

Contributions to the Miridae fauna of the Far East.

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While the *Miridae* fauna of the western parts of the Palearctic Region has been intensively studied by several authors, much less attention has been paid to the taxonomy of the family in the Far East. This can be seen, for instance, from the fact that according to STICHEL's recent catalogue (1958) only a small number of species have been recorded from Japan. The main works on the *Miridae* of the Far East have been published by REUTER (1903, 1905) and HORVATH (1879, 1905). Recently HSIAO (1941, 1942) has also published two articles on the Chinese *Miridae*, a work that has been overlooked by STICHEL (op. cit.). Moreover, in his paper on the *Miridae* of Micronesia, CARVALHO (1956) has given some distributional data concerning the Far East also. It was thus with the greatest interest that I received a box consisting of a collection of *Miridae* from Japan kindly sent for identification by Prof. S. MIYAMOTO, of Kyushu University, Fukuoka. The material was found to include several new species, which in view of what has been said above, is not very surprising. A list of the species is published below. The type specimens are preserved in Kyushu University and in my collection.

Tingiotum perlatum n.sp.

Length 5.5 mm. Dull. Head light brown; clypeus shining black; eyes dark brown. Antennae coffee-brown, apical joints darker. Ground colouring of pronotum greyish brown; an irregular dark brown longitudinal band starting behind either eye; disk with a darker tinge laterad to these stripes; basal angles dark brown. Scutellum yellowish brown, basal angles darker. Elytra chocolate-brown; corium with a dark irregular transverse apical band; corium and partly also clavus with numerous irregularly roundish, light greyish or greyish brown spots, which are partly coalescent; costal margin tinged with reddish; cuneus light brown, inner margin sanguineous; membrane smoky, veins reddish brown. Under surface light brown. Legs light brown, femora apically infusate.

Body nearly 3 × as long as broad. Head 0.67 × (♂) or 0.64 × (♀) as broad as pronotum, short, apically nearly vertical when seen in profile; vertex 0.76 × (♂)

or $1.11 \times (\varnothing)$ as broad as the prominent, large eye; a shallow median furrow present on disk with some very faint lateral sulci on either side; clypeus remarkably swollen, shining. Proportions between antennal joints $16 + 51 + 24 + 19$ (σ) or $15 + 45 + 29 + 20$ (\varnothing) (1 unit = 0.038 mm.); 2nd joint $1.76 \times (\sigma)$ or $1.61 \times (\varnothing)$ as long as breadth of head; hair covering of antennae short. Pronotum $1.72 \times (\sigma)$ or $1.88 \times (\varnothing)$ as broad as long, strongly tapering apically; lateral margins



Fig. 1. *Tinginotum perlatum* n.sp.: a left stylus; b right stylus; c chitinized aedeagal appendages. - *Lygus pabulinoides* n.sp.: d-f same. - *L. rubronasutus* n.sp.: g-j same - Orig.

slightly insinuated; disk remarkably convex basally, strongly declining anteriorly, surface uneven, densely and minutely punctate. Scutellum densely and minutely punctate. Elytra extending well beyond abdomen. Hair covering of head, pronotum and scutellum long, brownish, erect and dense, that of elytra somewhat shorter. Hair covering of under surface smooth. Rostrum extending to hind coxae. Tibial spines black. Male genitalia: Left stylus (fig. 1 a) with hypophysis sharp-tipped and curved ventrad apically. Right stylus (fig. 1 b) with hypophysis expanded apically, sensory lobe rounded and provided with several hairs. Penis with 2 long falcate chitinized appendages (fig. 1 c).

Kyushu, Hikosan, Buzen, 1 ♂ and 1 ♀, T. YOSHIDA.

This is the first species of the genus described from the Palearctic region. HSIAO (1942, p. 269) has recorded a species from China, two damaged specimens having been taken from Szechuan. The new species is easily distinguished by the general habitus and by the colouring. Externally it resembles species of the genus *Phytocoris* FN., but differs in the long erect hair covering of the upper surface. Also the male genitalia are of a different type.

Adelphocoris triannulatus (STÅL) (or n.sp.?)

Honshu, Shosen - Kyo, Kai, 1 spec., 22. VII. 1956, S. MIYAMOTO. - East-Asiatic, not previously recorded from Japan. The specimen differs somewhat from typical specimens of *triannulatus*, but since the last-named is very variable, a larger series of specimens should be studied to fix the taxonomy of the Japanese form.

Calocoris insularis Hv.

Kyushu, Fukuoka, 2 spec., VI. 1956, S. MIYAMOTO. - Endemic.

Eurystylus coelestialium (KK.) (= *E. bioculatus* (RT.))

Honshu, Shosenkyo - Kurobera, Kai, 1 spec., 22. VII. 1956, S. MIYAMOTO. East-Asiatic.

Stenotus rubrocinctus n. sp.

