Two new species of *Dacne* Latreille (*Coleoptera, Erotylidae*) from China, with a key to Chinese species and subspecies of *Dacne*

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Abstract

Two new species *Dacne* (*Xenodacne*) *tangliangi* sp. n. and *Dacne* (*Xenodacne*) *hujiayaoi* sp. n. are described from China. A key to Chinese species and subspecies of *Dacne*. *ZooKeys* 261: 51–59. doi: 10.3897/zookeys.261.4495

Keywords

Coleoptera, Erotylidae, *Dacne*, *Xenodacne*, identification key, new species, China

Introduction

The genus *Dacne* Latreille is considered to be one of the most primitive members of the subfamily Erotylinae (Wegrzynowicz 2002; Leschen 2003). Skelley (1997) reviewed this genus and later updated a world checklist and key (Skelley 2003). In general, little is known about *Dacne* in the Orient. Some work has been done in neighboring countries (Arrow 1925; Chûjô 1969; Chûjô and Chûjô 1988; Narukawa 1992; Chûjô and Lee 1993; Nikitsky and Kompantrzev 1995), but nothing focuses specifically on China.
Previously, only two species and one subspecies have been reported from China, Dacne (Dacne) picta Crotch (1873) (Fig. 18), Dacne (Dacne) japonica Crotch (1873) (Fig. 16) and Dacne (Xenodacne) zonaria taiwana Chûjô (1976) (picture of this subspecies is not available for the present study).

In this work, two new species of the genus Dacne are described and illustrated: Dacne (Xenodacne) tangliangi sp. n. and Dacne (Xenodacne) hujiayaoi sp. n. from Yunnan Province, China.

Material and methods

The specimens examined in this paper were collected in a wide variety of woodland fungi, in crevices under bark or in other retreats by splitting and sifting. For an examination of the male genitalia, the abdominal segments were detached from the body after softening in hot water. The aedeagi, together with other dissected parts, were mounted in Euparal (Chroma Gesellschaft Schmidt, Koengen, Germany) on plastic slides. Photos of sexual characters were taken with a Canon G9 camera attached to an Olympus SZX 16 stereoscope; habitus photos were taken with a Canon macro photo lens MP-E 65 mm attached to a Canon EOS7D camera.

The specimens treated in this study are deposited in the following public collections:

SHNU Department of Biology, Shanghai Normal University, P. R. China
FSCA Florida State Collection of Arthropods, USA [Paul E. Skelley]

Taxonomy

Key to Chinese species and subspecies of Dacne

Parts of the following key were taken from Skelley (2003).

1 Pronotal lateral margin thin for entire length; pronotum swollen anteriorly, projecting forward beyond anterior pronotal angles ........................................
   – Pronotal lateral margin thickened, often broader anteriorly; pronotal anterior margin normal, not projecting forward beyond anterior angles ....................................

2 Pronotum with darkened disc ..................................................... **Dacne (Dacne) picta Crotch**
   – Pronotum entirely orange .............................................................. **Dacne (Dacne) japonica Crotch**

3 Each elytron with one orange mark .................................................
   .................................................................................. **Dacne (Xenodacne) tangliangi Dai & Zhao, sp. n.**
   – Each elytron with two orange markings ..............................................

4 Body shining; Legs black with tarsi dark brown .................................
   .................................................................................. **Dacne (Xenodacne) zonaria taiwana Chûjô**
   – Body indistinctly shining; legs reddish-brown....................................
   .................................................................................. **Dacne (Xenodacne) hujiayaoi Dai & Zhao, sp. n.**
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Dacne (Xenodacne) tangliangi Dai & Zhao, sp. n.  
urn:lsid:zoobank.org:act:EF23E61E-5D0C-4859-8059-8E4851B4B2CD  
http://species-id.net/wiki/Dacne_tangliangi  
Figs. 1, 2, 3–9, 19

Type material. Holotype: CHINA: Yunnan Prov.: ♂, Nabanhe N.R., Bengganghan, Nanmugahe, 22°06′N, 100°27′E, alt. 1700 m, 13.XI.2008, H Jia-Yao & TANG Liang leg. (SHNU). Paratypes: CHINA: Yunnan Prov.: 4 ♂, 4 ♀, same data as holotype (SHNU); 1 ♂, 1 ♀, same data as holotype (FSCA).

