

Camptibia obscura, gen. and sp. n. (Heteroptera: Reduviidae: Harpactorinae) from China

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Abstract. A new harpactorine reduviid, *Camptibia obscura*, gen. et sp. n., from China is described. A key to related genera is provided. The functional morphology of the fore legs of this species is discussed.

INTRODUCTION

The subfamily Harpactorinae is the largest and most poorly studied subfamily of the Reduviidae. More than 300 genera and 2000 species are known (Putshkov & Putshkov, 1985; Maldonado-Capriles, 1990). Most of the Oriental species of this subfamily are listed in the works of Stål (1874), Distant (1904), Miller (1940, 1948) and Hsiao & Ren (1981). About 150 valid species of Chinese assassin bugs in 43 genera in this subfamily have been reported prior to this study (Hsiao & Ren, 1981; Ren, 1988; Cai, 1991, 1995; Putshkov & Putshkov, 1996; Hua, 2000). During revisionary work on East Asian Reduviidae, we found a remarkable species with strange tibiae. This interesting reduviid can't be placed in any known genus of Reduviidae. So, we have erected a new genus for this species.

Camptibia, gen. n.

Type species of genus. *Camptibia obscura*, sp. n.

Distribution. China.

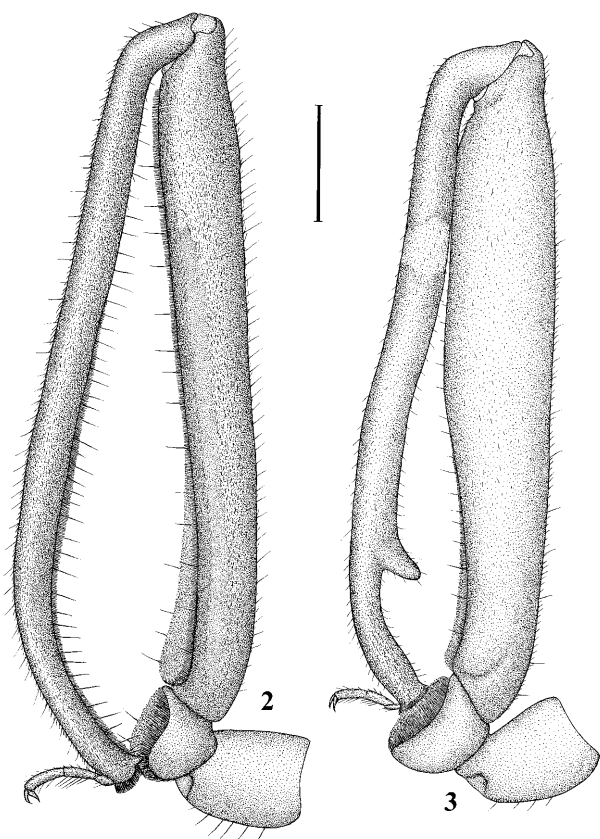
Diagnosis. Large sized, elongate. Head distinctly shorter than pronotum (Fig. 1); eyes medium sized, protruding laterally; ocelli widely separated; anteocular portion subequal to postocular portion in length, with a small tubercle posterad to each antennifer; first antennal segment nearly as long as head and pronotum together, third nearly twice as long as second; rostrum robust, first segment the longest and slightly longer than the other two segments (Fig. 4). Anterior pronotal lobe small, slightly sculptured; posterior pronotal lobe nearly twice as long and wide as anterior pronotal lobe; lateral pronotal angles angled, posterior margin of pronotum slightly concave; stridulitrum of subwide, total-striate type (Cai et al., 1994); scutellum unarmed; fore femora medially thickened, mid and hind leg slender; tibiae without spongy fossa, apical 1/3 of fore tibiae distinctly bent (Fig. 2).

Etymology. "Camp" in Greek means bent. The genus is so named because the type species has bent fore tibiae. Feminine.