Length 5-5.5 mm. Shining. Ground colouring yellow-brown. Clypeus blackish; other parts of head reddish with a yellow-brown median stripe and basal margin. Antennae reddish. Eyes dark grey. Pronotum reddish or reddish brown; a median stripe and lateral margins yellow-brown. Scutellum red. Elytra with a red longitudinal band starting from base of clavus and extending to base of inner membranal cell (fig. 3 c), other parts of elytra yellow-brown; membrane light smoky, veins bright sanguineous. Under surface conspicuously marked with fuscous. Femora (save basally) sanguineous, other parts of legs yellow-brown.

Elongate. Vertex moderately convex, $1.67 \times$ as broad as eye. Antennae gracile, proportions between joints $15 + 54 + 28 + ?$ (♂) or $15 + 47 + 25 + 20$ (♀); 2nd joint $1.64 \times$ (♂) or $1.27 \times$ (♀) as long as basal width of pronotum; 3rd joint $0.88 \times$ (♂) or $0.67 \times$ (♀) as long as breadth of pronotum; hair covering short and smooth. Pronotum strongly tapering anteriorly; lateral margins subcarinate, straight or very faintly insinuated; disk flattish, calli somewhat elevated and smooth, other parts of disk densely transversely rugose and punctate. Scutellum and elytra obscurely punctate. Elytra a little longer than abdomen. Hair cover-

ing of upper surface smooth, yellowish. Rostrum extending to hind coxae. Tibiae with brown spines.

Kyushu, Unagi, Satsuma, 1 ♂ and 1 ♀, 16. X. 1955, S. MIYAMOTO.

Much as *S. binotatus* (F.), but much smaller and more gracile, dissimilarly coloured and provided with shorter antennae.

Lygus pabulinoides n.sp.

Length 6 mm. Yellowish green, shining. Apical third of 2nd antennal joint and 3rd and 4th joints totally blackish brown. Membrane light smoky, veins yellowish green.

General habitus as in *L. pabulinus* (L.), elongate. Vertex $1.31 \times$ (♂) or $2.0 \times$ (♀) as broad as eye. Proportions between antennal joints $19 + 50 + ? + ?$ (♂) or $19 + 45 + 34 + 29$ (♀); head $1.3 \times$ as broad as length of 1st joint; 2nd joint $1.2 \times$ (♂) or $1.0 \times$ (♀) as long as basal width of pronotum. Vertex with only a weak transverse carina (entirely absent in the middle) basally. Pronotum sparsely and rather weakly punctate. Elytra rather finely and densely punctate. Hair covering of upper surface yellowish. Male genitalia: Left stylus (fig. 1 d) with hypophysis resembling a bird's head, sensory lobe rounded. Right stylus (fig. 1 e) strongly tapering apically, hypophysis long, claw-like. Aedeagal appendage (fig. 1 f) strongly bent and falcate apically.

Hokkaido, Ashoro, 1 ♂ and 1 ♀, 3. VII. 1958, S. MIYAMOTO.

Much as *L. pabulinus* (F.), but antennae longer, puncturing of pronotum sparser and finer and right stylus and aedeagal appendage very dissimilar.

L. rubronasutus n.sp.

Length 6.25–6.5 mm. Ochraceous yellow with a faint reddish tinge. Clypeus sanguineous, head golden yellow. Pronotum with sanguineous calli. Apex of 2nd antennal joint and 3rd and 4th joints darkened. Elytra golden yellow, apex of cuneus infuscate; membrane hyaline, slightly smoky, inner basal angle darkened, veins yellowish. Apices of middle and hind femora with an oblique broken sanguineous band.

Relatively robust. Crown $1.0 \times$ (♂) or $1.33 \times$ (♀) as broad as eye, basal margin not carinate medially. 1st antennal joint long, 0.77 – $0.83 \times$ as long as breadth of head; 2nd joint $1.27 \times$ (♂) or $1.21 \times$ (♀) as long as basal width of pronotum. Pronotum finely and rather sparsely punctate. Elytra densely punctate, hair covering golden yellow and relatively long. Male genitalia: Left stylus (fig. 1 g) with a strongly broadened body, hypophysis relatively short, sensory lobe small. Right stylus (fig. 1 h) broad, hypophysis short. Two chitinated aedeagal appendages present (fig. 1 i–j), the one long and falcate, the other shorter, thicker and claw-like apically.

Hokkaido, Ikeda, 1 ♂ and 1 ♀, 2. VII. 1958, S. MIYAMOTO.

As *L. pabulinus* (L.), but robuster, dissimilarly coloured and provided with dissimilar male genitalia. Easily recognized by the golden yellow colouring and the sanguineous clypeus.

L. honshuensis n.sp.

Length 5.25–6.25 mm. Externally much as *L. contaminatus* (FN.). Yellowish green. Apex of clypeus slightly darkened. Apex of 2nd antennal joint and 3rd and 4th joints slightly infusate. A transverse dark fuscous band along inner part of apical margin of corium; membrane smoky with some darker shadows, basal inner angle dark fuscous.

