore is more lateral than usual and near the anterior margin. Mentum (Fig. H) distinctly emarginate in front; *u* is on the antero-lateral angle; *v* relatively long and close to the former; *w* remote from the apical one. Pronotum poorly convex above and lightly deplanate along mid-line, and not foveolate before the base; the lateral margin nearly straight, a little narrowed behind and with a rounded anterior angle; the posterior margin truncate at the middle; integument alike to the head, but a little rougher. Elytra not emarginate postero-externally and poorly arcuate on the outer margin; erecting setae on the humeral and scutellar region clearly longer than the others; integument finely granulose, with obsolete punctures. Metathoracic wings strongly reduced, leaving a minute piece of membrane. Abdomen obsoletely punctured all over. Legs long, with tarsal segments as: 5 : 5.2 : 6 : 14 in fore-; 6 : 6.5 : 7 : 7 : 14 in mid-; 8 : 8.5 : 9 : 9 : 18 in hind-legs. Tergite VIII has the hind margin broadly truncate and feebly emarginate in the middle; the principal setae 4+4 in number, in which *a-2* is remote from the stigma and placed much more close to *p-2* than to *a-1*; the micro-sculpture is irregular reticulation (Fig. I). Sternite VIII sightly acuminate posteriorly, with rounded apex; 5 posterior and 3 anterior setae are represented it.

Aedeagus 0.31 mm (Fig. J). In dorsal view, the median lobe nearly ovate; the anterior portion narrow; the apical lobe triangular, bent apically and with pointed apex. Copulatory piece (Fig. K) elongate, straight and with a faint sinuation in the middle; the distal process briefly pointed; the annellus (o in Fig. K) relatively large. The distal, sclerite of paramere (Fig. L) oblong and with obtuse apex; the 4 setae more reduced than usual and all subequal in length; *c*, *d* distally near the apex, while *a*, *b* are more basally, *a* at about the basal one-third of the sclerite.

Length. 2.10 mm (Head long 0.21 mm × wide 0.24 mm; pronotum 0.34 × 0.41; elytra 0.28 × 0.42).

♀. Metathoracic wings completely reduced. Tergite VIII similar to that of male, sternite VIII not rounded, but gently emarginate along the middle of the hind margin and with the principal setae 6+6 in number. Spermatheca 0.27 mm long (fig. M); the duct narrow, briefly coiled up to the end and its prolonged basal part jointed to the bursa by a weak constriction.

Holo-(♂), allo- and paratypes (♂♀): Shiga (ca. 1,710 m), Nagano Pref., 22. VI. 1968, K. SAWADA leg., taken near the marsh.

This species is near the European *I. alpicola* (MILLER, 1859) (sensu GANGLBAUER,

1895) in general, but distinguished by longer pronotum and elytra. The species is dedicated to Dr. T. NAKANE of the National Science Museum in Tokyo.

20. ***Bolitochara*** (***s. str.***) ***iridescens*** sp. n. Fig. 10

♂. Reddish brown with irridescent reflection. Head, pronotum, elytra postero-externally and abdomen posteriorly more or less infuscate; antennae paler apically; legs light brown, with tibia and femur paler. Head poorly convex above, not sulcate along the median line and coarsely punctate, excepting the smooth median area; interspace between these punctures nearly glabrous. Eyes large, longer than the post-genae, the latter abruptly constricted toward the base and fairly arcuate in full length. Antennae typical of the subgenus; ratio of segments as: I 18×8 : II 10×6 : III 11×8 : IV 8×9.5 : X 10.5×12 : XI 15×11. Labrum (Fig. B) subtruncate in front and multispinose; seta *p*-1 subequal to *p*-2 in length; *m-1* distinctly shorter than *m-2*; *d-2* only a half as long as *d-1* and situated slightly proximal from the level of *m-2*; the proximal row as long as the distal row; secondary setae 10 in number. *a*-sensillae of the labral margin (Fig. D) setaceous, separating; *b* broad, conical and faintly divided into two halves; *c* well-developed, with acute exposed process; 6 micropores present, in stead of 4 of other genera. Mandible edentate, sharply pointed on apex. Maxillary palpus slender; segment II distinctly bent, with several micropores distally; segment III slender, gradually dilated toward the apex, with numerous micropores; segment IV truncate distally. Lacinia straight on its inner margin and with a distal comb consisting of ca 7 curved equally large spines. The area arround the distal comb masked by the thick tuft of cilia as characteristic for *Bolitochara*. Galea slender; distal lobe densely ciliated all over, with 3 curved spinulae and 1 long straight spine at the base of its outer margin. Glossa (Fig. F) forked acutely on distal two-thirds; each arms gradually toward the obtuse apex, where 3 conspicuous spines present (Fig. E); a pair of proximal sensory pores which are usually in front of the prementum, placed on the basal part of the glossa in this case. Labial palpus (Fig. C) slender; segment I lightly dilated distally, its outer margin feebly arcuate in front; segment II a little longer than broad, its outer margin evenly arcuate in its full length, whereas the inner margin nearly straight or scarcely sinuate on the middle; segment III relatively long, not narrowed from the base, but slightly constricted behind the apex, where it is membraneous and with 2 blunt unequal spinulae; there are 2 large and 1 minute pores on the segment; setula-α normal; β strongly reduced, only discernible under oil-immersed lens and placed just behind the paired twin pores, which are separated to each other; on the contrary γ well-developed, only slightly shorter than seta *g* and located near the apex of the first segment behind *b*, which is far proximal from *a*; the latter fairly remote from the twin pores; δ reduced as β and placed just behind *e*; *f* the largenst, posterior to the median pore and within the margin; *c* and *d* side by side. The median area of prementum (Fig. C) considerably emarginate in front and as wide as or a little broader than the lateral area; pseudopores aggregated in each antero-lateral corner; the lateral area provided with 3 real and 1 setal pores to each side, but without pseudopores. Mentum (Fig. G)

