A new species in the genus *Pachypeltis* (Hemiptera: Miridae) from China

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Abstract: A diagnosis of the genus *Pachypeltis* Signoret, 1858 is provided and one new species, *P. micranthus* sp. nov., is described from Yunnan, China. Photographs of the dorsal habitus and illustrations of the male genitalia of this new species are provided. A key to the species of *Pachypeltis* occurring in China is given.

Key words: Bryocorinae; taxonomy; key

中国颈盲蝽属一新种（半翅目：盲蝽科）

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摘要：记述中国颈盲蝽属 1 新种：薇甘菊颈盲蝽 *Pachypeltis micranthus* sp. nov.。重新描述了该属属证，提供了新种虫体背面观照片和雄性外生殖器图，以及颈盲蝽属中国种类的检索表。

关键词：单室盲蝽亚科；分类；检索表

Introduction

Signoret (1858) established the genus *Pachypeltis* Signoret, 1858 to include a single species *P. chinensis* Signoret, 1858 from China. Reuter (1910) synonymized *Disphinctus* Stål, 1871 (type species: *D. sahlbergii* Stål, 1871 from the Philippines) with *Pachypeltis*. *Pachypeltis* currently contains 22 species: *P. anadyomene* (Kirkaldy, 1902) (Singapore), *P. annulipes* Poppius, 1912, *P. marginalis* Poppius, 1912 (both from New Guinea), *P. chinensis* Signoret, 1858, *P. biformis* Hu & Zheng, 1999 (both from China), *P. corallinus* Poppius, 1915 (Taiwan of China), *P. brevirostris* Poppius, 1912, *P. sumatrator* (Kirkaldy, 1902) (both from Indonesia: Sumatra), *P. dudgeoni* (Kirkaldy, 1902) (Sikkim and Bhutan), *P. elegans* (Distant, 1904) (Burma), *P. fallenii* (Stål, 1871), *P. haglundii* (Stål, 1871), *P. philippinensis* (Distant, 1910), *P. reuteri* (Stål, 1871), *P. sahlbergii* (Stål, 1871), *P. stali* (Distant, 1910) (all from the Philippines), *P. gigas* Carvalho, 1981 (Borneo), *P. humerale* (Walker, 1873) (Peninsular Malaysia), *P. javanus* Poppius, 1914, *P. vittiscutis* (Bergroth, 1894) (both from Indonesia: Java), *P. maesarum* (Kirkaldy, 1902) (Sri Lanka and India), and *P. politum* (Walker, 1873) (Sri Lanka, China, and Malaysia: Sarawak).

Zheng & Liu (1992) described *P. cinnamomi*, *P. sassafri* and *P. wangi*. Hu & Zheng (1999) transferred all of these species to *Mansoniella* Poppius, 1915. Namyatova & Cassis (2016) systematically revised and redescribed the *Pachypeltis*.

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The present paper provides a description of *Pachypeltis micranthus* sp. nov. A key to the species of *Pachypeltis* from China is given. Color habitus images and illustrations of the male genitalia are provided. Detailed collection data are provided for all examined specimens.

Material and methods

Male genitalia were examined from temporary slide mounts in glycerol using an Olympus SZ-ST microscope. Photographs of adults were taken by a Nikon SMZ1000 digital camera. A summary of measurements is given in Table 1. The type specimens and additional examined specimens are deposited in the Institute of Entomology, College of Life Sciences, Nankai University, Tianjin, China.

Taxonomy

Pachypeltis Signoret, 1858

Pachypeltis Signoret, 1858: 501. Type species: *Pachypeltis chinensis* Signoret, 1858, by monotypy.

Pachypeltis: Walker, 1873: 164; Atkinson; 1890: 51; Reuter; 1903: 2; Kirkaldy; 1906: 134; Kuhlgatz; 1906: 29; Reuter; 1910: 153; Hsiao; 1942: 250; Carvalho; 1952: 59; Carvalho; 1955: 40; Carvalho; 1957: 140; Steyskal; 1973: 206; Carvalho; 1981: 41; Schuh; 1995: 520; Hu and Zheng; 2001: 421; Schuh; 2002–2013; Namyatova and Cassis; 2016: 106.

Disphinctus Stål, 1871: 668. Type species: *Disphinctus sahlbergii* Stål, 1871, by subsequent designation (Kirkaldy; 1902: 294) (syn. by Reuter 1910:166).

