小基瓢虫属昆虫分类研究的历史沿革以及中国该属的研究简况

关键词

1. 本文回顾了小基瓢虫属
2. 中科院科学研究所昆虫分类学报 第28卷第2期 版权所有

D i o m u s

(123-144)

D i o m u s

(123-144)

D i o m u s

(123-144)
THE CHINESE SPECIES OF D IOMUS MULSANT (COLEOPTERA: COCCINELLIDAE)

YU Guoyue

Institute of Plant & Environmental Protection, Beijing Academy of Agricultural & Forestry Science, Beijing 100081

Abstract The present paper gives a brief review of Chinese D imus Mulsant, provided with the diagnosis of the genus and the key to Chinese species. Three species are known from China, of which two species were described as new to science: D. longilobus and D. tumefactus.

Key words Coleoptera, Coccinellidae, D imus, new species, China

Introduction

The D imus was described by Mulsant (1850) as a subgenus of Scymnus Kugelann. Weise (1895) elevated it to generic level. Subsequent authors have either considered it a valid genus (Chapin 1933; Gordon 1976; Pang et Gordon 1986; Chazeau 1993), a subgenus of N epsus (lablokkoff-Khazorian 1976; Fürsch 1987b), or a subgenus of Scymnus (Korschefsky 1931; Mader 1955; Bielawski 1973). However, most authors now recognised D imus as distinct genus (Chazeau et al 1989; 1990).

The genus is widely distributed all over the world. Up to now about 119 species (plus 3 subspecies) have been recorded, and the majority of them were known from South Pacific and Latin America. Four species were listed from Africa (Fürsch 1987a) and two species (plus 2 subspecies) from Palaearctic Region (Fürsch 1987b). However, many species described long ago as member of Scymnus actually belong to D imus (Chazeau 1993).

The D imus was less studied in China. Ohta (1929) described D imus futahoshii from Taiwan and Miyatake (1957) synonymized it with Cryptogonus orbiculus. Pang et Gordon (1986) added a new species D. brunsuturalis from Hainan Island and Pang et Huang (1986) described another species D. brachysiphonius from Fujian. Yu (1995) considered the latter as a synonym of the former, after examining the types of both species. The present paper describes two new species, provided with the key to species of China.
Materials

The sources of material for this study are the following institutions (acronyms used in the following text): AS: Institute of Zoology, Academia Sinica, Beijing; IPEP: Institute of Plant & Environmental Protection, Beijing Academy of Agricultural & Forestry Science, Beijing, China; CAU: Insect Collections of China Agricultural University, Beijing, China; SCAU: Insect Collections of South China Agricultural University, Guangzhou, China; ZSM: Zoologische Staatssammlung Munchen, Munchen, Germany.

Genus *D. 5. mulst* Mulsant


Type species: *Coccinella thoracicus* Fabricus (by subsequent designation of Korschinsky 1931).

Diagnosis: Scymnini with postcoxal line extending down and joining hind margin of first abdominal sternum.

Description: Scymnini with antenna 10- or 11-segmented: apical segment of maxillary palpus securoiform. Prosternum with 2 fine, complete carinae extending to anterior margin of prosternum. Postcoxal line extending down and joining hind margin of 1st abdominal sternum. First abdominal sternum fused to 2nd medially. Tarsi 3-segmented. Male genitalia with basal lobe (median piece) symmetrical or asymmetrical: style short, stout or extremely long and slender.

Distribution: Worldwide

Discussion: Pang et Gordon (1986) discussed the different definition of *D. 5. usus* by Chapin (1933) and Gordon (1976). They considered that there are certainly 2 genera involved and probably more, and the correct resolution of the question depends first on examination of the type species of *Coccinella thoracica* and secondly on a study of the genus "*D. 5. usus*" worldwide. The Chinese species of *D. 5. usus* are the same as those from Africa and South Pacific Region in having 11-segmented antennae, and differ from the *D. 5. usus* defined by Gordon (1976), which has 10 antennal segments.

Key to species of China

1. Pronotum brown or dark brown with lateral sides or margins yellowish brown; median piece of tegmen symmetrical, slightly shorter than lateral lobes ........................................ 2
   - Pronotum entirely brown, or with a black base, small or large; elytra brown, or with a black triangle marking at base, or elytral black with brown apex; median piece of tegmen slightly asymmetrical; distinctly longer than lateral lobes; body length 1.30–1.45 mm, width 0.80–0.95 mm .................................................. *D. brunsutalis*

2. Hind margin of abdominal sternite VI of male wide and slightly emarginate; lateral lobes of tegmen broad in lateral aspect, with a few setae at apex; body length 1.00–1.25 mm, width 0.70–0.90 mm .................................................. *D. tan efactus*, sp. n.
   - Hind margin of abdominal sternite VI of male rounded, nearly straight in the middle; lateral lobes of tegmen slender in lateral view, with many setae at apex; body length 1.20–1.40 mm
1. *Dioinus brunsuturalis* Pang et Gordon (Fig. 1).

*Dioinus brunsuturalis* Pang et Gordon 1986: 192, Fig. 25.

*Dioinus brachysphonius* Pang et Huang 1986: 59, Fig. A - D.

**Type locality:** Hainan Island, South China.

**Material examined:** Type material: 1♂, holotype. Hainan Island, VI - 1973, Pang, X. (SCAU); 1♂, holotype of *D. brachysphonius* Shaowu (Fujian Province), 20 - VIII - 1984, Pang, X. (SCAU).