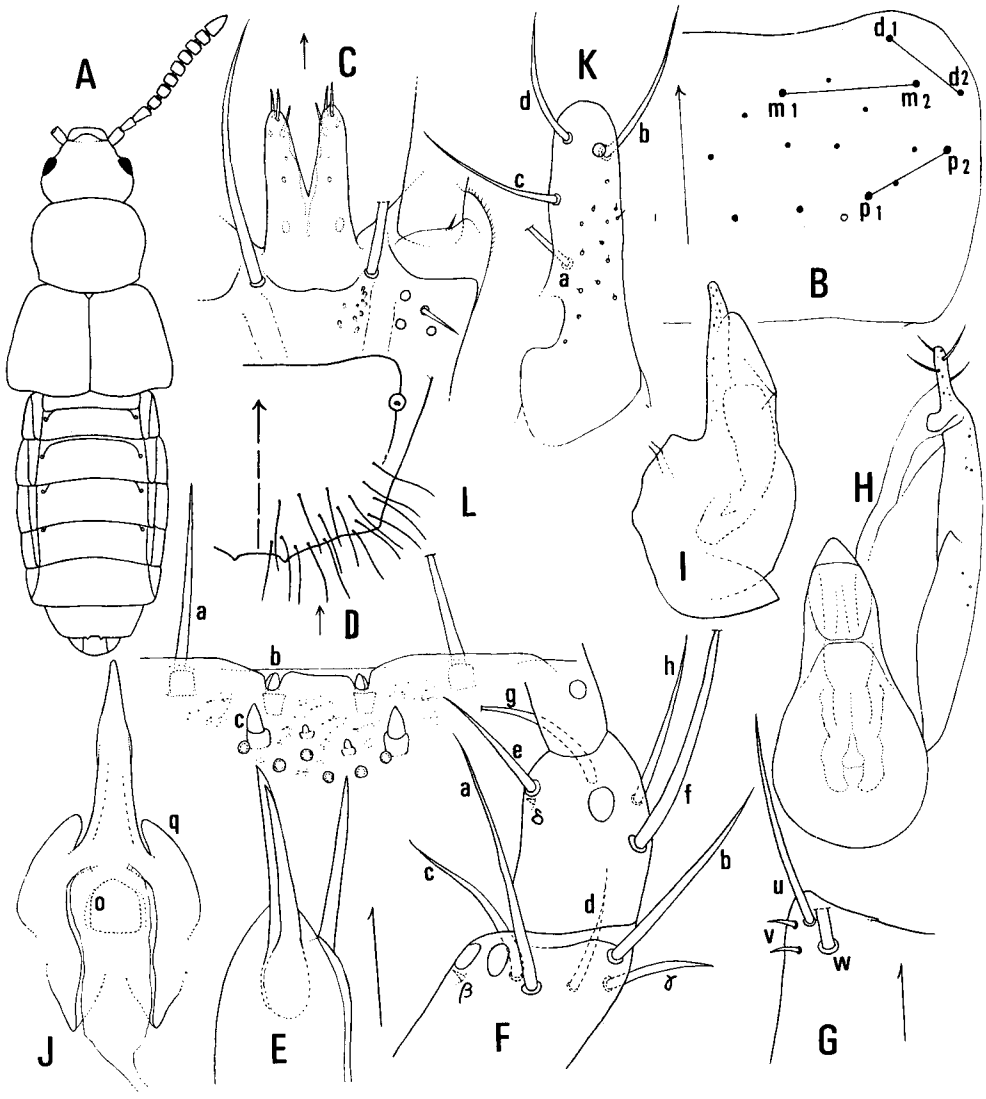

Fig. 10. *Bolitochara* (*s. str.*) *iridenscens* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labium; D, labral margin; E, apex of left arm of glossa; F, labial palpus; G, setae of mentum; H, aedeagus (dorsal view); I, do. (lateral view); J. copulatory piece (dorsal view); K, distal sclerite of right paramere; L, tergite VIII.

emarginate in front and with numerous evenly scattered micropores; *u*, *v*, *w* are on the antero-lateral corner close together; there are 2 *v*; the proximal seta placed on basal one-third of the mentum. Pronotum gently convex to the head and declivous antero-externally; the lateral margin broadly rounded on the middle, slightly sinuate before the posterior angle, continuing to broadly rounded posterior margin; integument covered with coarse, moderately dense punctures, even to the foveoid median depression

before the base, excepting the glabrous narrow median area; 4 macrosetae of the lateral margin subequal in length. Elytra nearly straight laterally, distinctly rounded on the middle of the posterior margin and fairly sinuate before each postero-external angle; integument less coarsely, but more closely punctured than pronotum. Metathoracic wings well-developed. Abdomen finely and sparsely punctured. Tarsi with segments in ratio as: 10 : 11 : 11 : 22 in fore-; 17 : 16 : 13 : 11 : 21 in mid-; 39 : 19: 15 : 13 : 23 in hind-legs. Empodium of all tarsi fully reaching the end of the claw. Tergite VIII (Fig. L) has a small emargination on the middle of the posterior margin; lateral angel of the emargination more or less pointed and protruded behind; pubescence conspicuous, erecting and irregularly arranged; micro-sculpture of the middle area entirely replaced by sparse, minute strioli with fine pores. Sternite VIII acuminate behind, with a subtruncate apex.