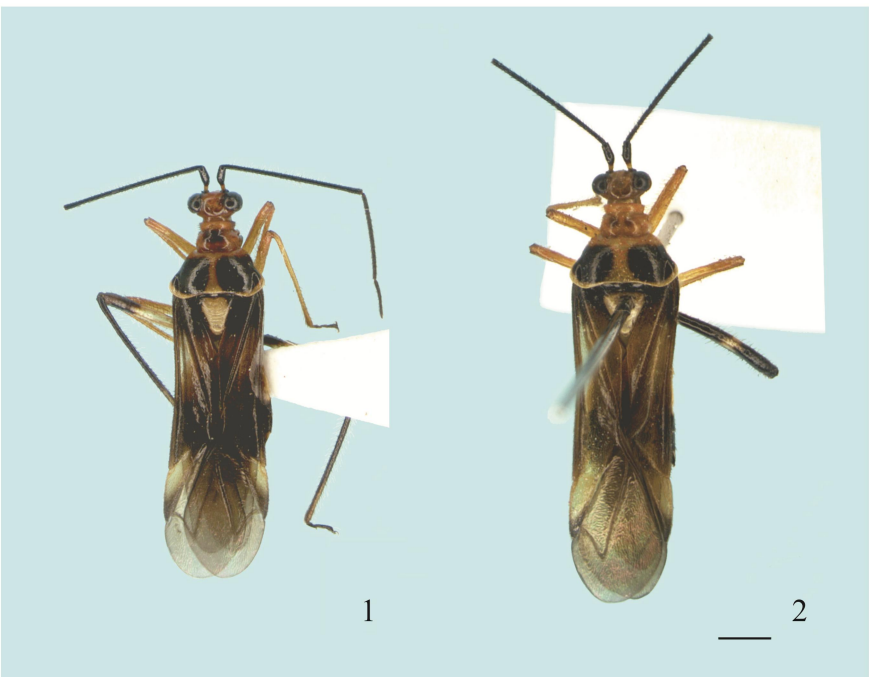
Diagnosis. Body relatively large, slender, hemelytra with lateral margins parallel, covered with pale or dark simple setae. Head wider than long, with short neck, frons convex, without ridges or spines, vertex shining, posterior margin without carina. Eyes located at middle of lateral side of head, distance to anterior margin of pronotum subequal to diameter of middle of antennal segment I. Antennal segment I short, length subequal to width of vertex, slightly incrassate around middle; segments II–IV filiform, segment II about 3.5–5.8 times as long as segment I, covered with long erect setae which are slightly longer than diameter of segment, segments III–IV slender. Length of rostrum varying from slightly surpassing anterior margin of mesosternum to almost reaching middle of mesosternum. Pronotum shining, strongly constricted subapically and around middle, divided into anterior collar, anterior lobe and posterior lobe, lateral margin of posterior lobe concave, posterior margin biconvex, mesal portion concave, posterior lateral angles rounded, calli merged. Mesoscutum narrowly exposed, scutellum flat, apex often rounded. Hemelytra covered with dense setae, with basal third straight or slightly constricted, outer margin of clavus and inner margin of embolium with rows of punctures, cuneus about 1–4 times as long as wide. Membrane distinctly longer than pronotum, its cell distinctly acute. Legs long, slender, covered with dense setae which are longer than diameter of segment, hind femur often distinctly curved. Pygophore longer or shorter than wide, left paramere 3.5–4 times as long as right paramere, vesica with fields of spicules.

Species of *Pachypeltis* are superficially similar to members of *Eupachypeltis* Poppius, 1915 but they are distinguished from the latter by the frons lacking a hirsute protuberance, the cuneus being longer, and the longer pilosity of the body.

Key to species of *Pachypeltis* from China

1. Corium with distinct dark spots apically····· 2
-. Corium without distinct dark spots apically, sometimes with dark suffusion·····3
2. Head with a mesal black spot; pygophore black····· *P. chinensis*
-. Head without mesal black spot; pygophore orange-brown····· *P. politum*
3. Antennal segment I orange; corium orange to orange-brown; metafemur entirely orange·····*P. corallinus*
-. Antennal segment I yellowish brown to blackish brown; corium yellowish brown to black; metafemur blackish brown to black at least apically····· 4
4. Scutellum pale yellowish white, blackish brown laterally; metafemur blackish brown, with a pale yellow brown loop at middle; left paramere with a triangular protuberance around middle····· *P. micranthus* **sp. nov.**
-. Scutellum orange to orange-brown; metafemur yellowish brown, apical third blackish brown; left paramere without distinct triangular protuberance around middle·····*P. biformis*

***Pachypeltis micranthus* sp. nov.** (Figs. 1–5)



Figures 1, 2. Dorsal habitus views of *Pachypeltis micranthus* sp. nov. 1. Male; 2. Female. Scale bar = 1 mm.

