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## **A new apterous genus and species of Carventinae from China (Heteroptera: Aradidae)**

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**A b s t r a c t :** A new apterous taxon of the flat bug family Aradidae, *Crassocoris hsiaoi* BAI, HEISS & CAI, nov.gen. et nov.sp., from China is described and the diagnostic morphological features are illustrated.

**K e y w o r d s :** Heteroptera, Aradidae, Carventinae, *Crassocoris*, China, Hainan, new genus, new species.

### **Introduction**

The Carventinae are a larger subfamily of Aradidae and more than 80 genera and 270 species are described worldwide (USINGER & MATSUDA 1959; KORMILEV & FROESCHNER 1987; JACOBS 2002). Chinese species of this subfamily are poorly studied and only three species of the genus *Carventus* (*C. hainanensis* LIU 1981b (Hainan Island); *C. sinensis* KORMILEV 1969 (Guangdong Prov.); *C. taiwanensis* KORMILEV 1969 (Taiwan)) are known to date (KORMILEV & FROESCHNER 1987; LIU 1981a; HEISS 2001). When identifying Chinese Aradidae, we found a remarkable specimen, which can't be placed in any of the known genera (KORMILEV 1970). Therefore a new genus is proposed and erected for this species.

### **Material and Methods**

This study is based on the material preserved in the Entomological Museum of the China Agricultural University, Beijing (CAU). All illustrations were drawn using a camera lucida. Measurements were obtained with a calibrated micrometer. All measurements are in millimeters. Morphological terminology follows mainly that of HEISS (1982). The abbreviation *deltg* means dorsal external laterotergites.

## Taxonomy

### ***Crassocoris* BAI, HEISS & CAI, gen. nov.**

Type species of genus: *Crassocoris hsiao* BAI, HEISS & CAI nov.sp.

**D i a g n o s i s :** Apterous. Medium sized. Body elongate ovate. Dorsal and ventral surfaces partly covered with grayish incrustation, forming a curious pattern, only lateral borders with a few short bristles. Head longer than width across eyes; genae slender, short; antenniferous tubercles stout, conical, apically pointed; eyes small, semiglobose, with convex face; postocular margins sinuate and converging posteriorly; vertex raised medially, forming a longitudinal ridge with the elevated clypeus (Fig. 3); antennae long and slender, first and third segments subequal in length, second shortest, first stout, clavate, second and third cylindrical, fourth fusiform (Fig. 6); rostrum arising from a slit-like opening of atrium, not reaching limits of rostral groove, (Fig. 5). Pronotum subrectangular, anterolateral angles not protruding, collar distinct; disc with a narrow median longitudinal carina reaching from anterior to posterior margin, bearing a median sulcus. Meso- and metanota fused at middle but separated laterally; the elevated median ridge is widening posteriorly and extends to metanotum and tergite one, it is delimited laterally by deep depressions along the mesonotum. Metanotum fused to first and second tergites, separated laterally by sutures from connexivum; lateral margins of thorax with sinuate projections at a lower level (Figs 2, 3). Legs long, slender, without spines, trochanters fused with femora (Fig. 7). Abdomen with mediotergites three to six fused into a subquadrangular tergal plate. Seventh tergite strongly elevated posteriorly.

**D i s t r i b u t i o n :** China.

**E t y m o l o g y :** The generic name alludes to its crassimarginate thorax.

**D i s c u s s i o n :** The new genus resembles habitually and is closely related to the Southeast-Asian genus *Morphocoris* KORMILEV 1980, however it is distinguished by the pronotum of subrectangular shape and anterolateral angles not projecting over the collar, further by the different fusion of pro- meso- and metanotum and tergites one and two (KORMILEV 1977, HEISS 1982).