Aedeagus 0.79 mm (Fig. H). In dorsal view the median lobe ovate at the base, narrowed distally, forming a briefly pointed apex and gently constricted middle portion. Copulatory piece (Fig. I) rather small for the median lobe; the apical process large, strongly protruded to form a spiniform apex; lateral to the distal process there is a pair of small auricular lobes (q in Fig. I) encircling the median annellus (o), which is placed behind the base of the apical process; suspensoria membraneous. The distal sclerite short, one-fourth of the paramere; the 4 subequal setae long; *b*, *d* are close to the apex, while *a* located at about the middle, before a round incision.

Length. 6.1 mm (Head long 0.88 mm × wide 1.00 mm; pronotum 1.11 × 1.33; elytra 1.33 × 1.74).

Hollo-(♂) and paratype(♂): Shiga (1,710 m), Nagano Pref., 22. VI. 1968, K. SAWADA; Shiga (ca. 1,750 m), Nagano Pref., 21. V. 1968, R. YOSII leg.

This species is near the European *B. haworthi* (STEPHAN, 1832) (sensu GANGLBAUER, 1895), but with longer pronotum, more finely punctured elytra and with metallic reflection.

21. ***Oxypoda* (*Baeoglena*) *producta*** sp. n. Fig. 11

♂. Fuscous, tinged with red. Head and posterior half of abdomen usually infuscate; antennae clouded from III to X. Head rather elliptical and uniformly convex above; integument moderately punctured. Eyes lightly reduced. Antennae slightly dilated distally; ratio of segments as: I 14 × 8 : II 17 × 7 : III 13 × 7 : IV 8 × 8 : X 10 × 13 : XI 20 × 13. Labrum (Fig. B) lightly emarginate in front; seta *p*-2 much shorter than *p*-1; the proximal row subequal to the medial one in length and longer than the distal row; 2 secondary setae near the middle of the labrum. *a*-sensillae of labral margin (Fig. C) acicular, shorter than their distance; *b* broad, with an acute apex; *c* insignificant. Right mandible has a toothlet at base. Second segment of maxillary palpus poorly dilated on the middle, with several micropores confined to the inner corner of apex; external surface has a coarse reticulation; segment III fusiform, with a very long preapical seta; segment IV rather short, devoid of an apical spinula. Lacinia gently dilated on the middle of the inner margin and suddenly narrowed apically; distal comb consisting of ca. 10 slender teeth, distally decreasing in length, accompanied

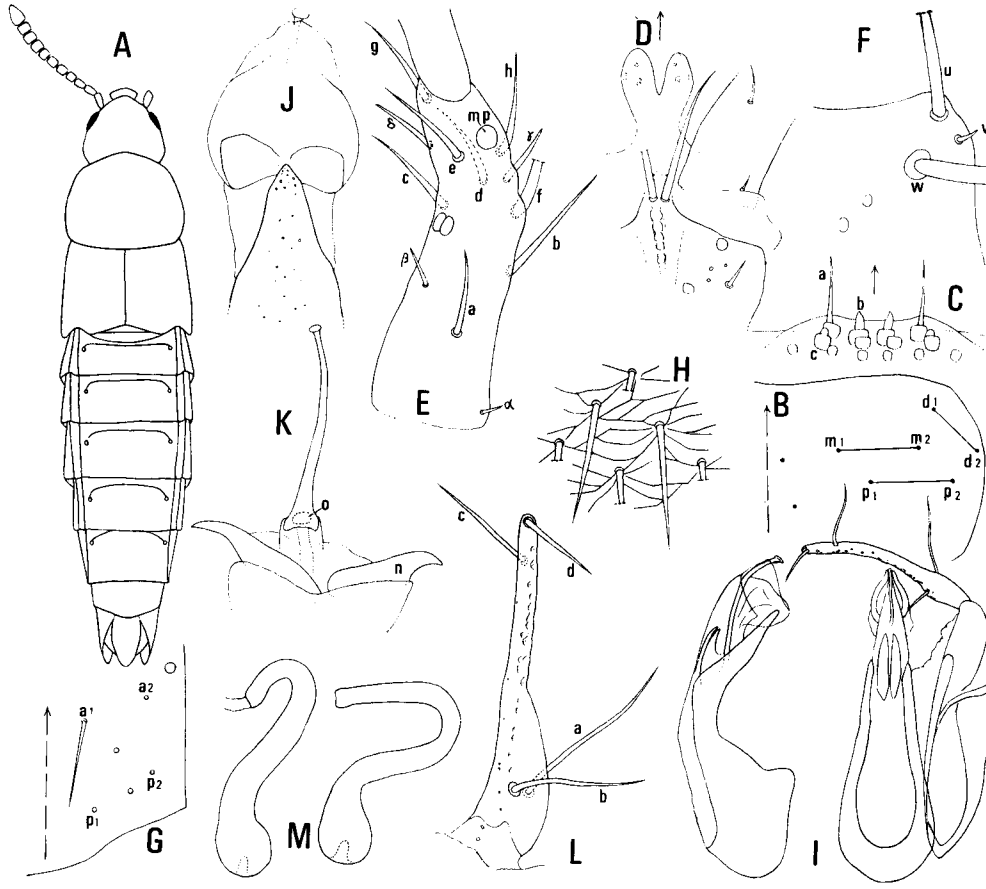

Fig. 11. *Oxypoda* (*Baeoglena*) *producta* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labral margin; D, labium; E, labral margin; F, setae of mentum; G, setal arrangement of tergite VIII; H, micro-sculpture of tergite VIII; I, aedeagus (dorsal and lateral view); J, apical lobe of aedeagus; K, copulatory piece; L, distal sclerite of left paramere; M, variations of spermatheca.

