TWO NEW SPECIES OF *ANTEON* (HYMENOPTERA: DRYINIDAE) FROM CHINA

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ABSTRACT

Two new species, *Anteon liui* **sp. nov.** and *Anteon zhangae* **sp. nov.**, are described from China. The first species was collected in Henan Province, Mt. Baiyunshan, and Zhejiang Province, Mt. Fenyangshan; the second species was collected in Guizhou Province, Mt. Leigongshan. *Anteon liui* can be recognized from the related Oriental species *A. hirashimai* Olmi 1993 and *A. austini* Olmi 1991 by the different length of notauli (reaching about 0.65 length of scutum in *A. liui*, reaching 0.3-0.4 length of scutum in *A. hirashimai* and *A. austini*). *Anteon zhangae* can be recognized from the related Oriental species *A. muiri* Olmi 1984 by the following characters: in *A. muiri*, notauli reaching about 0.65 length of scutum; scutum weakly punctate; head with OOL more than twice as long as OL; in *A. zhangae*, notauli reaching about 0.8 length of scutum; scutum sculptured by large and deep punctures similar to areolae; head with OOL slightly longer than OL.

Key Words: Taxonomy, Hymenoptera, Dryinidae, *Anteon*, new species, China

RESUMEN

Se describen dos nuevas especies de China, *Anteon liui* **sp. nov.** y *Anteon zhangae* **sp. nov.** La primera de ellas fue colectada en la Provincia de Henan, Monte Baiyunshan, y en la Provincia de Zhejiang, Monte Fenyangshan: la segunda especie fue colectada en la Provincia de Guizhou, Monte Leigongshan. *Anteon liui* puede ser diferenciado de las otras especies relacionadas en la Región Oriental, *A. hirashimai* Olmi 1993 y *A. austini* Olmi 1991, por la longitud de las notauli (alcanzando aprox. 0.65 del largo del scutum en *A. liui*, mientras que en *A. hirashimai* y *A. austini* alcanza entre 0.3-0.4 del largo). *Anteon zhangae* puede ser reconocido de la especie oriental relacionada, *A. muiri* Olmi 1984, por los siguientes carácteres: en *A. muiri*, las notauli alcanzan un 0.65 del largo del scutum; scutum débilmente punteado; cabeza con OOL mas de dos veces mas larga que OL; en *A. zhangae*, las notauli alcanzan un 0.8 de la longitud del scutum; el scutum muestra un punteado grande y profundo similar a areolae; cabeza con OOL ligeramente mas largo que OL.

Translation provided by the authors.

Dryinidae (Hymenoptera: Chrysidoidea) are parasitoids of Hemiptera Auchenorrhyncha (Guglielmino & Olmi 1997, 2006, 2007). *Anteon* Jurine 1807 is a genus present in all zoogeographical regions. About 326 species have been described from all continents (Olmi 1999). The genus was revised by Olmi (1984, 1991).

Ninety-seven species of *Anteon* are known from China. They were studied in the last 20 years mainly by Olmi (1991, 1993, 1995), He & Xu (2002), and Xu et al. (1998, 2001, 2003, 2006a, 2006b). However, in spite of the above papers, they are considered insufficiently known, both from systematic and biological points of view. The hosts of only 5 species are known, all belonging to Cicadellidae. In 2008 we have examined additional specimens of *Anteon* from P. R. China and have found 2 new species described herein.

MATERIALS AND METHODS

The descriptions follow the terminology used by He & Xu (2002) and Olmi (1984, 1994, 1999). The measurements reported are relative, except for the total length (head to abdominal tip, without the antennae), which is expressed in millimetres. In the descriptions, POL is the distance between the inner edges of the 2 lateral ocelli; OL is the distance between the inner edges of a lateral ocellus and the median ocellus; OOL is the distance from the outer edge of a lateral ocellus to the compound eye; OPL is the distance from the posterior edge of a lateral ocellus to the occipital carina; and TL is the distance from the posterior edge of an eye to the occipital carina.

All specimens studied in this paper are deposited in the Hymenoptera collection of South

China Agricultural University, Department of Entomology, Guangzhou, Guangdong, P. R. China (SCAU).