Other material: 2♂ 1♀, Ruyang (Guangdong), 12 - VI - 1993, Tong, X. (IPEP); 1♀, idem, 10- VI - 1993, Yu, G. (IPEP); 1♀, idem, 8- VI - 1993, Yu, G. (IPEP); 1♂ 9♀, idem, 12- VI - 1993, Yu, G (IPEP); 1♂ 2♀, Taipei (Taiwan), 3- IV - 1977, J. Klapperich (ZSM, but 1♀ in SCAU); 1♀, 5- IV - 1977, Wulai (Taiwan), J. Klapperich (ZSM); 1♂, Hangzhou (Zhejiang), 29- VIII - 1989, Yu, G. (SCAU); 1♂, W anxian (Sichuan), 25- VII - 1989, Ren. S. (SCAU); 1♀, Zhouzhi (Shaanxi), 17- VIII - 1962, Yang, J. (CAU); 2♂ 1♀, Beijing, 6- IX - 1994, Yu, G. (IPEP); 16 exs. Beijing, 29- VIII - 1994, Yu, G. (IPEP); 1♀, W anxian (Sichuan), 26- IX - 1994, Yao, J. (A.S).

**Distribution:** China (Hainan, Guangdong, Fujian, Taiwan, Zhejiang, Sichuan).
Discussion: The present species is widely distributed in China, and it varies in coloration, from entirely brown body to a black triangular marking at base of elytra, to black elytra with brown apex and pronotum brown with black base. The median piece of male tegmen is slightly asymmetrical, and siphonal capsules have variation in shape, even from the same location, as Fig. 1-E and 1-F from Ruyang, Guangdong.

2 Dio mus longitolobus, sp. n. (Fig. 2)

Etymology: The species is named after the comparatively long lateral lobes of tegmen.


Inner margins of eyes arcuate and divergent posteriorly, interocular distance slightly larger than half as wide as head; frons closely and finely punctured. Apical margin of
pronotum almost straight, sides straight at basal 2/3 and distinctly narrowing at anterior 1/3, anterior corners nearly rectangular in profile; posterior corners slightly obtusely angulate; pronotum about 2 times as wide as long. Elytral sides gently arcuate from base to apical third, then broadly rounded to extreme apex, humeral calli indistinct; humeral corners obtusely angulate, surface rather finely and closely punctured. Pubescence fine, subdecumbent, yellowish white, directed posteriorly in general.

Prosternal carinae widely separated, parallel, reaching anterior margin, length about 1.8 times width. Postcoxal line extending to the hind margin of first abdominal sternite, area surrounded by the line finely punctured at basal half, smooth at posterior half. Hind margin of abdominal sternite VI rounded, but nearly straight in the middle.

**Male genitalia:** Median piece of tegmen relatively broad, widest at near base, tapering gently to a pointed apex in ventral aspect, lateral lobes with almost parallel sides at basal 3/4, wider than median piece in lateral aspect, slightly longer than median piece. Siphon rather long, basal third curved, the remaining part almost straight; outer process of siphonal capsule robust and inner process small; apex of siphon with membranous surrounding.

**Distribution:** China (Hebei).

**Discussion:** This new species resembles *D. rubidus* Motschulsky, but differs from the latter by lateral lobes of tegmen slightly longer than median piece and lateral lobes comparatively slender.

3. *Diomus tumefactus*, sp. n. (Fig. 3)

**Etymology:** This species is named after the characteristic shape of siphonal capsule, namely, both inner and outer processes expanded terminally.

**Type material:** ♂, holotype, South China: Miashan (22°7'N, 112°9'E, Guangdong), 17-Ⅵ-1994, Yu, G (IPEP); 1♀, allotype, idem. (IPEP); paratypes: 33♂32♀, idem. (IPEP); 1♀, idem, 5-Ⅵ-1993, Yu, G (IPEP).

**Description:** Oval, moderately convex above Head yellow with brown vertex; pronotum brown with lateral 1/3 yellowish brown, pronotal margins reddish brown; scutellum dark brown; elytra brown, with triangular blackish brown sutural marking, extending to 4/7 of elytral length. Undersurface yellowish brown, meso- and metathorax blackish brown; legs yellowish brown.

Intercocular distance about half as wide as head, inner margins of eyes arcuate and divergent posteriorly. Frons finely punctured. Pronotum about three times as wide as long, anterior margin of pronotum subtruncate, side nearly straight from base to apex; anterior corners nearly rectangular in profile, posterior corners slightly obtusely angulate. Elytral sides gently arcuate from base to apical fourth, then broadly rounded to extreme apex, humeral calli prominent, humeral corners obtusely rounded; elytral punctures coarser than those on pronotum.

Prosternal carinae widely separated, parallel, length about 1.8 times width at base. Abdominal sternites finely and sparsely punctured. Hind margin of abdominal sternite VI widely and slightly emarginate.
**Male genitalia:** Siphon stout, relatively short, outer process of siphonal capsule stout, expanded apically and inner process small; basal 1/3 of siphon curved, and apical 2/3 straight; apex of siphon rounded, surrounded by membrane. Median piece of tegmen parallel at basal half, then tapering to a pointed tip in ventral aspect, and narrowing gently to a pointed tip in lateral aspect, shorter than lateral lobes; lateral lobes elongate oval and large in lateral aspect, with a few setae at apical margin.

Female genitalia: Hemisternite as figured.

**Variation in coloration:** The brown vertex of head may become dark brown, or the dark area extends to clypeus. Pronotum may be black, and only narrow lateral margins is brown. The sutural marking of elytra may enlarge, black in coloration, leaving a diagonally rectangular marking at each apex of elytron.

**Distribution:** China (Guangdong).

**Discussion:** The present species is similar to *D. rhodesianus* Pope 1957 of Africa, but easily separable from the latter by male genitalia (lateral lobes with a few setae, siphon with a rounded apex and characteristic siphonal capsule).

**Acknowledgements:** I thank the curators and collection managers and their respective institutions listed in the materials who kindly loaned me the specimens.

**REFERENCES**