### ***Crassocoris hsiao* BAI, HEISS & CAI nov.sp. (Figs 1-9)**

**M a t e r i a l e x a m i n e d :** Holotype: ♀, China, Hainan, Baisha, 8. IX.2005, L.S. Chen leg. (CAU).

#### **D e s c r i p t i o n :**

Female, apterous. Color: Body blackish brown, incrustation grayish brown. Eyes reddish. Head, thoracic tergites and pleura, most of abdominal tergites, connexiva, lateral portions of third to sixth abdominal sterna, and seventh sternum covered with incrustation. Antenna and legs beset with adpressed setae (Fig. 1).

**H e a d :** Longer than width across eyes; genae slightly notched anteriorly, reaching basal two-fifths of first antennal segment; clypeus strongly raised anteriorly, with a tubercle near apex. Antenniferous tubercles short, dilated, apices acute, divergent anteriorly. Eyes small, convex laterally. Postocular margins sinuate. Infraocular callosities large, ovate, separated from median ridge by deep sulci (Figs 3, 4). Antennae

2.34 times as long as width of head across eyes. Rostrum short, rostral groove narrow, deep, closed posteriorly (Fig. 5).

**P r o n o t u m** : 2.23 times as wide as long, subrectangular; collar narrow but distinct; anterolateral angles not produced; disc with a longitudinal sulcate median carina which is slightly constricted at middle, dilated posteriorly and flanked by deep depressions anterolaterally (Fig. 3); laterad of median carina disc with 2 (1+1) large subtriangular elevations and small callosities, and another elevation laterad; posterior margin of pronotum slightly convex, separated from mesonotum by a deep furrow.

**M e s o n o t u m** : Wider than pronotum; separated from metanotum by thin sulci laterally; an elongate posteriorly diverging ridge extends from meso- to metanotum and tergite one, which is depressed anteriorly and raised posteriorly, its lateral borders granulate and delimited by deep grooves along the mesonotum. Disk laterad of median ridge with 2 (1+1) high longitudinal elevations; posterolateral angles lobulately produced.

**M e t a n o t u m** : Wider than mesonotum, fused to tergites one and two, forming a hexagonal plate. Disk laterad of not clearly delimited median ridge with 2 (1+1) high longitudinal elevations, similar to those of mesonotum; posterolateral angles sinuately produced.

**L e g s** : Slender, preapical comb on fore tibiae present, claws with fine pseudopulvilli (Fig. 8).

**T e r g i t e I** : With 2 (1+1) high transverse ovate ridges, separated medially by a wide, deep depression; laterad of ridges with 2 (1+1) shallow ovate depressions.

**T e r g i t e I I** : Wide, sloping posteriorly and laterally, medially depressed (Fig. 3).

**A b d o m e n** : Tergal plate consisting of terga III to VI; anterior margin slightly produced medially, truncate posteriorly, lateral margins slightly convex; median longitudinal elevation is raised on mediotergite III, highest on mediotergite IV and tapering and lowering on mediotergites V and VI; scent gland openings distinct; disk laterad of median elevation with the usual pattern of larger and smaller callous spots. Connexiva subhorizontal; deltg II and III completely fused, others separated by fine sulci; posterolateral angles of deltg II to VII progressively protruding; paratergites VIII clavate; terminal segments of abdomen as in Figs 1, 9. Spiracles II to IV ventral, V to VII lateral and visible from above, VIII terminal (Figs 1, 2).

**V e n t e r** : Prosternum with a median elevation; mesosternum flattened medially, metasternum and fused sterna I + II with a subrectangular median depression. Sterna III to VI raised along posterior border, depressed along anterior border, with triangular, smooth spots medially, flanked by 2 (1+1) large, transversely ovate shallow depressions with round callous spots and 4 (2+2) smaller round callous spots laterad.

**M e a s u r e m e n t s** : [of holotype, in mm]. Body length 6.6; maximal width of abdomen 3.48. Length of head (including neck) 1.30, width across eyes 0.99. Length of pronotum 0.73, width 1.62. Width of mesonotum 2.23. Width of metanotum 3.22. Length of antennal segments I–IV = 0.73, 0.36, 0.83, 0.39.