Diagnosis. Male. Body of medium size, slender, orange brown, covered with brown, suberect or erect setae. Vertex with a pair of small circular concavities at middle; head and pronotum orange, posterior lobe of pronotum with a pair of large, blackish brown spots reaching propleuron; scutellum pale yellowish white, lateral margin blackish brown; base of corium, a large spot on apex of corium and apex of cuneus brown; metafemur blackish brown, middle with a broad, pale yellowish white loop; antenna blackish brown. The new species is most similar to *P. reuteri* in appearance, but it is distinguished from the latter by the two large brown patches on pronotum. It is similar to *P. biformis*, but can be separated from the latter species by the lack of sexual dimorphism, the scutellum being pale yellowish white and

blackish brown laterally, the metafemur being provided with a pale yellowish brown loop at middle, and the left paramere being provided with a triangular protuberance around its middle. And the new species can be distinguished from *P. humerale* by the spots on pronotal posterior lobe reaching propleuron; and the basal half of left paramere with a triangular protuberance around its middle. It is also close to *P. maesarum*, but can be easily separated from *P. maesarum* by the spots on pronotal posterior lobe not reaching post margin, and the structure of male genitalia.

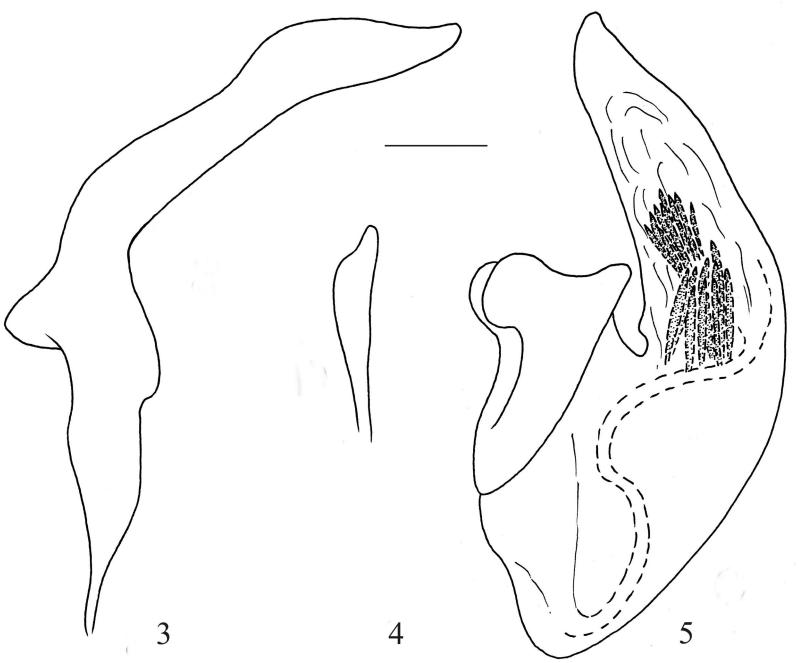
Male. Head. Head transverse in dorsal view, oval, 1.84–1.93 times as broad as its length, nearly vertical in lateral view, orange, vertex sometimes brownish at middle, shining, with distinct neck, covered with sparse brown and suberect setae. Vertex slightly convex, with a pair of small circular concavities at middle, vertex about 1.67 times as wide as eye, median longitudinal groove inconspicuous, posterior margin without carina; eyes black brown, oval in lateral view, semicircular in dorsal view; frons slightly convex in lateral view; clypeus convex, nearly vertical, shining, apical half covered with sparse, brown and long setae; lateral margin of head entirely orange, shining; rostrum stout, yellow, apically brown, base of procoxa covered with sparse, pale, long and suberect setae; rostrum yellow, with apex blackish brown, apex slightly surpassing procoxa. Antenna slender, blackish brown, covered with brown, suberect or erect setae; antennal fossae black brown; segment I stout, constricted basally, middle slightly incrassate, black brown, basal fourth yellow, covered with suberect setae, setae shorter than median diameter of this segment; segment II slightly thinner than apex of segment I, slender, covered with suberect short setae and erect long setae, the short setae shorter than setae on segment I, apex denser, the long setae more than two times as long as diameter of this segment; diameter of segment III equal to that of segment II, slightly shorter than segment II, covered with suberect short setae and erect long setae, short setae denser than those on segment II, long setae shorter than those of segment II, slightly longer than diameter of this segment; segment IV short, thinner than segment III, tapering toward apex.