Systematic Accounts

Anteon liui **sp. nov.** (Fig. 1)

Description. Holotype female. Fully winged. Length 4.9-6.2 mm (holotype 4.9 mm). Head black, except mandibles testaceous; antennae testaceous, except segments 7-10 and dorsal side of segments 1-2 brown; mesosoma black; gaster brown; fore legs testaceous, except clubs of femora partly brown; mid and hind legs brown, except articulations testaceous. In a paratype from P. R. China, Mt. Baiyunshan, antennae testaceous, except segments 7-10 brown; legs testaceous, except hind coxae partly brown. Antennae clavate; antennal segments in the following proportions: 21:11:20:15:16:16:15:16:15:20. Head shiny; vertex and face partly reticulate rugose (*sensu* Olmi 1984) and strongly impressed by large punctures similar to areolae, except a smooth area in front of anterior ocellus and 2 smooth areas on the sides of posterior ocelli; face with 2 lateral longitudinal keels around orbits directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 8; OL = 5; OOL = 9; OPL = 10; TL = 8; greatest breadth of posterior ocelli shorter than OL (4:5). Pronotum shiny, with anterior surface sculptured by strong transverse keels; posterior surface smooth, punctate, without sculpture among punctures, shorter than scutum (13:30). Scutum, scutellum and metanotum shiny, smooth, punctate, without sculpture among punctures. Notauli incomplete, reaching approximately 0.65 length of scutum. Propodeum with a strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with 2 complete longitudinal keels, lateral areas reticulate rugose and median area rugose and with a central smooth surface. Forewing hyaline, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (5:21). Fore tarsal segments in the following proportions: 17:3:5:9:24. Fore tarsal segments 3 and 4 produced into a hook. Enlarged claw (Fig. 1) with a proximal prominence bearing a long bristle. Segment 5 of fore tarsus (Fig. 1) with basal part much longer than distal part (16:8), inner margin straight, 2 proximal lamellae and a group of about 25-40 lamellae situated in the distal part (in a paratype from P. R. China, Mt. Baiyunshan, there are 2 proximal lamellae, 3 medial lamellae and a group of many distal lamellae). Tibial spurs 1, 1, 2.

Male. Unknown.

Hosts. Unknown.

Holotype: Female, P. R. CHINA, Zhejiang Prov., Mt. Fenyangshan, Huangmaojian, 2.VIII.2008, Liu Jingxian, No. 200801155 (SCAU). Paratypes: Female: same label as holotype, No. 200801139 (SCAU); Female: Henan Prov., Songxian, Mt. Baiyunshan, 17.VIII.2008, Shi Min, No. 200801242 (SCAU).

Etymology: This species is named after the collector of the holotype Mr. Liu Jingxian.

Remarks. *Anteon liui* is similar to the Oriental species *A. hirashimai* Olmi 1993 (known from Burma, Malaysia, P. R. China, and Vietnam) and *A. austini* Olmi 1991 (known from Malaysia, P. R. China, Taiwan, and Thailand) because of the following characters: segment 4 of fore tarsus about 0.5 as long as segment 1; posterior surface of propodeum with 2 complete longitudinal keels; head almost completely reticulate rugose, black, except mandibles testaceous; scutum and scutellum punctate, without sculpture among punctures; notauli present. The above species of *Anteon* can be recognized by the different length of notauli, as follows:

1 Notauli reaching about 0.65 length of scutum . . . . . *A. liui* **sp. nov.**

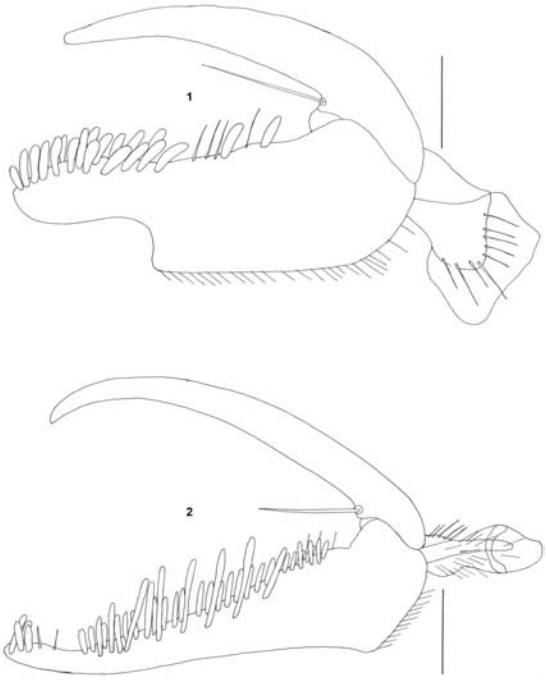
— Notauli reaching about 0.3 - 0.4 length of scutum 2

