

# A new species of *Aprosthem* Konow (Hymenoptera: Argidae) with a key to Chinese species

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**Abstract:** A new species of Sterictiphorinae of Argidae is described from Zhejiang, China: *Aprosthem* *brevivertexis* Wei **sp. nov.** This new species is similar to *A. tianmunica* Wei & Wen, 2000 from Zhejiang, but differs from it by the following characters: the fore wing with a broad smoky band below pterostigma, the cell 1Rs clearly longer than cell 2Rs, the second abscissa of the vein Rs 1.3 times as long as the third abscissa of Rs, the postocellar area weakly elevated and about 2.2 times as broad as long, the malar space clearly shorter than diameter of median ocellus, the mesoscutal middle lobe without middle furrow and with a fine middle carina, the lobes of the apical sheath in dorsal view far remote from each other, and in lateral view the apex of sheath strongly acuminate.

**Key words:** Sterictiphorinae; sawfly; taxonomy

## 平颜三节叶蜂属一新种暨中国种类检索表（膜翅目：三节叶蜂科）

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**摘要：**记述采自浙江的膜翅目三节叶蜂科平颜三节叶蜂属 1 新种：短顶平颜三节叶蜂 *Aprosthem* *brevivertexis* Wei **sp. nov.**。该种与同域分布的天目平颜三节叶蜂 *A. tianmunica* Wei & Wen, 2000 近似，但前翅翅痣下方具明显烟褐色横斑，1Rs 显著长于 2Rs 室，Rs 脉第 2 段 1.3 倍于 Rs 脉第 3 段长；单眼后区宽长比等于 2.2，后部不高于单眼面；颧眼距稍窄于单眼直径；中胸背板前叶无中纵沟，具细纵脊；背面观锯鞘互相远离，侧面观锯鞘端部急尖等，与后者不同。

**关键词：**脊颜三节叶蜂亚科；叶蜂；分类

## Introduction

Based on the statistics by the authors, 965 extant valid species belonging to 59 genera have been described worldwide up to the end of 2020 within Argidae, the second largest family of the basal broad-waisted lineages of Hymenoptera. Among them, 186 species and 16 genera have been recorded from China, including the 4 new species described in the past three years (Du *et al.* 2018; Luo *et al.* 2019; Chen *et al.* 2020).

*Aprosthem* Konow (1899) is the largest genus of Sterictiphorinae of Argidae and the second largest genus of the family. About 54 species and 5 subspecies have been described in the world. Among them, 30 species and 5 subspecies occur in West Palaearctic, 18 species in East Palaearctic, and 2 species in North America (Taeger *et al.* 2021). However, this genus is

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quite rare and seldom collected in China. Only 5 species have been recorded up to the end of 2020, each with one specimen having been collected: *Aprosthem* *jeholicum* (Malaise) from Hebei (Malaise, 1944); *A. melaneura* Klug from Inner Mongolia, *A. tianmunicum* Wei & Wen from Zhejiang, *A. bimaculatum* Wei & Wen from Beijing and *A. nigroscutis* Wei & Wen from Qinghai (Wei & Wen, 2000).

*Aprosthem* can be easily recognized from other genera of Argidae by the following characters: head short and transverse, about 2 times as broad as long; antennal flagellum of female stout and clearly shorter than head breadth; mouthparts not reduced; face very short and strongly concave with a narrow but sharp middle carina; inner orbit broad and convex; cenchri very broad; cells R1 of fore wing and hind wing broadly open at apex; free abscissa of vein Sc in fore wing absent, basal anal cell open; hind anal cell closed with a long petiole; tibia without subapical spur, claw without inner tooth.

Here we report one additional new species of *Aprosthem* from Zhejiang, China.

## Material and methods

Insect specimens were examined using a Leica S8APO dissecting microscope. Detailed images of adults were taken with a Leica Z16 APO/DFC550 and were then montaged using Helicon Focus (©HeliconSoft). Montaged images were further processed using Adobe Photoshop CS 6.0.

