

Two new *Rhopalum* from China (Hymenoptera: Sphecidae)

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Abstract: Two new species from the tribe Crabronini (Sphecidae, Crabroninae) are described from China: *Rhopalum (Calceorhopalum) eurytibiale* and *R. (C.) poecilofemorale*.

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Introduction

Rhopalum, with 124 species in the world, is a large genus of tiny predatory solitary wasps belonging to the tribe Crabronini. Bohart & Menke (1976) revised the genera of Sphecidae in the world, and listed 108 species of the genus *Rhopalum*. Tsuneki (1952, 1966, 1968, 1971, 1974, 1977a, 1977b, 1984, 1986) reclassified the subgenera, revised the species and provided keys for the identification of East Asian forms. There are 16 species in China, 14 of which only occur in Taiwan.

In the course of a study on Crabroninae, we discovered two new species of *Rhopalum*, and describe them below. We follow Bohart & Menke (1976) and Tsuneki (l.c.) in the usage of morphological terms.

Rhopalum (Calceorhopalum) eurytibiale spec. nov.

(figs 1-10)

Type material

Holotype: ♀, China, Zhejiang, Xitianmushan, 10.ix.1983, coll. X. Wan. Paratypes: China, Zhejiang, Xitianmushan, 1 ♀, 2.vi.1990, coll. J. He; 2 ♂, 17.v.1988, coll. J. Fan; 1 ♂, 16.v.1968, coll. S. Guo; China, Guangxi, Tianlin, Langping, 1 ♀, 30.v.1982, coll. J. He. (coll. Zhejiang Agricultural University, China).

Description

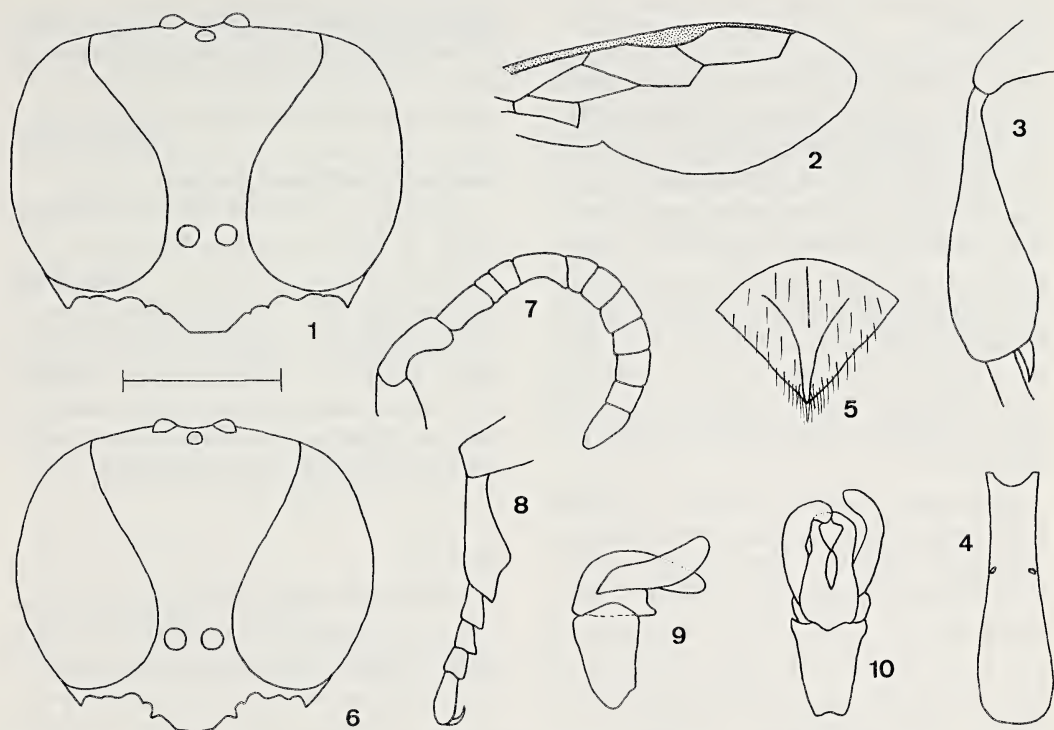
Female. Body length 4.5 - 5.0 mm. Black.