Description. Body (Fig. 1, 2) stout, elongate, length: 2.8–3.1 mm; width: 1.29–1.40 mm. Head and elytra black; pronotum general black with reddish-brown sides; legs, palpi and base of antennae reddish-brown; antennal club dark brown. Each elytron with two orange bands.

Head width between eyes = 4 times eye diameter in dorsal view; punctuation coarse, sparse, separated by 3-4 puncture diameters; epistome truncate, lacking marginal line on anterior margin; stridulatory files not evident. Antennae (Fig. 9) long, extending behind

Figures 1–2. Habitus of Dacne (Xenodacne) tangliangi in dorsal and ventral view. Scale = 1 mm.
Figures 3–9. Dacne (Xenodacne) tangliangi. 3, 4 aedeagus in lateral views 5 internal sac and flagellum in dorsal view 6, 7 female genitalia in ventral views 8 female spermatheca 9 antenna. Scales = 0.05 mm(5, 8), Scales = 0.2 mm(3, 4, 6, 7, 9).
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posterior border of pronotum; antennomere III about 1.4 times as long as IV; antennomere VIII slightly wider than VII, about 1.2 times as wide as long; antennomere IX trapezoidal; antennomere X transverse; antennomere XI almost elliptic; relative lengths of antennomeres II–XI: 12.5: 13.5: 8.5: 8.0: 8.0: 8.0: 11.0: 11.0: 14.0. Maxillary and labial terminal palpomeres acuminate, sensory area restricted to apex. Mentum broad with anterior projection, almost triangular, slightly more than 2 times wider than long.

Pronotum arched, widest at base (pl/pw = 0.61–0.65); slightly narrowing toward apex; lateral margin thickened anteriorly; pronotal anterior margin normal, not projecting forward beyond anterior angles (typical for the subgenus Xenodacne). Pronotum distinctly punctured medially, finely and closely punctured laterally.

Prosternum with anterior edge straight, lacking marginal bead; posterior process broad, width more than diameter of procoxa; prosternal lines apparently lacking; punctures coarse and close, diameter = eye facet, separated by 1–2 puncture diameters. Abdomen with distinct coxal lines on first ventrite nearly attaining posterior margin. Legs with tibia not dilated at apex.

Scutellum pentagonal, finely and sparsely punctured.
Elytra margined basally; widest at middle, then gradually narrowing to apex; with fine punctures.

Male genitalia (Fig. 3, 4) moderately curved; median lobe short, apically pointed; median strut long, about 1.8 times as long as median lobe. Tegmen with parameres long, flattened, tightly fitting basal piece and each other. Internal sac simple (Fig. 5).

Female genitalia (Fig. 6, 7) with reduced stylus; coxite apically and curved terminally, chisel-like, length nearly equal to valvifer; paraproct narrowed apically; female spermatheca (Fig. 8) with head almost round shaped.

**Distribution.** China (Yunnan Province).

**Diagnosis.** Dacne tangliangi is most similar to Dacne (Xenodacne) maculata Chûjô due to similar form and color pattern of the body. Dacne tangliangi can be distinguished from D. maculata by the black pronotum, scutellum not transverse (length/width<1.5), posterior band in elytron not extending to the border and occurs in southwest China. Dacne maculata has a reddish pronotum, scutellum transverse (length/width>1.5), posterior band in elytron extending to the border and occurs in Japan and Siberia (Chûjô and Chûjô 1988).

**Etymology.** This species is named in honor of Mr. Liang Tang, collector of the new species and teacher of the senior author.