by 4 large separate spines behind. Galea narrow; the distal lobe rather reduced, while the basal spine of its inner margin conspicuous; the outer basal sensilla setaceous. Glossa (Fig. D) broad, divided into lobate arms, whose apex obtuse and with a very minute apical spinula. Segment I, II of labial palpus (Fig. E) faintly divided; setula β exceptionally dislocated proximally, so that this setula far remote from the paired twin pores; γ clearly longer than β, and situated between *e* and *h*; the latter proximally dislocated and far apart from the median pore; δ well-developed, subequal to γ in length and on the same level with the median pore; *b* normal in position, while *a* extraordinally proximal, nearer to the base than to the paired twin pores; *d* rather distally dislocated and subequal to *c* and *g* in length. The median area of prementum (Fig. D) a little converging behind, with a longitudinal row of poorly defined

pseudopores along the middle; paired distal setae standing close together; lateral area has 2 real pores and 1 setal pore, the one of the former near the anterior margin; pseudopores nearly reduced. Mentum (Fig. F) emarginate in front; *v* strongly reduced compared to *u*. Pronotum convex above, arcuately rounded laterally and with well-represented principal setae; integument similar to head. Elytra gently convex above, deeply emarginate postero-externally, so that postero-external angle distinctly produced behind and with rougher punctuation than the pronotum. Metathoracic wings moderately developed. Abdomen sericeous in appearance, without any trace of distinct punctures. Ratio of tarsal segments as: 7 : 6 : 6 : 15 in fore-; 7 : 7 : 7 : 7 : 13 in mid-; 22 : 11 : 10 : 10 : 16 in hind-legs. No empodium on each tarsus. Tergite VIII (Fig. G) produced behind; the principal setae 6+6 (2, 1, 3) in number; *a-1*, *p-1* shorter than the remainder. The location of them as in fig. G; micro-sculpture of the middle area (Fig. H) is a transverse irregular reticulation, somewhat radiating from each setal socket. Sternite VIII as usual; the fringed spinulae of the posterior margin long and decreasing laterally in length; the principal setae usually 8+8 (4, 4) in number.

Aedeagus (Fig. I) 0.46 mm in length. Median lobe narrow, acuminate in front and abruptly bent anteriorly to form a triangular apical lobe, ending in an acute apex. Copulatory piece (Fig. K) very small, spini- or almost filiform, fully reduced basally, gradually bent anteriorly and ending a finely campanulate apex; small annellus (o in Fig. K) situated on the base, just before the posterior margin; suspensoria (n in Fig. K) modified to a pair of ungual process surrounding the basal part of the copulatory piece. Paramere (Fig. I) unusually long, surpassing the median lobe; the distal sclerite (Fig. L) also elongate, slightly shorter than the basis and dilated at the basal half on one side; from 4 long setae, *d* is the shortest, placed apically, while *a*, *b* are near the base.

Length. 3.1 mm (Head long 0.44 mm × wide 0.41 mm; pronotum 0.46 × 0.55; elytra 0.51 × 0.59).

♀. Spermatheca varying in shape to considerable extent as in Fig. M; the bursa is relatively small, ovate and with a distinct umbilicus.

Holo-(♂), allo- and paratype (♂); Shiga (1,770 m), Nagano Pref., 16. VIII. 1967, K. SAWADA leg.

This species is closely allied to the Japanese *O. sauteri* BERNHAUER, 1907, but in this new species the fourth and the tenth antennal segments are not so strongly transverse and pronotum is apparently longer.

22. ***Oxypoda*** (***s. str.***) ***obtusa*** sp. n. Fig. 12

♂. Fuscous, subopaque and sericeous. Body deeply piceous all over; pronotum with reddish tinge; legs lighter in colour. Head broadly ovate, gently convex above, without cranial depression. Eyes flat, a little longer than the post-genae; peripheral part has fine pubescence, each setula is lightly surpassing the diameter of cornea. Antennae dilated distally; ratio of segments as: I. 23 × 11 : II 20 × 9 : III 21 × 10 : IV 14 × 10: X 13 × 16 : XI 34 × 17. Labrum (Fig. A) truncate in front; proximal setae pigmented, *p-1* slightly longer than *p-2*; *m-2* one-fourth longer than *m-1* and situated very close to the middle of *d-1* and *d-2*; compared to *O. producta* sp. n. the proximal

row reduced, subequal to two-thirds of the distal row in length; middle area has 4+4 secondary setae. they are unusually developed, but still descernible from proximal setae. Labral margin (Fig. B) alike to *O. producta* sp. n., but the setaceous *a*-sensilla modified as blunt spines and *b* more elongated. Mandible robust basally and acuminate apically. The right mandible bears a basal toothlet and a row of fine serration effaced distally, but the left without such a structure. Maxillary palpus slender; segment II subequal to segment I in size; external surface has pubescence transformed into spines, while the opposite surface impunctate and with coarse imbricate micro-sculpture; segment III evenly dilated distally; segment IV cylindrical, its basal filamentous sensillae reaching the basal one-third and with very fine spinula on apex. Lacinia as usual; inner margin gently dilated at the middle; the distal comb compact,