Body as in *L. contaminatus*. Crown $0.87 \times$ (σ) or $1.0 \times$ (φ) as broad as eye, with a longitudinal furrow, hind margin distinctly carinate. 2nd antennal joint $1.0 \times$ (σ) or $0.93 \times$ (φ) as long as basal width of pronotum. Pronotum densely and finely punctate. Elytra densely punctate, hair covering yellowish, relatively long. Rostrum extending to hind coxae. Male genitalia: Left stylus (fig. 2 a) slender, nearly semicircularly curved in outline. Right stylus (fig. 2 b) relatively short and stout, hypophysis claw-like, sensory lobe distinctly produced. Chitinized aedeagal appendage long and slender, strongly curved apically (fig. 2 c).

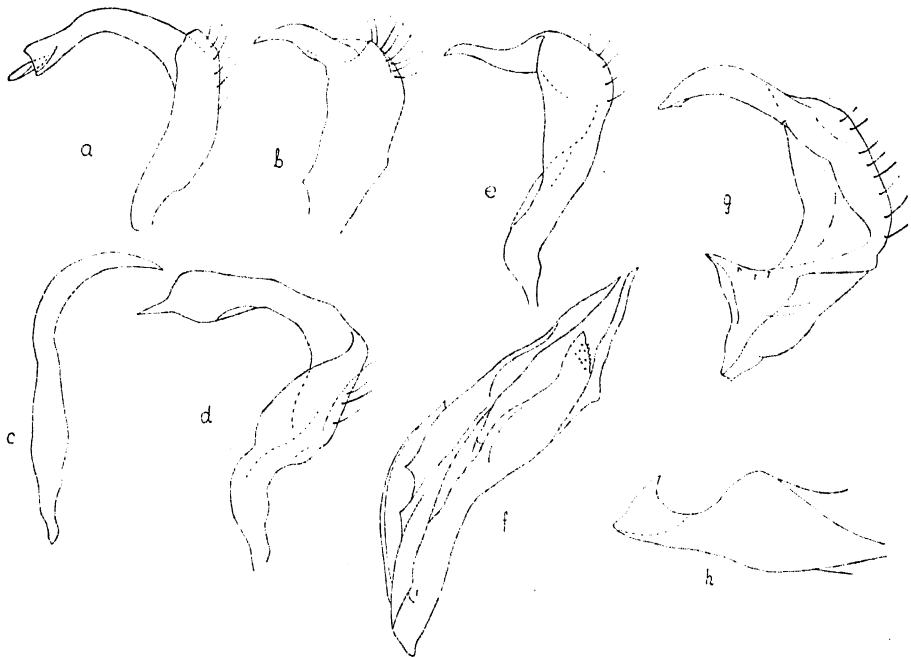


Fig. 2. *Lygus honshuensis* n.sp.: a left stylus; b right stylus; c chitinized aedeagal appendage. – *L. pulchellus* Rr.: d–f same. – *L. disponsi* n.sp.: g left stylus; h hypophysis of same, dorsal aspect. – Orig.

Honshu, Kirigamine, Shinado, 1 ♂ and 1 ♀, 10. VIII. 1959, S. MIYAMOTO.

L. contaminatus (FN.) is bigger, crown $0.67 \times$ (♂) or $1.1 \times$ (♀) as broad as eye and the chitinized appendage of the penis is short and nearly straight. *L. viridis* (FN.) is dissimilarly coloured, and has a broader crown, while the hypophysis of the right stylus is shorter. *L. nigronasutus* STÅL has a shining black clypeus and the crown is conspicuously broader.

L. pulchellus RT.

A very variable species as to colouring. Male genitalia: Left stylus (fig. 2 d) with a stout hypophysis suddenly tapering to a sharp apex. Right stylus (fig. 2 e) with hypophysis falcate, apex horizontally recurved. Penis with 2 longer and slender chitinized appendages and a stouter dentate process (fig. 2 f).

Kyushu, Hikosan, Buzen, 4 spec., 26–28. VIII. 1960, S. MIYAMOTO; Tokara Isls., Nakanoshima, 2 spec., 12. VI. 1953, S. MIYAMOTO. – East Asiatic, not previously recorded from Japan. The species has usually been regarded as a form of *L. adustus* JAK. (HSIAO 1942, p. 266). The last-named is, however, considerably robust, dissimilarly coloured and provided with different male genitalia. The type of *L. pulchellus* from China is unfortunately a female, so that I have not been able to compare the male genitalia of Chinese and Japanese specimens, but since the type agrees well with the Japanese specimens I regard the last-named as belonging to *L. pulchellus*.

L. nigronasutus STÅL

Honshu, Masutomi Kai, 3 spec., 28. VIII – 3. VIII. 1959. S. KIMOTO, Y. MIYATAKE.

The Japanese specimens differ from typical *L. nigronasutus* in that the cuneus is not darkened apically and so may represent a separate subspecies. The species has been recorded from Japan by LINDBERG (1933, p. 21).

L. saundersi RT.

Hokkaido, Akan, 2 spec., 4. VII. 1958, S. MIYAMOTO; Hokkaido, Ashoro, 1 spec., 27. VII. 1959, K. MORIMOTO; Kyushu, Wakasugi-yama, near Fukuoka, 4 spec., 15. V. 1960, S. MIYAMOTO. – East-Asiatic.