*Dacne (Xenodacne) hujiayaoi* Dai & Zhao, sp. n.  
urn:lsid:zoobank.org:act:E9574B20-FA53-4C5F-AB2C-B44A7BDC35AA  
http://species-id.net/wiki/Dacne_hujiayaoi  
Figs. 10, 11, 12–15, 17

**Type material.** Holotype: CHINA: Yunnan Prov.: ♂, Nabanhe N.R., Bengganghan, Nanmugahe, 22°06’N, 100°27’E, alt. 1700 m, 13.XI.2008, H Jia-Yao & TANG Li-ang leg. (SHNU).
Description. Body (Fig. 10, 11) stout, elongate, length: 3.6 mm; width: 1.5 mm. Body black; legs, palpi and base of antennae reddish-brown; antennal club dark brown. Each elytron with one orange band.

Head width between eyes = 3.5 times eye diameter in dorsal view; punctuation coarse, separated by 1-3 puncture diameters; epistome truncate, lacking marginal line on anterior margin; stridulatory files not evident. Antennae (Fig. 15) long, extending behind posterior border of pronotum; antennomere III about 1.2 times as long as IV; antennomere VIII slightly wider than VII, about 1.5 times as wide as long; antennomere IX trapezoidal; antennomere X transverse; antennomere XI almost elliptic; relative lengths of antennomeres II–XI: 9.0: 11.5: 8.0: 8.0: 8.0: 8.0: 7.5: 10.0: 10.0: 17.0. Maxillary and labial terminal palpomeres acuminate, sensory area restricted to apex. Mentum broad with anterior projection, almost triangular, slightly more than 1.5 times wider than long.

Pronotum arched, widest at base (pl/pw = 0.62); slightly narrowing toward apex; lateral margin thickened anteriorly; pronotal anterior margin normal, not projecting forward beyond anterior angles (typical for the subgenus Xenodacne). Pronotum distinctly punctured medially, finely and closely punctured laterally.

Prosternum with anterior edge straight, lacking marginal bead; posterior process broad, width more than diameter of procoxa; prosternal lines apparently lacking; punctures coarse and close, diameter = eye facet, separated by 0.5-1.0 puncture diameters.
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Figures 12–15. Dacne (Xenodacne) hujiayaoi. 12, 14 aedeagus in lateral views 13 internal sac and flagellum in dorsal view 15 antenna. Scales = 0.05 mm(13), Scales = 0.2 mm(12, 14, 15).

Figures 16–19. Habitus of Chinese species of Dacne in dorsal view (Dacne zonaria taiwana is excluded). 16 Dacne (Dacne) japonica 17 Dacne (Xenodacne) hujiayaoi 18 Dacne (Dacne) picta 19 Dacne (Xenodacne) tangliangi. Scale = 2 mm.

Abdomen with distinct coxal lines on first ventrite nearly attaining posterior margin. Legs with tibia not dilated at apex.

Scutellum pentagonal, finely and sparsely punctured.

Elytra margined basally; widest at middle, then gradually narrowing to apex; with fine punctures.
Male genitalia (Fig. 12, 14) moderately curved; median lobe short, apically pointed; median strut long, about 1.6 times as long as median lobe. Tegmen with parameres long, flattened, tightly fitting basal piece and each other. Internal sac simple (Fig. 13).

**Distribution.** China (Yunnan Province).

**Diagnosis.** *Dacne hujiayaoi* is most similar to *Dacne* (*Xenodacne*) *zonaria* Lewis and its subspecies due to similar form and color pattern of the body. *Dacne hujiayaoi* can be distinguished from *D. zonaria* by body indistinctly shining, eyes large (head width between eyes = 3.5 times eye diameter in dorsal view), the reddish-brown legs and occurs in southwest China. *Dacne zonaria* has the body distinctly shining, eyes small (head width between eyes > 4 times eye diameter in dorsal view), the black legs and occurs in Japan, Korea, Siberia and Taiwan (Chûjô and Chûjô 1988).

**Etymology.** This species is named in honor of Mr. Jia-Yao Hu, collector of the new species and teacher of the senior author.

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