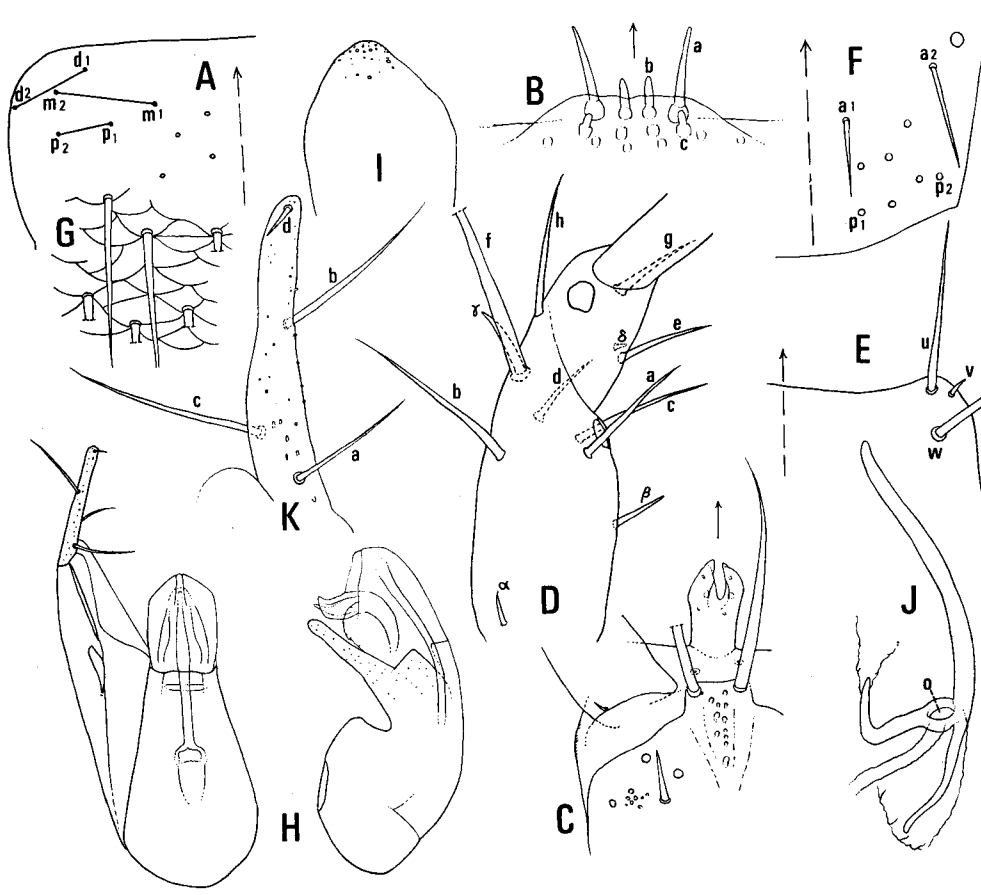

Fig. 12. *Oxypoda* (*s. str.*) *obtusa* sp. n. A, Chaetotaxy of labrum; B, labral margin; C, labium; D, labial palpus; E, setae of mentum; F, setal arrangement of tergite VIII; G, micro-sculpture of tergite VIII; H, aedeagus (dorsal and lateral view); apical portion of aedeagus (ventral view); J, copulatory piece, (lateral view); K, distal sclerite of right paramere.

composed of 10 spines. Galea narrow, with an unusually small pore near the outer margin; the distal lobe bears 2 setaceous basal sensillae, not much different from the short cilia. Glossa (Fig. C) robust basally, obliquely divided on anterior half into 2 acuminated arms, whose apices ending in an obtuse process. Segment I and II of labial palpus separated; setula-β well-developed, placed at anterior one-third of the segment I and far remote from the paired twin pores; γ robust and located quite near *f*; δ vestigial, visible only under oil-immersed lens; *b* on the same level as *a*; *h* remote from the median pore and more proximally dislocated than in *O. producta* sp. n. Prementum (Fig. C) gradually narrowed anteriorly; the distance between the paired distal setae subequal to the width of the glossa; median area bears number of pseudopores arranged along the mid-line; lateral area has 3 real and 1 setal pores, their arrangement characteristically different from *O. producta* sp. n. Mentum (Fig. E) emarginate in front, with numerous micropores; *u* large, while *v* is very small and close to *u*; proximal seta one-third of *w* in length and normal in position. Pronotum weakly convex above, with a feeble indication of a median sulcus ending posteriorly in an obsolete fovea, having a pair of punctures in it; the marginal setae quite inconspicuous; the anterior angle quite obtuse while the hind angle well defined; minute granules of integument coarser than on the head. Elytra markedly emarginate postero-externally, finely but densely punctulate all over and with obsolete micro-sculpture. Metathoracic wings well-developed. Abdomen finely and densely punctulate to give a sericeous appearance; the punctation may be obsolescent posteriorly. Tergite VIII (Fig. F) acuminate and with posterior margin distinctly rounded in its full length; several conspicuous setae which are to be regarded as setal multiplicity, arranged as 2, 3, 4. Their arrangement therefore, very unique as represented in Fig. F. Sternite VIII produced in the middle of the posterior margin to form a lobate process; the principal setae 10+10 in number, in which the posterior 4 are distributed within the posterior margin. Ratio of tarsal segments as: 8 : 8 : 8 : 10 : 21 in fore-; 15 : 13 : 13 : 13 : 25 in mid-; 33 : 13 : 14 : 14 : 28 in hind-legs. Empodium of all tarsi a little shorter than the claw.