Remarks. The new genus is similar to *Rihirbus* Stål (Fig. 3), but the fore tibiae of the new genus never have big teeth-like projections subapically. The structure of the fore tibiae also resembles that in the genus *Agyrius* Stål, 1863 but the femur of the new genus is not distinctly thickened and the first antennal segment is much longer than the head. It is similar to *Villanovanus* Distant in general body plan, especially the male, but it belongs to a member of new genus because its fore tibiae are distinctly bent. The new genus resembles *Brassivola* Distant in the structure of the fore tibia, but the pronotum of the latter have four erect discal spines and lateral pronotal angles have horizontally directed spines. The new genus belongs to the tribe Euagorasini Distant, 1904 (as a division, Euagorasaria) according to Hsiao & Ren's (1981) as it has an postantennal tubercle and each femur lacks a spine.

A KEY TO THE GENERA MORPHOLOGICALLY SIMILAR TO *CAMPTIBIA*

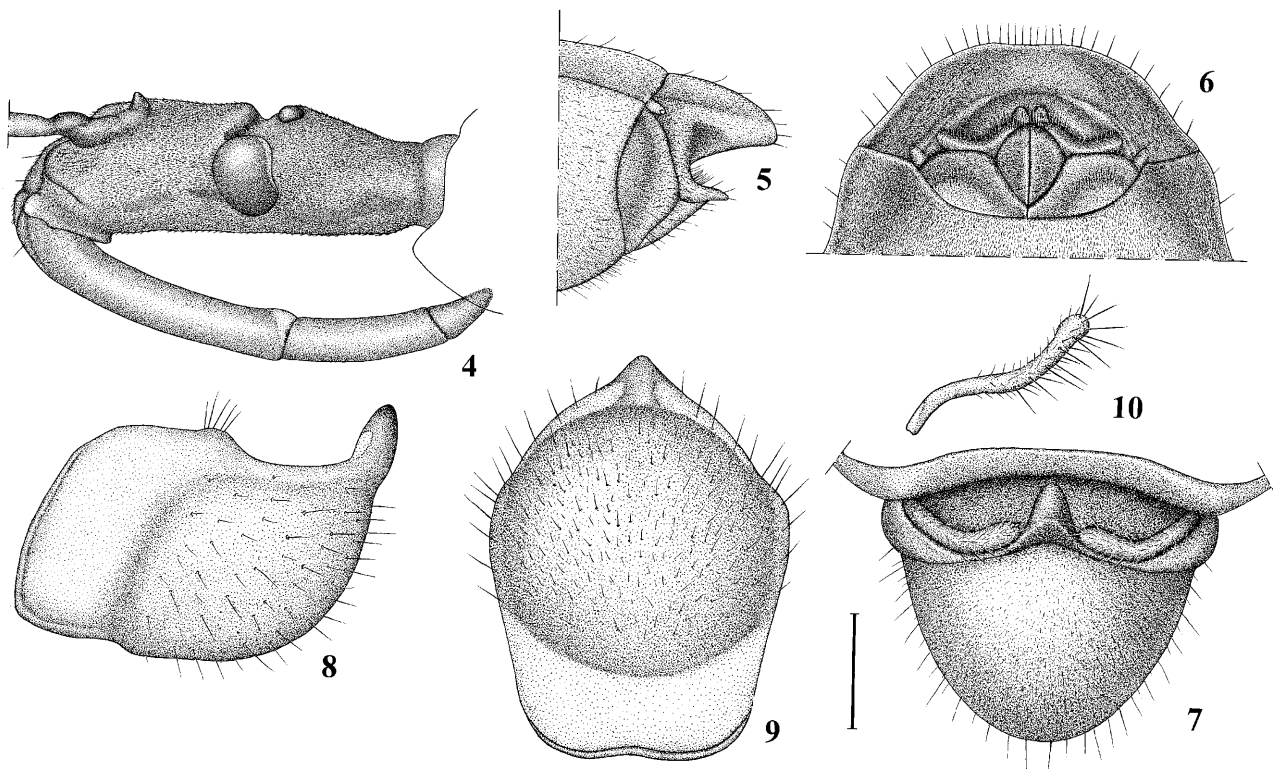
1. Anterior tibia simple, not distinctly incurved 2
 - Anterior tibia distinctly incurved 11
2. Anterior lobe of pronotum lacking prominent tubercles on each side 3
 - Anterior lobe of pronotum with prominent tubercles on each side *Isyndus* Stål, 1858
3. Anterior lobe of pronotum discally spined
 - *Bartacus* Distant, 1866
 - Anterior lobe of pronotum not discally spined 4
4. Posterior lobe of pronotum not discally spined 5
 - Posterior lobe of pronotum discally spined 9
5. First rostral segment considerably shorter than second .. 6
 - First rostral segment longer than second 7
6. Head with a tubercle behind base of each antenna
 - *Euagoras* Burmeister, 1835
 - Head with a spine behind base of each antenna
 - *Macracanthopsis* Reuter, 1881
7. Head shorter than pronotum 8
 - Head nearly as long as pronotum *Endochus* Stål, 1859
8. First antennal segment subequal in length to head plus pronotum *Cydnocoris* Stål, 1859
 - First antennal segment much longer than head plus pronotum *Villanovanus* Distant, 1904



