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Four new species of *Psallus* FIEB. from China (Insecta, Hemiptera, Heteroptera: Miridae)

With 18 Figures

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Psallus (Phylidea) mali sp. n.

Male Oval, body length about 2.86x pronotum width. Dark brown to blackish-brown, shining. Pubescence dense and long, recumbent scale-like hairs silvery; reclining straight hairs dark brown to black, those on head light-coloured. Head yellowish-brown, with disk of frons extensively blackish-brown to brown (or only with series of dark parallel transverse stripes), hind margin of vertex brown, tylus black. Width vertex = 2.0x eye width. Antennal segments I, II & III ochraceous, with dark pubescence; segment I blackish at base, 2 setae at the middle of segment usually dark and with dark spot at base; segment IV dark. Antennal segments length = 0.25 : 1.0 : 0.60 : 0.33 mm. Rostrum extending to apex of hind coxae. Pronotum very shallowly and sparsely rugulose, calli darker in colour. Scutellum dark, shallowly rugulose, apex yellowish. Sub-lateral area of exposed mesonotum yellowish. Apical angle and inner apical angle of corium narrowly yellowish. Cuneus reddish-brown, transparent basally. Membrane smoky, veins concolorous or a little paler, a spot behind cuneal apex white. Legs pale, femora sometimes darker (light brown), both outer and inner side colour patterns of hind femora closely resemble those of *Pallus koreanus* JOSIFOV, 1983. Tibial spines black, with black spot at base. Genital segment ventrally faintly keeled. Claspers, theca, and details of vesica as shown in figs. 1–4.

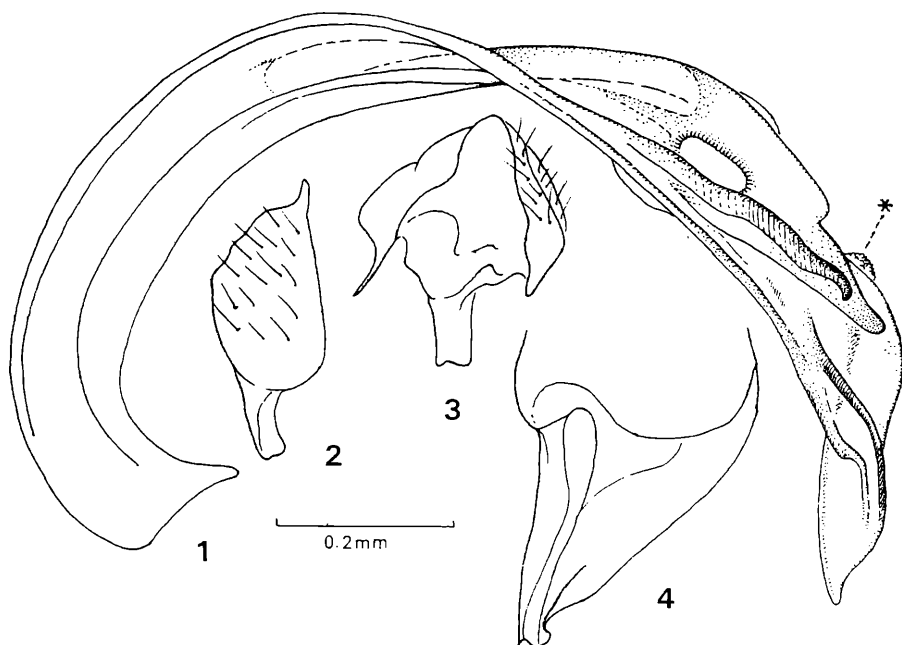
Body length: 3.53–3.67 mm.

Female Body length about 2.92x pronotum width. Light-brown, sometimes with a reddish hue. Vertex with series of dark parallel transverse stripes. Tylus dark. Calli dark brown, cuneus reddish. Vertex width = 2.25x eye width. Antennal segments length = 0.24 : 0.93 : 0.60 : 0.38 mm.

Body length: 3.45–3.59 mm.

Holotype ♂ & **paratypes** 10 ♂♂ 20 ♀♀, Chang-chia-chun, Kansu Prov., China, VI. 1988; **paratypes** 1 ♂ 3 ♀♀, Kao-ling, Shensi Prov., China, V–VI. 1988 (Nankai Univ.). All on apple tree (*Malus pumila*), causing damage to young fruit of apples.