**E t y m o l o g y** : This specific name is given in honor of the late Prof. T.Y. Hsiao for his great contribution to the knowledge of Chinese Heteroptera.

**D i s t r i b u t i o n** : China (Hainan Island).

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### Zusammenfassung

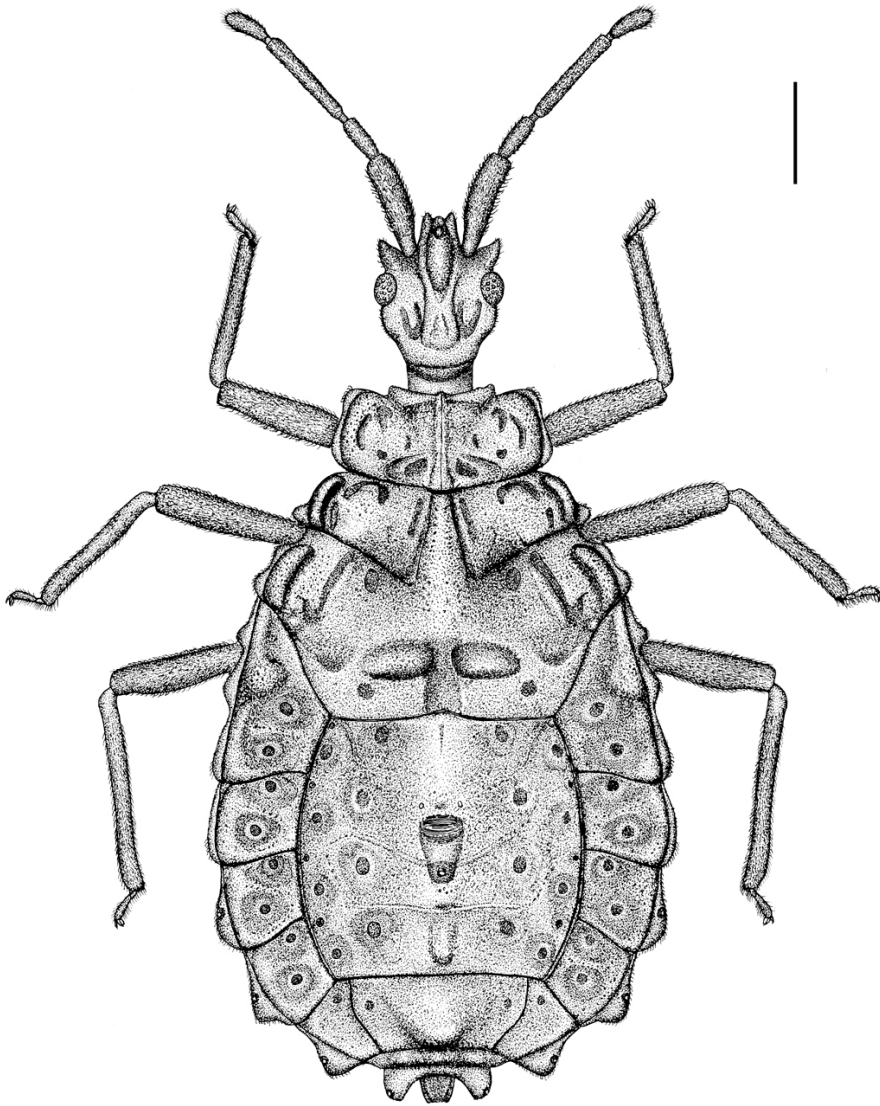
Von der Unterfamilie Carventinae der weltweit verbreiteten Familie Aradidae sind aus China bisher nur 3 Arten bekanntgeworden. Nun liegt ein weiteres Taxon von der Insel Hainan vor, welches als *Crassocoris hsiaoi* BAI, HEISS & CAI, nov. gen., nov. sp. beschrieben und abgebildet wird.