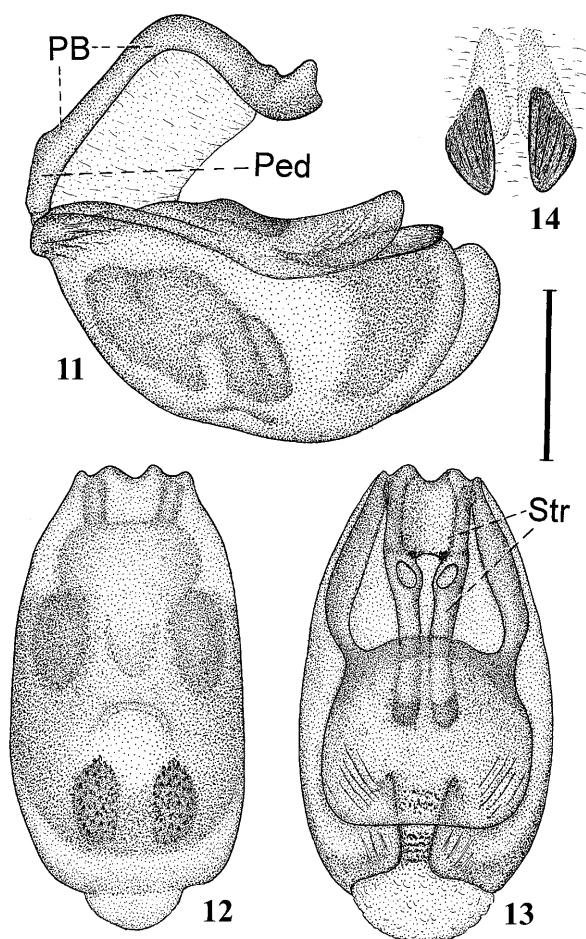
Figs 2–3. Structure of fore leg of two reduviids. 2 – *Camptibia obscura*, sp. n.; 3 – *Rihirbus sinicus* Hsiao et Ren. Scale: 2 mm.

female, bases of mid and hind tibiae, apical 1/4 of mid and hind tibiae (except apices) dark yellow to yellowish brown.

Structure. Body somewhat slender. Body surface (except antennae, eyes, rostrum) clothed with yellowish bent short hairs; lower surface of fore femora and fore trochanters densely clothed with short hairs (Fig. 2); legs bear scattered long hairs. Head nearly cylindrical; first rostral segment slightly longer than combined length of the remaining segments and extending beyond the eyes; first antennal segment of male nearly 2.4 times as long as second, first antennal segment of female about 2.8 times as long as second. Collar process small, not distinct. Anterior half of posterior pronotal lobe with three indistinct longitudinal carinae, lateral pronotal margin nearly rectangular (Fig. 1); fore femur moderately thick, mid and hind femur nearly the same thickness; hemelytron extending beyond abdominal tip. Abdomen of female slightly dilated laterally and that of male not so. Abdominal tip of female is shown in Figs 5, 6. Claspers clavate, distinctly bent, apex slightly thicker (Fig. 10); median pygophore process short, apex rounded (Figs 8, 9). The resting structure of phallus is shown in Figs 11–13. Basal plate long, basal plate bridge short and thin; pedicel short and simple. Phallosoma long ovate, dorsal phallothecal sclerite strongly sclerotized, distal portion distinctly wrinkled; struts fused basally and separated distally (Fig. 13). Base of dorsal surface of endosoma with two sclerotized processes (Fig. 14); vesica densely covered with different-sized small processes, with longer ones on the sides.