L. disponisi n.sp.

5.0–5.5 mm. Greyish ochraceous. Head shining, margins of vertex and genae darkened. Antennae reddish brown, apical half of 2nd joint and 3rd and 4th joints darkened. Pronotum shining, with \pm distinct longitudinal brown or blackish markings as in fig. 3 b. Scutellum with a median black bifid figure (fig. 3 b). Elytra relatively dull, with dark markings in apical part of corium and along

veins of corium and of clavus as in *L. wagneri* REM. and in *L. punctatus* ZETT.; membrane smoky, veins lighter. Under surface with irregular brownish shadows. Femora with brown transverse rings.

A small species. Body $2.13 \times$ as long as broad. Crown (δ , φ) about $1.41 \times$ as broad as eye. Basal width of pronotum $1.28 \times$ (δ) or $1.41 \times$ (φ) as long as 2nd antennal joint. Pronotum coarsely and rather sparsely punctate. Elytra totally densely punctate and therefore rather dull, the single punctures being much smaller than in pronotum; hair covering dense. Male genitalia: Left stylus (fig. 2 g-h) with hypophysis stout; basal part of stylus strongly broadened, median part concave on inner surface. Right stylus (fig. 3 a) remarkably elongate. Chitinated aedeagal appendage apparently reduced.

Hokkaido, Berabonai, Ashoro, 1 δ and 1 φ , 8. VII. 1958, S. MIYAMOTO.

Affinities: Near *L. rugulipennis* POPP., but puncturing of pronotum sparser, elytra a little more shining, right stylus much more elongate and left stylus conspicuously dissimilar in shape. *L. wagneri* REM. is bigger, vertex $1.2 - 1.36 \times$ as broad as eye, scutellum dissimilarly marked with dark, right stylus with a shorter hypophysis and left stylus dissimilar in shape. *L. punctatus* (ZETT.)

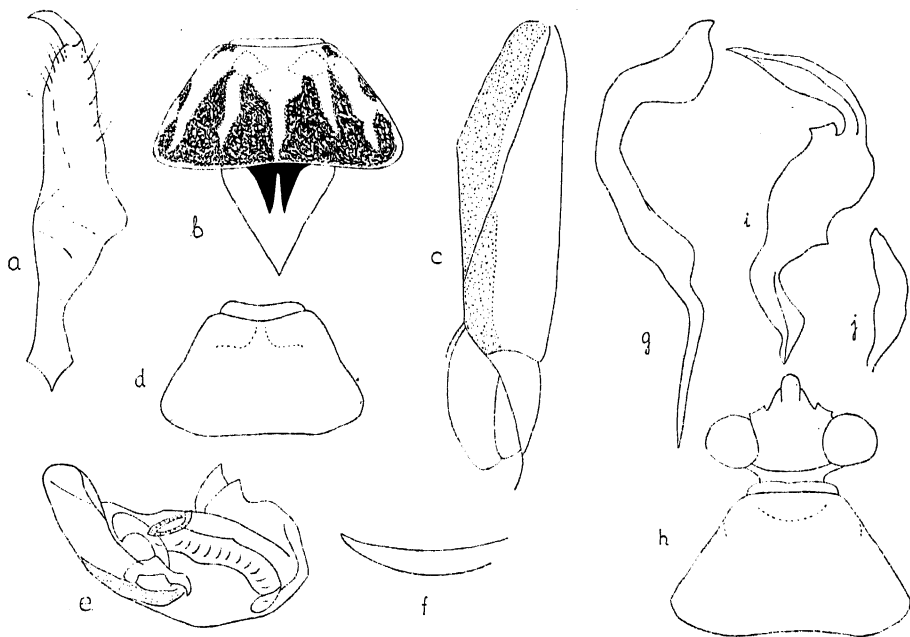


Fig. 3. *Lygus disponi* n.sp.: a right stylus; b pronotum and scutellum. — *Stenolus rubrocinctus* n.sp.: c elytron (red area stippled). — *Charagochilus angusticollis* n.sp.: d pronotum; e penis; f chitinated aedeagal appendage (stippled in the preceding figure); g left stylus. — *Deraeocoris brevicornis* n.sp.: h head and pronotum. — *Monalocoris japonensis* n.sp.: i left stylus (sensory lobe broken); j right stylus. — Orig.

is also bigger, the puncturing in the central apical part of corium is very obsolete and the male genitalia are different. *L. pachynemesis* Rt., known to me in the female sex only, is much robuster, length 6.5 mm., body only 2 × as long as broad, pronotum densely punctate and provided with large dark anterior spots. *L. discrepans* Rt. is also bigger, the pronotum is densely punctate, the dark markings of the scutellum are dissimilar (as in *L. punctatus*), the right stylus is smaller and the left stylus dissimilarly shaped. *L. varius* Kn. (from Alaska) has the basal part of the right stylus conspicuously broadening upwardly and the left stylus is robuster and dissimilarly curved.