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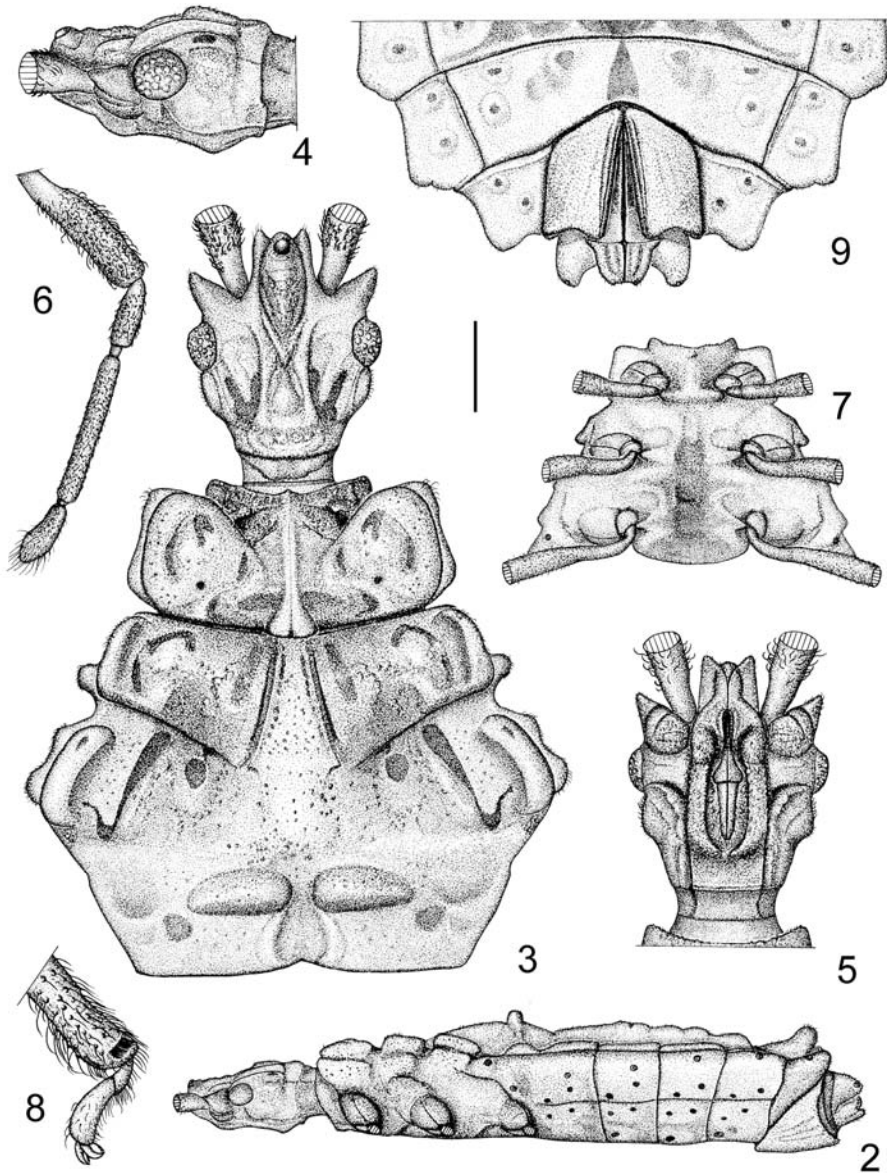
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**Fig. 1:** *Crassocoris hsiaoi* sp. nov. ♀, holotype. Habitus, dorsal view. Scale bar = 0.85 mm.



**Figs 2-9:** *Crassocoris hsiao* sp. nov. ♀, (2) habitus lateral view, legs and antennae partly omitted; (3) head, thorax and terga I + II, dorsal view; (4) head, lateral view; (5) head, ventral view; (6) right antenna; (7) thorax, ventral view; (8) apex of right fore tibia with comb and tarsus; (9) terminal segments V–VIII, ventral view. Scale bar for Fig. 2, 7 = 1 mm; for Fig. 9 = 0.625 mm; for Fig. 3, 4, 5, 6 = 0.5 mm; for Fig. 8 = 0.25 mm.

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