Aedeagus 0.70 mm in length, bowed and dorso-ventrally thick; in dorsal view the median lobe is broad, acuminated in front and with truncate apical margin. Copulatory piece (Fig. J) strongly modified; the apical process converted to a filiform prolongation; the annellus (o in Fig. J) is small and with an unpaired ventral projection hooked on apex; suspensoria membraneous. Paramere (Fig. H) moderate in size; distal sclerite (Fig. K) almost straight; from 4 setae *d* remarkably reduced, less than one-fourth of the other; others are long, remote from one another.

Length. 3.90 mm. (Head long 0.52 mm × wide 0.54mm; pronotum 0.59×0.78; elytra 0.81×0.93).

Holotype (♂): Shiga (ca. 1,750 m), Nagano Pref., 16. VIII. 1967, K. SAWADA leg.

This species is distinguished from the European *O. vittata* MAERKEL, 1842 (sensu BERNHAUER, 1902), by longer pronotum and shorter first segment of the hind tarsi.

23. ***Oxypoda* (*Demosoma*) *imadatei*** sp. n. Fig. 13

♀. Rufotestaceous, weakly shining with sericeous reflection. Trophi and abdomen paler distally; antennae infuscate on the middle. Head orbiculate, evenly convex above and not depressed to the middle; integument finely and somewhat asperately punctured, with distinct micro-sculpture. Eyes small, flat and one half the length of post-genae. Antennae moderately long, strongly dilated distally, with ratio of segments as: I 18×8 : II 15×7 : III 12×8 : IV 8×9 : X 10×15 : XI 19×15.3. Labrum (Fig. A) emarginate in front; peculiarly seta *d*-2 absent and *d*-1 dislocated more proximal than *m*-1, *m*-2, at about the middle of them; *p*-2 much shorter than p-1; one secondary seta present on the middle. *a*-sensilla of labral margin (Fig. B) strongly reduced to curved minute process: *b* an unpaired obtuse process slightly protruded from the labral margin; *c* poorly defined. Mandible pointed, curved apically; the right one has a basal denticle. Maxillary palpus as usual; segment II uniformly arcuate

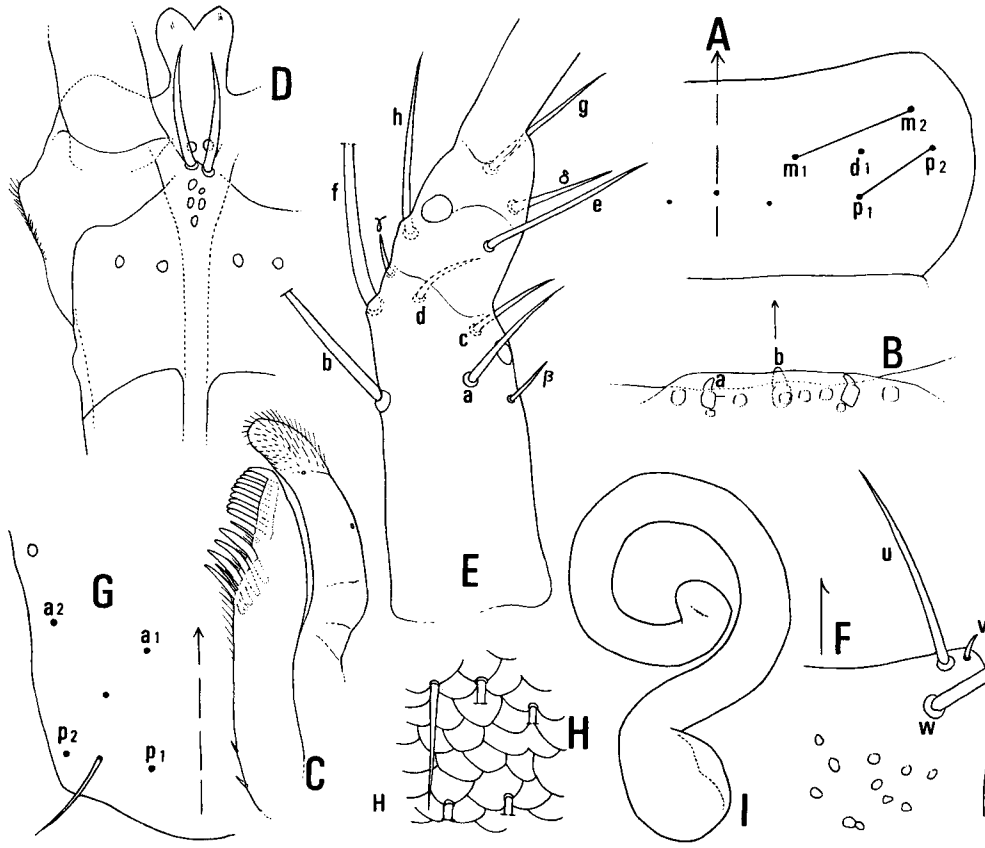

Fig. 13. *Oxypoda* (*Demosoma*) *imadatei* sp. n. A, Chaetotaxy of labrum; B, labral margin; C, lacinia (left) & galea; D, labium; E, labial palpus; F, setae of mentum; G, setal arrangement of tergite VIII; H, micro-sculpture of tergite VIII; I, spermatheca.