This new species relates closely with *P. koreanus* JOSIFOV, 1983 both in habitus and structures of male genitalia. Details of vesica close to those referring to *sanguinolentus* (synonymized with *P. koreanus* JOS. by KERZHNER, 1988), but the sclerotized spine next to the gonopore is much longer, extending far away from the gonopore and bending sub-apically; the proximal angle of the apical lobe (marked with an asterik in fig. 1 of this paper) is distinctly crenulate. The vertex is sometimes broader than in *P. koreanus*. Both the *P. koreanus* and *P. sanguinolentus* have been considered as members of subgenus *Psallus* when they were erected (JOSIFOV, 1983), but later KERZHNER (1988) put the *P. koreanus* in subgenus *Phylidea*. Judging from the dark general colouration and structure of aedeagus, we agree with the later opinion, and in the meantime consider the new species as a member of *Phylidea*.

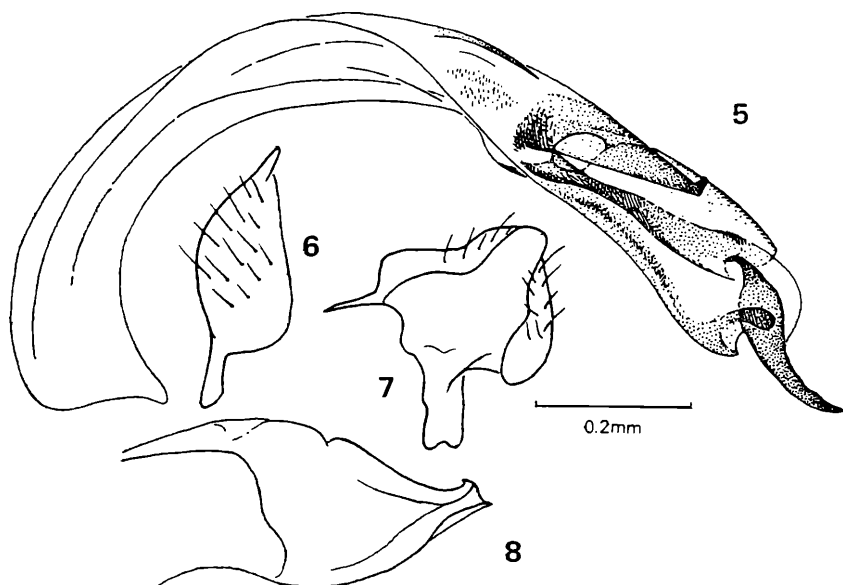


Figs. 1–4: *Psallus (Phylidea) mali* sp. n.
1: Vesica – 2: right clasper – 3: left clasper – 4: theca.

***Psallus (Phylidea) fukienanus* sp. n.**

Male Oval, body length about 2.85x pronotum width. Dull chestnut-brown to blackish-brown, shining. Pubescence long, very dense, recumbent sericeous scale-like hairs sometimes contact each other side by side; reclining straight hairs on head, pronotum and basal part of hemelytra mostly pale, gradually darkened posterad. Head light brown to dull brown, apical portion sometimes reddish. Vertex width = 1.58x eye width. Antennae light-yellow, pubescence concolorous; segment I medially with 2 dark setae, sometimes concolorous, basis of this segment blackish brown; segment IV apically darkened. Antennal segment length = 0.24 : 0.93 : 0.54 : 0.32 mm. Rostrum extending to apex of hind coxae. Pronotum, scutellum and hemelytra almost unicolorous, apex of corium sometimes tinged with reddish hue, cuneus reddish-brown, basally pale. Membrane smoky brown, a white spot posterior to cuneal apex extending mesially to the center of membrane, a small spot at the middle of basal margin of large cell white. Membranal veins smoky, with transverse vein ("Querader" of E. WAGNER) and proximal part of cubital vein pale. Underside of thorax and coxae dull light-brown. Ostiolar peritreme yellowish white. Femora light-brown to brown, visibly speckled with dark brown spots. Tibiae pale yellow, spines black, with large black spots at base. Comparative length of hind tarsal segments = 4.5 : 7 : 7. Genital segment ventrally keeled. Claspers, theca and vesica as shown in figs. 6–7, 8, 5 respectively. Body length: 3.43–3.89 mm.

Female Body length about 2.65x pronotum width. Light-brown or reddish-brown, general colouration paler than ♂, sometimes pronotum laterally yellowish, proximal part of clavus and corium paler. In reddish individual the black spot at the base of tibial spine usually with reddish hue, very large and coalescent with neighbouring ones. Body length: 3.63–3.95 mm.