L. campestris (L.)

Honshu, Kirigamine, Shinano, 2 spec., 10. VIII. 1959, S. MIYAMOTO. – Euro-Siberian; not previously recorded from Japan.

Cyphodema hilare Hv.

Honshu, Karuizawa, Shinano, 2 spec., 3. VIII. 1959, S. MIYAMOTO. – Endemic.

C. hilare Hv. f. *nigritula* n.f.

Head dark reddish brown, clypeus black. Pronotum, scutellum and elytra uniformly black; membrane dark smoky with a whitish spot at apex of cuneus. Under surface blackish.

Honshu, Karuizawa, Shinano, 1 ♂, 3. VIII. 1959, S. MIYAMOTO; Kyushu, Hikosan, 1 ♀, 11. VII. 1948, S. MIYAMOTO. – Possibly a valid species.

Polymerus pekinensis Hv.

Kyushu, Hikosan, Buzen, 1 spec., 16 – 19. VIII. 1958, S. MIYAMOTO. – East Asiatic; previously recorded only from China.

P. unifasciatus (F.)

Hokkaido, Berabonai, Ashoro, 1 spec., 8. VII. 1958, S. MIYAMOTO. – Holarctic.

P. palustris (Rt.)

Honshu, Karuizawa, Shinano, 2 spec., 3 – 7. VIII. 1958, M. MIYAMOTO. – Euro-Siberian.

Charagochilus angusticollis n.sp.

Length 4 – 4.5 mm. Black. Vertex with a small whitish or yellowish spot near either eye. Antennae: 1st and 2nd joints yellow-brown with apex and base narrow-

ly darkened; 3rd and 4th joints blackish. Basal margin of pronotum narrowly, apex of scutellum, basal angle of corium, costal margin of corium narrowly, apical margin of same behind cuneus and a small dash in inner apical angle of corium yellowish; cuneus dark brown with a reddish tinge both basally and apically; membrane smoky, a hyaline spot near outer cell, veins pale. Under surface black. Femora blackish with 2 irregular whitish transverse rings; fore tibiae (save a narrow median transverse ring) and basal half of other tibiae blackish, apical half and tarsi greyish or brownish.

Body relatively robust. Vertex $1.67 - 1.69 \times$ (σ) or $1.54 \times$ (φ) as broad as eye. 2nd antennal joint $3.5 - 4.14 \times$ (σ) or $2.78 \times$ (φ) as long as 1st, $1.16 - 1.27 \times$ (σ) or $1.04 \times$ (φ) as long as breadth of head, $1.75 - 1.93 \times$ (σ) or $1.56 \times$ (φ) as long as 3rd joint; 4th joint $1.25 - 1.33 \times$ as long as 3rd. Pronotum remarkably long and narrow (fig. 3 d), strongly tapering anteriorly, $1.53 - 1.6 \times$ as broad basally as long; collar broad; calli relatively well delimited, impunctate; disk coarsely and relatively sparsely punctate. Puncturing of scutellum and of elytra as in *C. gyllenhali* (FN.). Elytra and flying wings extending well beyond abdomen. Rostrum extending beyond middle coxae. Male genitalia: Left stylus (fig. 3 g) long and relatively weakly curvate. Penis (fig. 3 d - f) with a sharp falcate chitinated appendage ventrally. Right stylus as in *C. gyllenhali*.

Siberia, Ussuri, Spasskaja, some spec. (incl. the holo- and allotype), 10. IX. 1917, Y. WUORENTAUS; Kyushu, Wakasugi-yama, near Fukuoka, 2 spec., 28. VI. 1959, S. MIYAMOTO.

Robuster than *C. gyllenhali* (FN.) and *C. weberi* E.WGN.; pronotum much longer, narrower and strongly tapering anteriorly, collar broader, calli distinctly visible, puncturing of disk somewhat coarser and sparser; left stylus less strongly curvate. The chitinated aedeagal appendage is thicker and blunt in *C. gyllenhali*. *C. duplicatus* RT. is still bigger, length more than 5 mm., with 2nd antennal joint only $2.5 \times$ as long as 1st.

Proboscidocoris malayus RT.

Kyushu, Hikosan, Buzen, 1 spec., 20. VIII. 1956, S. MIYAMOTO. - Oriental. Recorded from Japan by CARVALHO 1956, p. 98.

Deraeocoris brevicornis n.sp.

Length 7.2 mm. Shining black. Basal margin of vertex faintly lighter; antennae black, 3rd and 4th joints blackish brown. Scutellum red, basal margin black. Elytra black; membrane with veins dark smoky, a small faintly lighter spot at apex of cuneus. Under surface with orificium and legs black.