2 Segment 5 of fore tarsus provided of proximal and medial lamellae (Fig. 13A in Olmi 1991) . . . . . *A. hirashimai* Olmi

— Segment 5 of fore tarsus without proximal and medial lamellae, provided of proximal and medial bristles (Fig. 17A in Olmi 1991) . . . . . *A. austini* Olmi

Anteon zhangae **sp. nov.** (Fig. 2)

Description. Holotype female. Fully winged. Length 4.18 mm. Head black, except mandibles testaceous and clypeus ferruginous; antennae testaceous; mesosoma black, except distal apex of propodeum reddish; petiole black; gaster ferruginous; legs testaceous. Antennae clavate; antennal segments in the following proportions: 22:6:9:9:8:9:9:9:8:12. Head dull, completely reticulate rugose; face with 2 lateral longitudinal keels around orbits directed towards antennal toruli; frontal line complete; occipital carina complete; POL = 5; OL = 4; OOL = 5; OPL = 8; TL = 7; greatest breadth of posterior ocelli shorter than OL (3:4). Pronotum dull, almost completely sculptured by strong transverse keels and large and deep punctures similar to areolae; posterior margin smooth, shiny, without sculpture; posterior surface slightly shorter than scutum (18:20). Scutum completely strongly sculptured by large and deep punctures similar to areolae. Notauli



Figs. 1 and 2. Chelae of *Anteon liui* **sp. nov.** (1); holotype; scale bar = 0.14 mm) and *Anteon zhangae* **sp. nov.** (2); holotype; scale bar = 0.16 mm).

incomplete, reaching approximately 0.8 length of scutum. Scutellum and metanotum shiny, smooth, strongly punctate, without sculpture among punctures. Propodeum with a strong transverse keel between dorsal and posterior surface; dorsal surface reticulate rugose; posterior surface with 2 complete longitudinal keels, with median and lateral areas dull and reticulate rugose. Forewing hyaline, totally weakly yellowish, without dark transverse bands; distal part of stigmal vein much shorter than proximal part (6:18). Fore tarsal segments in the following proportions: 11:3:6:17:33. Fore tarsal segment 2 produced into a hook. Enlarged claw (Fig. 2) with a proximal prominence bearing a long bristle. Segment 5 of fore tarsus (Fig. 2) with basal part much shorter than distal part (8:25), with inner margin almost straight, with 3 rows of 9 very long lamellae + 4 proximal lamellae + 27 lamellae; distal apex with a group of 4 lamellae. Tibial spurs 1, 1, 2.

Male. Unknown.

Hosts. Unknown.

Holotype: Female, P. R. CHINA, Guizhou Prov., Mt. Leigongshan Nature Reserve, 1.VI.2005, Zhang Hongying, No. 20059236 (SCAU).

Etymology: The species is named after the collector Miss Zhang Hongying.

Remarks. *Anteon zhangae* is similar to *A. muiri* Olmi 1984 (known from Indonesia) because of the following characters: segment 4 of fore tarsus longer than segment 1; posterior surface of propodeum with 2 longitudinal keels; head completely reticulate rugose; forewing without dark transverse bands; body mostly black; segment 5 of fore tarsus with basal part much shorter than distal part. The above species can be recognized as follows:

1 Scutum weakly punctate, without sculpture among punctures; head with OOL more than twice as long as OL; notauli reaching about 0.65 length of scutum . . . . . *A. muiri* Olmi

— Scutum sculptured by large and deep punctures similar to areolae; head with OOL slightly longer than OL; notauli reaching about 0.8 length of scutum . . . . . *A. zhangae* **sp. nov.**

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