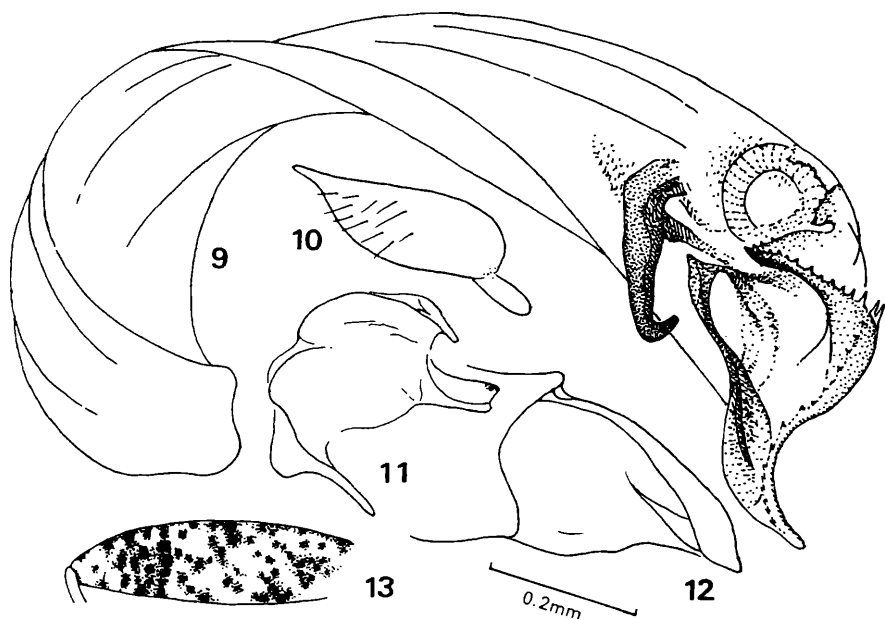
Figs. 5–8: *Psallus (Phylidea) fukienanus* sp. n.
5: Vesica – 6: right clasper – 7: left clasper – 8: theca.

Holotype ♂, Fuchow, Fukien Prov., China, 4.V.1965, L. C. WANG leg. (Nankai Univ.).
Paratypes 5 ♂♂ 3 ♀♀, same locality and date as holotype, S. L. LIU leg. (Tianjin Museum of Natural History).

***Psallus (Psallus) guttatus* sp. n.**

Oval, body length about 0.81–0.82x pronotum width. Ground colour pale yellowish, speckled with pinkish spots. Pubescence dense, moderately long, reclining straight hairs black. Head rather densely and irregularly spotted with dark brown spots, 4–5 rows short transverse stripes gradually weakened mesad at each side of frons intermingled with dark spots. Vertex width = 1.37(♂)x or 1.92(♀)x eye width. Antennae pale yellowish to light-brown, pubescence mostly concolorous, a few hairs darker; segment I basally blackish-brown, medially with 2 black setae with large black spot at its base. Antennal segments length = 0.26 : 1.10 : 0.52 : 0.26 mm (♂) or 0.23 : 1.28 : 0.63 : 0.30 mm (♀). Rostrum far surpassing apex of hind coxae, in ♂ reaching the basal part of pygophore. In ♀, pronotum covered throughout with small pink spots irregular in shape and size, intermingled with dark, small round blackish-brown spots at the base of some hairs; in ♂ the pink spots very few and indistinct. In ♀, the pink spots on scutellum, clavus and proximal part of corium irregular in shape and size. Scutellum usually with a pale longitudinal middle line, exposed part of mesoscutum extensively dark brown at both sides of the pale middle line. Most of corium pinkish in colour due to the dense and coalescent pink spots intermixed with a few small brownish round spots at base of some hairs. In ♂, general colouration of scutellum and corium a little more brownish. Cuneus pinkish red, basally with a median pale spot, apex yellow. Membrane dark smoky, with a pale spot behind cuneal apex, veins pale yellow. Body beneath mottled with reddish and light-brownish spots. Femora pale, tinged with light-brownish hue, outside very densely speckled with large blackish-brown spots, sizes of which more or less regular, mostly roundish and touching with each other (fig. 13). Claspers, theca, and vesica as shown in figs. 9–12. Vesica stout, apically rimmed with toothed wavy margin, a hooked sclerotized process arising proximally of secondary gonopore.

Body length: 3.22–3.84 mm.



Figs. 9–13: *Psallus (Psallus) guttatus* sp. n.