Elongate. Vertex $1.15 \times$ as broad as eye; eyes prominent. Proportions between antennal joints $18 + 43 + 20 + ?$; 1st and 2nd joints thick, 1st joint $1.33 \times$ as long as vertex, 2nd joint remarkably short, only $1.16 \times$ as long as breadth of head,

3rd joint $0.47 \times$ as long as 2nd. Pronotum (fig. 3 h) $1.59 \times$ as broad basally as head, strongly tapering anteriorly, lateral margins straight, collar dull; disk remarkably coarsely punctate, punctures in the middle elongate and partly coalescent. Scutellum impunctate, upper surface distinctly below the level of pronotum when seen in profile. Elytra finely punctate; puncturing in apical part of corium and in cuneus remarkably fine. Rostrum extending to middle coxae. Hind claws as in *D. scutellaris* (F.)

Honshu, Kiyosato Kai, 1 ♂, 29 – 31. VII. 1957, S. MIYAMOTO.

Closely related to *D. scutellaris* (F.). The last-named, however, has the 2nd antennal joint much longer, $1.6 \times$ (♂) or $1.8 - 1.85 \times$ (♀) as long as breadth of the head, the pronotum much broader and less tapering anteriorly with puncturing in the disk somewhat finer and round, punctures not coalescent, the elytra more coarsely punctate, especially apically, and the rostrum longer, extending beyond the hind coxae. *D. elegantulus* Hv. from Japan has 2nd and 3rd antennal joints white.

D. ventralis Rt.

Siberia, Omsk, some spec., GRANÖ. – Euro-Siberian. Previously recorded only from Germany, Czechoslovakia and Roumania (STICHEL op.cit., p. 799).

Amphicapsus rubrolineatus (MATS.)

Kyushu, Wakasugi-Yama, near Fukuoka, 2 spec., 12, VI. 1960, S. MIYAMOTO. – Endemic.

Stenodema rubrinerve Hv.

Kyushu, Amariyama, Kai, 1 spec., 26. VII. 1956, S. MIYAMOTO. – Endemic.

Monalocoris japonensis n.sp.

Length 2.2 – 2.5 mm. Head dark yellowish brown, clypeus blackish. Antennae pale ochraceous, 1st joint with a dark basal ring, apical third of 2nd joint and 3rd and 4th joints infusate. Basal angles of pronotum and costal margin of elytra lighter; membrane smoky; upper surface otherwise blackish brown. Under surface blackish. Legs pale ochraceous, femora with a dark brown subapical ring.

A small species. Crown shining, $2.67 \times$ (♂) or $3.0 \times$ (♀) as broad as eye. Proportions between antennal joints $7 + 20 + 11 + 8.5$, 2nd joint $1.43 \times$ (♂) or $1.27 \times$ (♀) as long as breadth of head. Pronotum finely and densely punctate, $1.92 \times$ (♂) or $1.76 \times$ (♀) as broad as long. Elytra shining, puncturing very obscure. Hair covering of upper surface yellowish, rather long. Male genitalia: Left stylus (fig. 3 i) with hypophysis long, rather straight and sharp-tipped, sensory lobe conspicuously thick, apex with small teeth. Right stylus (fig. 3 j) short and relatively thick.

Kyushu, Abura-yama, near Fukuoka, 4 spec., 8. VII. 1956, S. MIYAMOTO.

Closely related to *M. filicis* (L.). The last-named, however, is bigger and broader, the vertex is $3.5 \times (\sigma)$ or $3.3 \times (\varphi)$ as broad as the eye, the pronotum is distinctly broader (about twice as broad as long) and the left stylus has the hypophysis distinctly recurved dorsad apically and the sensory lobe is strongly produced and slender, the apex with several hairs. *M. parvulus* (Rt.) from Madeira has lighter antennae with only the 4th joint darkened, the elytra distinctly and densely punctate and the hair covering of the upper surface decidedly shorter. *M. americanus* E. WGN. & SLT. from North America has the left stylus provided with a thicker hypophysis and the right stylus considerably longer and more gracile. It is interesting to note that the *Monalocoris* specimens from the continent of Asia seen by me belong to *M. filicis* (specimens examined from Ussuri, Spasskaja, Y. WUORENTAUS). *M. japonensis* thus seems to be endemic to Japan.

Onomaus laurus (UHL.)

Kyushu, Hikosan, 2 spec., 13. X. 1958, S. MIYAMOTO. – Previously regarded as a member of the genus *Dicyphus* FB. (STICHEL op.cit., p. 828). – Endemic.

Hallodapus fenestratus n.sp.

Length 2.7 mm. Dull blackish brown. Clypeus and genae light brown; eyes dark red. Antennae light ochraceous, 1st joint basally dark brown, 1st and 2nd joints with some reddish maculae. Elytra dark coffee-brown; clavus with a broad white transverse band just caudad to apex of scutellum, lateral apical angle of corium with a large squarish whitish spot (fig. 4 a), apical angle of cuneus and apex of clavus narrowly whitish; membrane with veins dark smoky. Tarsi, tibiae, base of femora and coxae light greyish ochraceous; under surface and femora dark or blackish brown.