along its outer margin, lightly incurved in inner side and coarsely reticulated on the interior surface; segment III slender, widest in front of the middle; segment IV not narrowed distally, ending with an obtuse hyaline setula. Lacinia (Fig. C) slender, with 9 compact teeth forming a distal comb; behind them 4 large spines loosely arranged. Galea (Fig. C) narrowly elongate, with a minute sensory pore at the middle near outer margin; distal lobe poorly developed, with short cilia; basal setaceous sensillae obliterated. Glossa (Fig. D) broad, divided into short, lobate arms, whose apex briefly pointed; sensory pores almost absent. Labial palpus (Fig. E) long; segment I slightly longer than the segment III, whose apex armed with hyaline spinulae and a vesicle on its interior surface; α-setula not observed, whereas β well-developed and remote from the paired twin pores; γ subequal to β in length and placed anterior to *f*; δ very long, twice of β: *h* proximal and placed at about the same level as *e*. Prementum (Fig. D) narrow; distal setae placed close to each other and not surpassing the apex of the glossa; median area very narrow, with a few pseudopores, but with 2 distinct real pores on the middle; setal pore not observed. Mentum (Fig. F) transverse, deeply emarginate in front; *u* on the anterior margin, placed close to the minute *v*; *w* distinctly greater than *u*; surface with numerous coarse pores. Pronotum convex above, narrowed toward head and poorly depressed along the middle, especially in anterior half; the lateral margin almost straight, but rounded on anterior angle; the marginal setae insignificant; integument covered with fine and dense granules. Elytra fairly emarginate postero-externally, densely sculptured like pronotum. Metathoracic wings considerably reduced. Abdomen finely sculptured to give a sericeous luster; Tarsi with segments in ratio as: 7 : 8 : 8 : 7 : 14 in fore-; 11: 10 : 10 : 8 : 17 in mid-; 29: 11 : 11 : 9 : 19 in hind-legs. Empodium of each tarsus a little shorter than the claw. Tergite VIII (Fig. G) arcuately produced behind, with 6+6 setae (2,1,3); *a*-1 is the smallest; *a*-2 placed closer to the stigma than to *a*-1; the micro-sculpture on the middle area (Fig. H) has fine imbricate pattern. Sternite VIII is a little produced and lightly pointed on apex, where it is fringed by many fine spinulae; the macrosetae 7+7 (3, 4) in number, those on the posterior row remote from the posterior margin.

Spermatheca 0.21 mm in diameter (Fig. I); the duct moderately broad, coiled up entirely; the brusa robust, rotundate in outline and with a large, flat umbilicus.

Length. 2.7 mm (Head long 0.42 mm × wide 0.40 mm; pronotum 0.47 × 0.58; elytra 0.52 × 0.61).

Holotype (♀): Shiga, Nagano Pref., 17. IX. 1967, G. IMADATE leg.

This species differs from the European *O. amoena* FAIRMAIR, 1854 (sensu BERNHAUER, 1902), by longer tenth segment of antennae, longer pronotum and larger body. It is dedicated to Dr. G. IMADATE, a member of our research team, collecter of the new species.

24. ***Homoeusa prolongata*** sp. n. Fig. 14

♂. Rufotestaceous and shining. Head and abdomen infuscate, the extremity of the latter paler; antennae uniformly pigmented excepting the pale distal end of the last segment. Head evenly convex above, without depression; integument finely

densely punctured all over. Eyes flat, subequal to the post-genae in length. Antennae dilated distally; segmental ratio as: I 17×12 : II 13×10 : III 11×11.5 : IV 8×12 : X 11×20 : XI 27.5×18; always the short irregular serration is present on anterior margin of the antennal segments 4 to 10. Labrum (Fig. B) lightly emarginate in front and strongly transverse; among 3 rows of principal setae the proximal one is very long, as long as the medial one and placed unusually close to the latter; the secondary setae 1+1; *p-2* slightly shorter than *p-1*. *a*-sensillae (Fig. C) setaceous, feebly divergent distally; *b* prolonged, acute and less than half the length of *a*; *c* has large oblong-ovate process. Right mandible acutely pointed, with a basal toothlet. Maxillary palpus short; segment II incurved on its inner margin and with no distinct micto-sculpture; segment III lightly dilated distally and its micro-sculpture coarser toward the base; segment IV slightly tapering to the apex and ending with a slender spinula. Lacinia fairlyd ilated at the middle of its inner margin; apical comb composed of ca. 6 slender curved spines; the inner margin armed with dense ciliary spines all over so that the isolated spines behind the distal comb practically poorly differentiated. Galea nearly as usual; with 2 well-defined pores, one at the middle near its outer margin and the other on apex; distal lobe densely ciliated throughout. Glossa (Fig. D) robust, subequal to two-thirds of the first segment of labial palpus in width, feebly dilated to-