Mandible, antennal scape, base of pedicel and flagellum beneath, pronotal lobe, tegula, fore and mid leg except base of trochanters, hind coxa largely, hind trochanter, base and ventral portion of hind tibia yellow. Dorsal portion of fore and mid femur with or without brown spot. Abdominal petiole at apex, base and apex of tergite II and III, lateral base of tergite IV, tergite VI entirely and sternites largely reddish or yellowish brown. Veins of wing light brown to dark brown.

Head shiny. Anterior margin of clypeus (fig. 1) prominent medially. Frons sparsely and finely punctate, with median furrow. Vertex sparsely and finely punctate, without orbital foveae. HL:HW:POD:OOD = 73:97:9:16. Mandibles bifid at apex. Relative length of antennal pedicel:flagellomere I:II:III:IV:V = 12:6:8:8:7.5:7.

Thorax shiny. Anterior lateral corner of pronotal collar rounded, posterior lateral corner of propleuron with a blunt tooth. Scutum and scutellum densely punctate, metanotum sparsely and finely punctate. Propectus rounded medially. Mesopleuron and metapleuron sparsely and finely punctate; propodeal enclosure without median furrow, propodeal posterior slope with broad and deep median furrow and lateral carinae.

Forewing as shown in figure 2. Apical half of hind tibiae (fig. 3) rather broad. Relative length of hind trochanter:femur:tibia:abdominal petiole (fig. 4) = 21:57:77:70. Pygidial plate (fig. 5) rather narrow at apex, with median carina.



Figs 1-10. *Rhopalum (Calceorhopalum) eurytibiale* spec. nov.; 1-5, female; 6-10, male; 1, head, frontal view; 2, forewing; 3, hind tibia, lateral view; 4, petiole, dorsal view; 5, pygidial area; 6, clypeus; 7, antenna; 8, fore tarsus, lateral view; 9, genitalia, lateral view; 10, genitalia, dorsal view (scale (mm) figs 1, 6: 0.52; 2: 1.24; 3-4: 0.58; 5, 7-10: 0.40).

Male. Body length 4.0-4.5 mm. Hind tarsi largely yellow, sternites largely black, tergite VI black. Anterior clypeus margin (fig. 6). HL:HW:POD:OOD = 61:89:8:16. Antenna (fig. 7), relative length of pedicel: flagellomere I:II:III:IV:V = 15:9:3:4:10:5; pedicel, flagellomere I and IV incised beneath. Fore tarsomere I (fig. 8) with a angle on inner margin. Relative length of hind trochanter:femur:tibia:abdominal petiole = 20:53:68:64. Abdomen without pygidial plate. Genitalia as shown in figures 9 and 10. The other characters are the same as in the female.

Etymology: The name refers to one of the main characters of the species. The from Greek derived adjective *eurytibiale* means 'with the broad tibia', as the hind tibia of this species is rather broad.

Diagnosis

This species is related to *Rhopalum (Cal-*

ceorhopalum) calceatum Tsuneki. It can be easily distinguished from the latter by the form of the anterior margin of the clypeus, the punctures of head and thorax, the rounded anterior lateral corner of pronotal collar, the fore tarsomere I with an angle on the inner margin in the male, the rather broad hind tibia, the abdominal petiole being longer than the hind femur, and the body coloration, and by the male genitalia.

Rhopalum (Calceorhopalum) poecilofemorale spec. nov. (figs 11-15)

Type material

Holotype: ♀, China, Zhejiang, Qingyuan, Baishanzu, 18.xii.1994, coll. H. Wu. Paratype: China, Zhejiang, Anji, Longwangshan, 1 ♀, 31.viii.1993, coll. Z. Xu. (coll. Zhejiang Agricultural University, China).

Description

Female. Body length 5.4 - 5.6 mm. Black. Mandible largely, antennal scape, pedicel, ventral base of flagellum, pronotal lobe, fore leg except base of coxa, mid leg except base of coxa and brown spot on dorsal portion of femur, hind tibia largely, long spot on ventral portion of hind femur and tibia yellowish white. Tegula, long spot on dorsal portion of hind femur, base and apex of hind tibia, ventral apex of abdominal petiole, sternites, base and apex of tergite I, tergite II largely, tergite III partly or largely, and tergite IV entirely reddish brown.