Body gracile and small. Crown convex, $1.17 \times$ as broad as eye. Eyes round. Antennae gracile, proportions between joints $8 + 25 + 21 + ?$, 2nd joint $1.32 \times$ as long as basal width of pronotum, and nearly $1.2 \times$ as long as 3rd. Pronotum $2.1 \times$ as broad as long, strongly tapering anteriorly, lateral margins insinuated, disk relatively flat. Elytra much longer than abdomen. Entire upper surface (save membrane) with long erect yellowish hairs. Legs long and gracile. Rostrum extending to hind coxae.

Kyushu, Fukuoka, 1 ♂, 16. IX. 1960, S. MIYAMOTO.

Very similar to *H. costai* (Rt.) The last-named is dissimilarly coloured, however, and the hair covering is short and smooth. *H. sibiricus* POPP. is much bigger (5.5 mm.) and dissimilarly coloured.

Pilophorus miyamotoi n.sp.

Length 4.1 mm. Head, pronotum and scutellum blackish brown, relatively shining. 1st antennal joint and basal half of 2nd joint reddish brown, apex of

2nd joint and of the other joints infusate, the last-named otherwise light ochraceous. Scutellum with a longitudinal spot of silvery hairs at either basal angle and a transverse spot of similar hairs apically. Elytra dull cinnamon, apex of clavus and apical part of costal margin and cuneus shining and darker; a transverse band of silvery hairs at apex of basal third of corium, a second straight band from apical fourth of clavus to costal margin and an irregular band along basal margin of cuneus; membrane dark smoky, basally darker. Under surface blackish. Legs dark cinnamon.

Body relatively robust, $2.86 \times$ as long as broad. Crown $1.63 \times$ as broad as eye. Antennae remarkably short, proportions between joints $8 + 32 + 10 + 12$, 1st and 2nd joints thick, the last-named moderately thickening apically, 3rd and 4th joints thin, 2nd joint only $1.10 \times$ as long as breadth of head. Pronotum $1.89 \times$ as broad as long, lateral margins shallowly insinuated. Hair covering of the upper surface short and smooth.

Kyushu, Fukuoka, 1 ♂, 22. IX. 1956, S. MIYAMOTO.

Much resembling *P. perplexus* (DGL. & SC.), but considerably shorter and broader and antennae much shorter. *P. pusillus* Rt. is much smaller and more

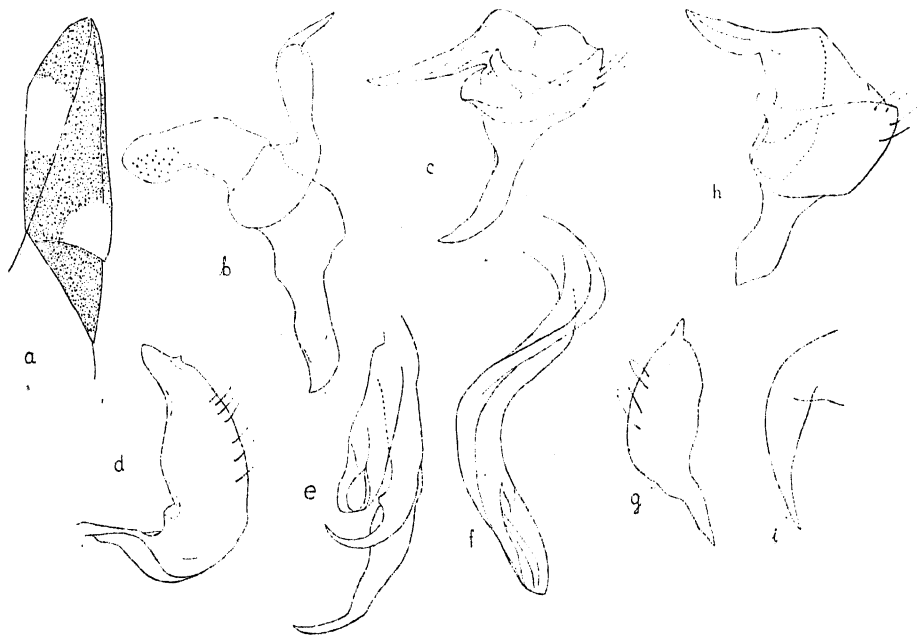


Fig. 4. *Hallodapus fenestratus* n.sp.: a elytron. - *Monalocoris japonensis* n.sp.: b left stylus (in a different aspect than in fig. 3 i). - *Psallus senjoensis* n.sp.: d right stylus; e apex of vesica; c left stylus. - *Psallus kyushuensis* n.sp.: f apex of vesica; g right stylus; h left stylus; i theca. - Orig.

gracile, the antennae are much longer and the hair covering longer. *P. sinuaticollis* Rt. has the lateral margins of the pronotum strongly insinuated and the antennae longer. *P. setulosus* Hv. is provided with long erect hairs on the upper surface, the vertex is twice as broad as the eye and the cuneus lacks the silvery band.

P. niger POPP.

Kyushu, Wakasugi-yama, near Fukuoka, 3 spec., 13. X. 1957, S. MIYAMOTO.
– Endemic.

Cyrtorhinus lividipennis Rt.