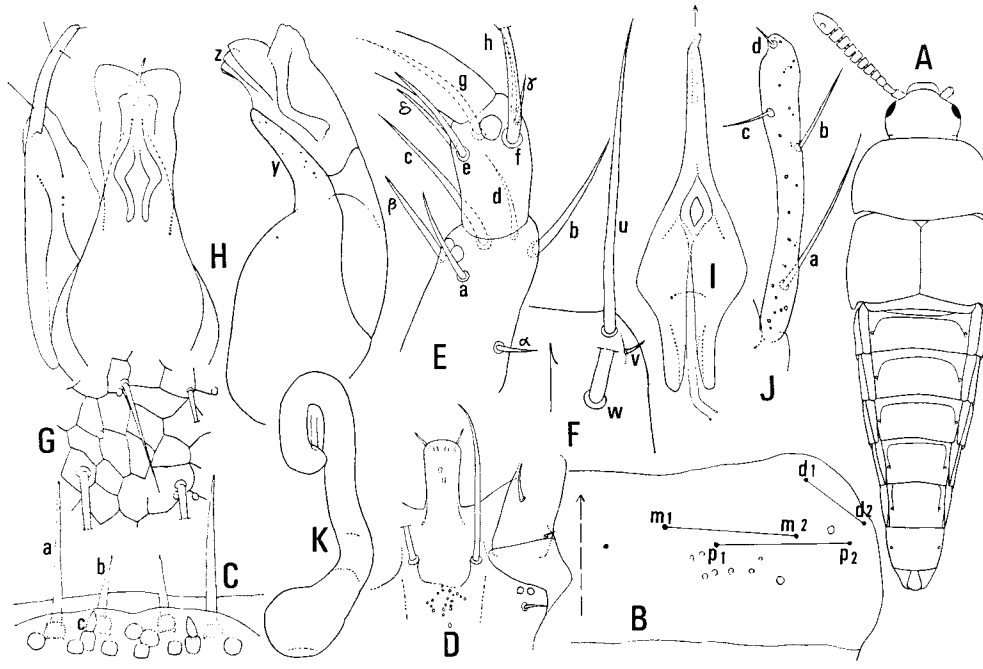

Fig. 14. *Homoeusa prolongata* sp. n. A, Habitus; B, chaetotaxy of labrum; C, labral margin; D, labium; E, labial palpus; F, setae of mentum; G, micro-sculpture of tergite VIII; H, aedeagus (dorsal and lateral view); I, copulatory piece (ventral view); J, distal sclerite of right paramere; K, spermatheca.

ward the subtruncate apex and furnished with a pair of fine spinulae. Labial palpus (Fig. E) not subsegmented; setula α longer than usual; β very long, subequal to seta *a* in length and placed close to the twin pores; γ reduced when compared to β and dislocated distally at the middle between *f* and *h*; γ similar to β and on the same level as *e*; *a* is far remote from *b*, located lateral to the paired twin pores. The median area of prementum (Fig. D) abruptly emarginate in front, a little broader than the lateral area and with numerous fine pseudopores confined to the anterior portion; the lateral area slightly dilated in front and gradually constricted behind, with 2 real pores and 1 setal pore near its antero-external corner; pseudopores absent. Mentum (Fig. F) subtruncate in front, strongly transverse, with many pseudopores; *u* very long, placed on the antero-external angle, whereas *v* strongly reduced and place behind the former; *w* dislocated proximally, on anterior one-third of mentum. Pronotum moderately convex above, lightly deplanate postero-externally; the anterior angle evenly rounded, while the posterior angle well-marked and fairly sinuate on the posterior margin; integument alike to head; the marginal erecting setae absent. Elytra broadly rounded laterally, with the distinctly produced postero-external angle; integument more roughly sculptured than pronotum; disc has no erect setae. Abdomen obsoletely punctured. Ratio of tarsal segments as: 11 : 8 : 8 : 7.5 : 15 in fore-; 16 : 11 : 10 : 9 : 17 in mid-; 22 : 12.5 : 12 : 11 : 20 in hind-legs. Empodium of all tarsi a little shorter than claw. Tergite VIII slightly acuminate behind; fine pubescence is converted to conspicuous bristles so that principal erecting ones undiscerned, those on the basal portion more reduced than others; micro-sculpture (Fig. G) on the middle area is a coarse reticulation and scattered micro pores. Sternite VIII similar to tergite VIII, slightly, produced behind at the middle of the posterior margin, where many setulae present.

Aedeagus (Fig. H) 0.62 mm. In dorsal view the median lobe oblong ovate; apical lobe (y in Fig. H) gradually bent distally ending in an obtuse apex; 2 pairs of apical valves (z) well-developed. Copulatory piece (Fig. I) scaphoid, with a spiniform apical process subequal to the corpus in length. Paramere (Fig. H), as usual; distal sclerite (Fig. J) one-third of the whole; from 4 setae *d* is the shortest and placed on apex; *a* very long.

Length, 2.90 mm. (Head long 0.34 mm × wide 0.48 mm; pronotum ;0.53 × 0.88; elytra 0.67 × 0.75).

♀. Tergite VIII and sternite VIII alike to those of male. Spermatheca (Fig. F) 0.22 mm in diameter; duct broader than usual and coiled up distally; the bursa nearly ovate, bearing an effaced umbilicus

Holo-(♂) and allotype: Shiga (ca. 1,600 m) Nagano Pref., 22. VI. 1968, K. SAWADA leg.

This species is distinguished from the Eurpean *H. acuminata* MAERKEL, 1842 (sensu BERNHAUER, 1902) by narrower pronotum, longer elytra and larger body.

Resumé

Research of the terrestrial beetles of the subfamily Aleocharinae in the subalpine coniferous forest of Central Japan has brought out the result that there may be found 24 species of them, all of which are new to science. The fact implies two things: firstly the study of Aleocharinae of Japan is still quite in the retarded state and many novis are to be expected. Secondly Aleocharinae is richly represented in the subalpine region just as already known in Europe and USA, and all of our new species are congeneric with those of other continents. During the course of the study new characteristics are introduced which are indispensable for the research of Aleocharinae. Importance of chaetal studies for the taxonomic works in Staphylinidae are stressed.

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