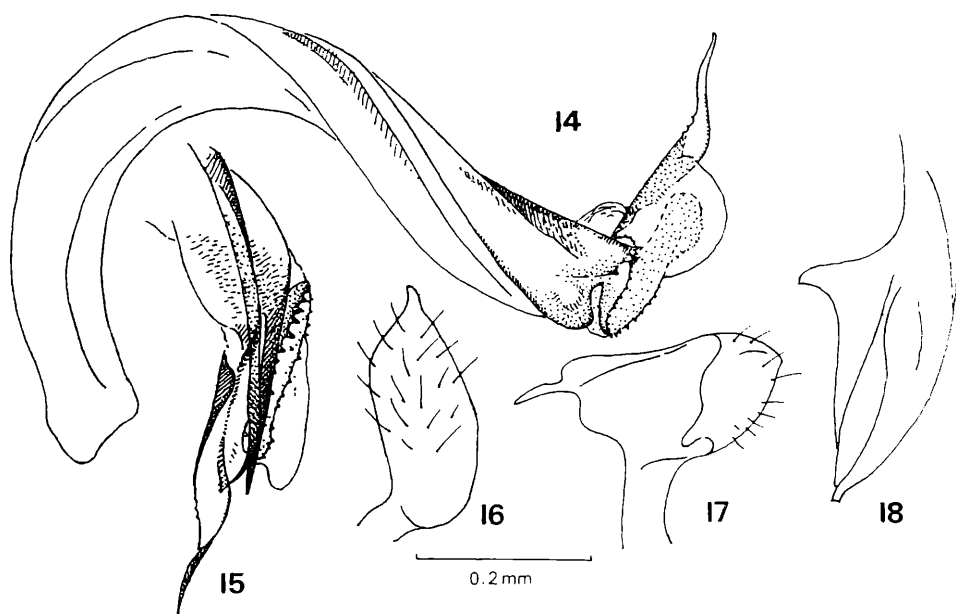
9: Vesica – 10: right clasper – 11: left clasper – 12: theca – 13: outside view of hind femur (Scale used for figs. 9–12).

Holotype ♂ & paratypes 4 ♀♀, Mt. Omei, Szechwan Prov., China, 20.IV 1957, L. Y. ZHENG & H. H. CHENG leg. (Nankai Univ.).

The overall shape of vesica (with a stout and blunt apex) somewhat allies this new species to *P. (s. str.) tesongsanicus* JOSIFOV, 1983 from Korea, but the details of vesical structure differ greatly from the latter species.

***Psallus (Pityopsallus) hani* sp. n.**

Oval, body length about 2.71x pronotum width. Pubescence moderately long, reclining straight hairs black. Ground colour of head yellow to dull yellowish-brown, vertex apically with 4 blackish-brown spots arranged in a broad transverse arc, with lateral ones touching eyes; area surrounding antennal sockets, a small spot at base of tylus, and apex of tylus blackish-brown; frons with parallel transverse rows of dark stripes at each side (which may coalescent with the spots on vertex, then the whole lateral area of frons will be solidly blackish-brown). Vertex width = 1.82(♂)x or 2.2(♀)x eye width. Antennae yellowish to pale yellowish-brown, pubescence concolorous, segment I basally blackish-brown, 2 setae at the middle of this segment brownish, without dark spot at its base; segment II apically and segment IV darkened. Antennal segments length = 0.20 : 0.77 : 0.46 : 0.28 mm. Rostrum extending to middle coxae. Pronotum with anterior lobe (or the calli only), lateral part of posterior lobe, and proximal margin blackish brown, most of posterior lobe light pinkish-brown, with longitudinal median line broadly yellowish. Scutellum dull yellowish brown to blackish brown, longitudinal median line pale, widened distad. Exposed part of mesoscutum mesially blackish brown, laterally yellowish or pinkish. Clavus, proximal and mesal part of corium greyish to pale greyish brown, rest of corium light brown to blackish brown. Cuneus dark reddish-brown, rather extensively pale at base, apical margin narrowly yellow. Membrane whitish, centrally with a dark smoky marking running along the cubital vein and then greatly widened, extending to apex of membrane, veins pale yellow, each cell with a large smoky spot. Thoracic pleura blackish brown. Venter brownish. Ostiolar peritreme

Figs. 14–18: *Psallus (Pityopsallus) hani* sp. n.

14: Vesica — 15: apical portion of vesica — 16: right clasper — 17: left clasper — 18: theca.

yellowish-white. Coxae, basal half of femora pale; distal half of femora brown, vaguely with rows of dark-coloured spots. Tibiae yellowish, tibial spine black, as long as width of tibia, length of hind tarsal segments = 0.13–0.17 : 0.24 mm. Claspers, theca, and vesica as shown in figs. 14–18.

Body length: 3.17–4.0 mm.

Holotype ♂, An-yang, Honan Prov., China, 18. IV. 1954, Y. H. HAN leg., from *Triticum sativa*. **Paratype** 1 ♂, same locality as holotype, 2. V 1956, Y. H. HAN leg., from *Pyrus* sp. (Institute of Zoology, Academia Sinica).

The elongate 3rd tarsal segment of hind leg, general colouration and type of vesica all indicate that this new species is a member of subgenus *Pityopsallus*. The details of vesical structure differ from other known species in having a twisting band with toothed margin at the subapical part of vesica, the apical lobe narrow and toothed with only a few small marginal teeth.

The new species is named for the Chinese thysanopterist Y. H. HAN, the collector of the type material.

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