Kyushu, Otomari (Osumi), 2 spec., 30. VIII. 1951, S. MIYAMOTO. – Oriental.

Orthotylus flavosparsus (C.SB.)

Kyushu, Fukuoka, 3 spec., 19. VI. 1958. S. MIYAMOTO. – Holartic; a new record for Japan.

Halticus micantulus Hv.

Kyushu, Korasen, 3 spec., 9. VI. 1957, S. MIYAMOTO; Kyushu, Omura, Hizen, 1 spec., 4. VIII. 1952, S. MIYAMOTO. – Endemic.

Psallus wagneri OSS.

Hokkaido, Ikeda, 2 spec., 2. VII. 1958, S. MIYAMOTO. – Euro-Siberian.
Previously known from Sweden, Finland and West Siberia.

P. senjoensis n.sp.

Length 4 – 4.5 mm. Head, pronotum and scutellum dark brown with a faint greyish tinge, relatively shining. Antennae dark brown. Elytra subopaque, greyish; commissural margin of clavus and a longitudinal dash on corium faintly fuscous; membrane smoky, veins light grey. Under surface and legs greyish brown, partly tinged with greenish. Femora minutely spotted with fuscous; tibial spines black, arising from distinct black spots.

Body $3.3 \times$ (σ) or $2.6 \times$ (φ) as long as broad. Vertex $1.83 \times$ (σ) or $2.63 \times$ (φ) as broad as eye. Eyes relatively small. Antennae long and gracile, proportions between joints $9 + 40 + 30 + ?$ (σ) or $9 + 29 + ? + ?$ (φ), 2nd joint $1.14 \times$ (σ) or $0.83 \times$ (φ) as long as basal width of pronotum. Pronotum $1.5 - 1.6 \times$ as broad basally as head, $2.33 \times$ as broad as long. Elytra extending well beyond abdomen. Hair covering of upper surface yellowish brown, obliquely erect and dense; in addition shorter smooth whitish hairs present on elytra. Rostrum extending to hind coxae. Claws distinctly curved about as in *P. luridus* Rt. Male genitalia: Left stylus (fig. 4 c) with hypophysis rather straight; sensory lobe with a short

process somewhat curved upwardly. Right stylus (fig. 4 d) provided with a subapical tooth. Theca relatively thick. Vesica (fig. 4 e) with two falcate apical processes.

Honshu, Kitazawa, Mt. Senjo, 1 ♂ and 3 ♀♀, 27. VII. 1959, J. MIYATAKE.

The new species belongs to the subgenus *Pityopsallus* E. WGN. It seems to be related to *P. luridus* Rt., but differs from this and the other species of the subgenus in the colouring with dark fore and middle body and light greyish elytra. The male genitalia are also characteristic.

P. k y u s h u e n s i s n.sp.

Length 3.2–3.5 mm. Uniformly reddish brown, rather dull. Antennae with some obscure reddish spots. Head and pronotum a little darker, elytra lighter; cuneus somewhat tinged with reddish; membrane light brownish smoky, veins light brown. Femora dark reddish, unmarked except for 2 small black hair-bearing apical spots; tibiae and tarsi light greyish ochraceous, the former spotted with dark.

Body 2.3–2.4 × as long as broad. Vertex 0.8 × (♂) or 1.63 × (♀) as broad as eye. Eyes of male remarkably large. Proportions between antennal joints 8 + 29 + 20 + 14 (♂) or 7 + 25 + 18 + 12 (♀); 2nd joint 1.1 × (♂) or 0.9 × (♀) as long as basal width of pronotum. Pronotum 1.3–1.35 × as broad as head, 2.25 × (♂) or 2.7 × (♀) as broad as long. Elytra extending well beyond abdomen. Entire upper surface densely pubescent with long obliquely erect yellowish hairs and with smooth silvery hair groups. Rostrum extending to middle coxae. Legs gracile. Claws as in *P. luridus* Rt. Male genitalia: Left stylus (fig. 4 h) robust, hypophysis rather short, digitate, slightly curved upwardly; sensory lobe with a short process. Right stylus (fig. 4 g) relatively thick, ending in a short slender apex. Theca (fig. 4 i) remarkably slender. Vesica (fig. 4 f) slender, apex without processes.

Kyushu, Fukuoka, 1 ♂ and 2 ♀♀, 24. VII. 1959, S. MIYAMOTO.

This species likewise belongs to *Pityopsallus*. It is related to *P. obscurellus* (FN.) but dissimilarly coloured and has larger eyes (♂). *P. opacus* Rt. has much smaller eyes (the vertex 2–2.5 × as broad as the eye) and the rostrum extends to the hind coxae.

Plagiognathus lividus Rt.

Kyushu, Masutomi, Kai, 2 spec., 9. VII. 1957, S. MIYAMOTO. – East Asiatic. Previously recorded from China.

Campylomma lividicornis Rt.? (or n.sp.)

Kyushu, Amakusa, Hizen, 4 spec., 8. X. 1958, S. MIYAMOTO. – Oriental, not previously recorded from Japan.

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