Thorax. Pronotum constricted at middle, divided into two lobes, orange brown, shining, covered with dense, brown, long and erect setae. Collar is not obvious, callus concave, large, with median longitudinal groove, with a large obscure brown patch at middle of anterior lobe; posterior lobe slightly convex, lateral margin concave at middle, posterior lateral angles rounded, posterior margin convex at the two sides, strongly concave at middle, posterior lobe with a pair of large black brown spots not reaching posterior lateral angles of pronotum, the spots reaching propleuron. Propleuron orange, mesopleuron yellowish brown, metapleuron black brown, shining. Mesoscutum narrowly exposed, exposed portion black brown. Ostiolar peritreme slender, blackish brown. Scutellum broadly triangular, apex rounded, convex, with transverse wrinkles, pale yellowish white, lateral margins blackish brown, covered with dense, pale, long and suberect setae. Hemelytra with costal margins parallel in rest, concave around middle, yellow brown, covered with dense, brown, short and suberect setae; vein on middle of clavus shallow, outer margin with a row of punctures, basal third blackish brown, apex pale brown; basal angle and apical angle of corium each with large blackish brown spot, the apical spot longer than scutellum, sometimes pale, margin indistinct; embolium narrow, broadly toward apex, dark yellow brown, inner margin with a row of punctures; cuneal fracture obvious, hemelytra weakly deflexed at fracture, cuneus slender, triangular, yellowish brown, inner margin and apical third brown. Membrane infuscate, semitransparent, longitudinally

wrinkled, vein pale yellow brown, with a single cell, its apex sharp, enclosing an angle of about 45°. Legs slender, covered with brown setae, pro- and mesocoxae orange yellow, mesocoxa brownish basally, metacoxa black brown; femur slightly incrassate near apex, ventral setae long, pro- and mesofemora pale yellow, apical third orange, metafemur black brown, with a broad pale yellow-white loop at middle, occupying about one third of femur; tibiae slightly curved, slightly incrassate apically, pro- and mesotibiae orange, brownish apically, metatibiae black brown, apical fourth pale dorsally, setae longer than diameter of this segment, with a row of small brown spines; tarsus 3-segmented, segment II shortest, brown, black brown apically; claws black brown.

Abdomen. Lateral margin of abdomen exposed in dorsal view, pale greenish yellow, lateral margin of segments V–VIII with black brown spots basally, covered with pale suberect setae.

Male genitalia (Figs. 3–5). Pygophore blackish brown, covered with pale and suberect setae, length approximately one sixth that of abdomen. Vesica (Fig. 5) simple, membranous, with two clumps of narrow, sclerotized spicules, one clump thicker than the other. Left paramere (Fig. 3) slender, basal half with a tumescence, with a triangular protuberance around its middle, slightly incrassate near apex; right paramere (Fig. 4) narrow, slightly incrassate at middle.



Figures 3–5. Male genitalia of *Pachypeltis micranthus* sp. nov. 3. Left paramere; 4. Right paramere; 5. Aedeagus. Scale bar = 0.01 mm.

Female. Similar to male but slightly longer and wider, coloration paler, spots on apex of corium paler, median pale loop on metafemur thinner, occupying about one fourth of femur, and anterior lobe of pronotum occasionally entirely black brown.

Etymology. This species is named after the host *Mikania micrantha* Kunth.

Holotype. ♂, **China,** Ruili City, Yunnan Province, 26-XI-2010, 840 m, leg. Sangzi ZE. **Paratypes.** 7♂9♀, same data as holotype.

Other specimens examined. **China,** Yunnan, Rare Species Botanical Garden, Ruili City, 1000 m, 31-VII-2006, leg. Ming LI (2♂); Kunming, 20-I-2010, leg. Sangzi ZE (1♂).

Distribution. China (Yunnan).

Table 1. Measurements of *Pachypeltis micranthus* sp. nov. (in mm)

sex	Body Length/width	Antennae I:II:III:IV	Head length/width	Pronotum length/width	Cuneus length/width
Males (n = 11)	6.93–7.56 1.70–1.94	0.45–0.52: 2.56–2.76: 1.59–1.70: 0.74–0.80	0.56–0.57 1.05–1.08	1.31–1.36 1.82–1.90	0.91–1.02 0.40–0.45
Females (n = 9)	8.07–8.52 1.89–1.99	0.56–0.57: 2.61–2.82: 1.70–1.76: 0.82–0.85	0.50–0.51 1.14–1.15	1.14–1.36 2.13–2.25	1.12–1.14 0.41–0.51

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