Figs 4–10. *Camptibia obscura*, sp. n. 4 – head, antennae partly removed; 5–6 – tip of female abdomen; 7 – tip of male abdomen; 8–9 – pygophore; 10 – left clasper. 4, 5, 8, 10 – lateral view; 6, 9 – ventral view; 7 – caudal view. Scale: 1 mm.



Figs 11–14. *Camptibia obscura*, sp. n. 11 – phallus; 12–13 – phallosoma; 14 – vesica processes. 11 – lateral view; 12 – ventral view; 13, 14 – dorsal view. Abbreviations: BP – basal plate; Ped – pedicel; Str – strut. Scale: 1 mm.

Measurements (mm). Body length 24.1(♂), 29.2(♀); maximum width of abdomen 4.53(♂), 7.06(♀). Head length 3.93(♂), 4.94(♀); length of anteocular part 1.73(♂), 2.27(♀); length of postocular part 1.46(♂), 1.6(♀); length of synthlipsis 1.03(♂), 1.23(♀); distance between ocelli 0.53(♂), 0.6(♀); length of antennal segments I:II:III:IV= 9.2(♂), 11.47 (♀): 3.87(♂), 4.13(♀): 8.53(♂), partly missing (♀): 3.67(♂), missing (♀); length of rostral segments I:II:III= 2.53(♂), 3.2(♀): 1.41(♂), 1.93(♀): 0.6(♂), 0.68(♀). Length of anterior lobe of pronotum 1.33(♂), 1.53(♀); length of posterior lobe of pronotum 2.8(♂), 3.53(♀); maximum width of thorax 5.73(♂), 7.87(♀); length of scutellum 1.8(♂), 2.2(♀); length of hemelytron 15.87(♂), 19.6(♀).

Type material. Holotype, ♀; China, Guangxi, Pingxiang, Mt. Daqing; 29.IV.1986; Hua Wei leg; apical two segments of right antenna missing. Paratype, 1 ♂; same data as holotype. The type specimens will be deposited in the collection of China Agricultural University.

Distribution. China (Guangxi).

Etymology. Name alludes to its dull coloration.

DISCUSSION OF STRUCTURE OF FORE LEG

The structure of the legs of Reduviidae was surveyed by Miller (1942). Most assassin bugs have raptorial fore legs in broad sense. The femora, tibiae, even trochanters and coxae are often armed with teeth, spines, and hairs. In a large number of species of Reduviidae, the lower surface of the apical portion of fore tibiae bears a so-called “spongy fossa”, a pad of specialized setae (= fossula spongiosa), which enhances the gripping capacity of the legs during the capture of prey. But no the member of the Harpactorinae has a spongy fossa. In *Camptibia*, nearly the whole length of lower surface of the femur is covered with short hairs and scattered longer hairs. The lower surface of the fore tibia is covered with scattered erect hairs and the apical 2/3 covered with short erect hairs. The lower surface of the fore trochanter, basal 2/5 of the lower surface of fore femur and apex of fore tibia is densely covered with erect short hairs similar to those on the spongy fossa of other reduviids, but the areas of cuticle covered by dense hairs are not less sclerotized than the remaining areas. Similar pubescence is also found on the legs of species belonging to the genus *Rihirbus* Stål (Fig. 3) and even of some species of Belostomatidae and Nepidae. Comparing the fore leg structure in *Camptibia* gen. nov. and *Rihirbus* we conclude that *Camptibia* gen. nov. can possibly more effectively hold on to big and smoother prey than *Rihirbus* Stål, 1861.

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