Head shiny. Anterior margin of clypeus (fig. 11) prominent medially. Frons sparsely and finely punctate, with median furrow. Vertex sparsely and finely punctate, without orbital foveae. Occipital carina without tooth at its apex. HL:HW:POD:OOD = 73:107:8:17. Mandibles bifid at apex. Relative length of antennal pedicel:flagellomere I:II:III:IV:V = 11:8:7:7:7:7.

Thorax shiny. Anterior lateral corner of pronotal collar rounded, posterior lateral corner of propleuron with a blunt tooth. Scutum and scutellum densely punctate, metanotum

sparsely and finely punctate. Propectus rounded medially. Mesopleuron and metapleuron sparsely and finely punctate. Propodeal enclosure with shallow median furrow, propodeal posterior slope with broad and deep median furrow and lateral carinae.

Forewing as shown in figure 12. Relative length of hind trochanter:femur:tibia (fig. 13):abdominal petiole (fig. 14) = 22:65:88:88. Pygidial plate (fig. 15) with median carina.

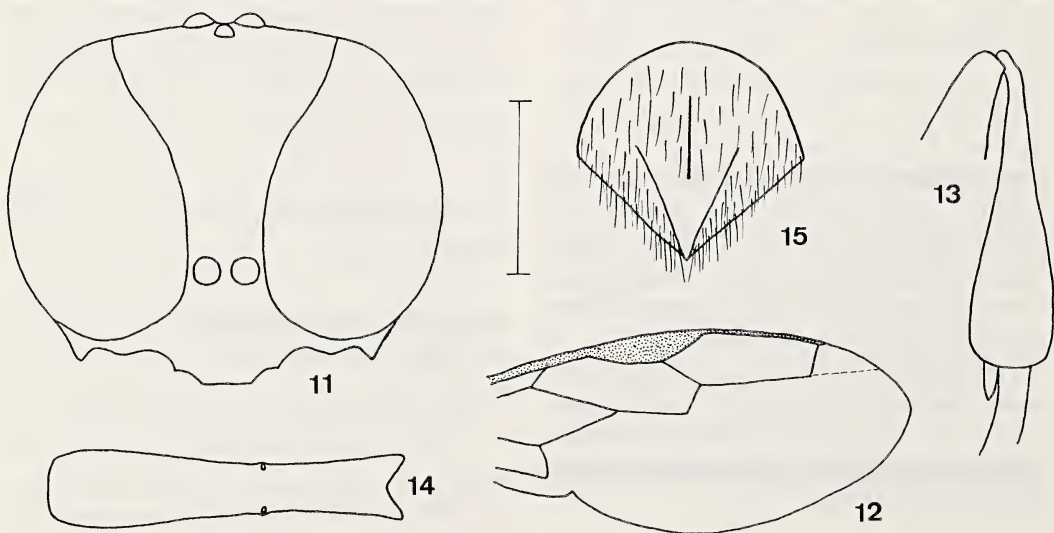
Etymology: The name refers to one of the main characters: *poecilofemorale* (derived from Greek) means 'femur of varied color', as there are different colors on the dorsal, lateral and ventral portions of the hind femur.

Diagnosis

This species is similar to *Rhopalum* (*Calceorhopalum*) *simalurense* (Maidl), but differs from the latter in the anterior lateral corner of the collar being rounded, the propodeal posterior slope having lateral carinae, the equal length of abdominal petiole and hind femur, and body coloration.

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Figs 11-15. *Rhopalum* (*Calceorhopalum*) *poecilofemorale* spec. nov.; 11, head, frontal view; 12, forewing; 13, hind tibia, lateral view; 14, petiole, dorsal view; 15, pygidial area (scale (mm) fig. 11: 0.52; 12: 1.24; 13: 0.64; 14: 0.58; 15: 0.40).

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Abbreviations

HL: head length; HW: head width; POD: postocellar distance; OOD: ocellocular distance.

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