The terminology used for sawfly genitalia follows Ross (1945), whereas the terminology for general morphology follows Niu & Wei (2010). Abbreviations are as follows: OOL — distance between the eye and outer edge of lateral ocelli; POL — distance between the mesal edges of lateral ocelli; and OCL — distance between the lateral ocellus and the occipital carina or hind margin of the head.

Specimens examined during this study are deposited in the Asian Sawfly Museum, Nanchang, China (ASMN).

## Taxonomy

### *Aprosthem* *brevivertexis* Wei sp. nov. (Figs 1–10)

Female. Body length 6.5 mm (Fig. 1). Black and shiny, antenna dim; apex of mandibles dark reddish brown, pronotum, tegula, concave part of metanotum, posterior margin of mesepimeron and ovipositor sheath yellowish brown; body hairs brown; legs yellowish brown, base of coxa, basal 1/3 of each femur, apex of middle tibia and apical 1/3 of hind tibia black, middle and hind tarsi darkened toward apex; wing hyaline, apex of vein C and pterostigma entirely black, other veins largely pale brown, fore wing with a distinct infusate band below pterostigma, apex of fore wing weakly infusate.

Hairs on dorsum of head and thorax much shorter than diameter of median ocellus, hairs on mesopleuron as long as diameter of median ocellus. Clypeus, face, inner orbits and frons finely punctured, mesonotum almost smooth, bottom of notaulix and anterior basin of mesoscutellum with short and transverse carinae, posterior margin of mesoscutellum with a row of large punctures; mesopleuron without distinct punctures, mesepisternum with a broad

glabrous band (Fig. 9); abdomen without distinct punctures or microsculpture.



Figures 1–10. *Aprosthema brevivertexis* Wei **sp. nov.**, ♀, holotype. 1. Adult, dorsal view; 2. Head, frontal view; 3. Head, dorsal view; 4. Antenna; 5. Head, lateral view; 6. Lancet; 7. Apex of abdomen and ovipositor sheath, dorsal view; 8. Apex of abdomen and ovipositor sheath, lateral view; 9. Mesepisternum, lateral view; 10. Apical serrulae.

Clypeus flat, 2.5 times as broad as long, anterior margin shallowly incised; apex of labrum depressed and truncate; inner margins of eyes distinctly convergent downwards, distance between eyes at lower corners 1.3 times as long as longest axis of eye (Fig. 2); malar space 0.9 times diameter of median ocellus; inner orbits distinctly convex and protruding beyond eye in dorsal view, antennal furrow deep, middle fovea small and deep; frons broad and hardly elevated, frontal ridge faint, narrow area before median ocellus depressed; in dorsal view head 2.4 times as broad as long and roundly narrowed behind eyes, temple about half length of eye; OOL : POL : OCL = 10 : 7 : 7; postocellar furrow distinct, interocellar furrow

absent; postocellar area weakly elevated, clearly below top of ocelli and with a indistinct middle furrow, about 2.2 times as broad as long, lateral furrows broad (Fig. 3). Antennomere 3 weakly bent, distinctly incrassate at middle and clearly shorter than head breadth (Fig. 4). Mesoscutal middle lobe without middle furrow, with a fine middle carina; mesoscutellum below top of mesonotum, broader than long; cenchrus about 4 times as broad as long, distance between cenchri 0.2 times longest axis of a cenchrus. Apical spurs of hind tibia as long as apical breadth of tibia, 0.4 times as long as metabasitarsus, metabasitarsus hardly shorter than following 4 tarsomeres together. Fore wing with vein R+M slightly shorter than cross vein 1r-m, 1r-m almost straight, 3r-m evenly bent outwards, 2nd abscissa of vein Rs 1.3 times as long as 3rd abscissa of vein Rs, 4th abscissa of Rs slightly longer than 2nd and 3rd abscissas of Rs together, cell 1Rs much longer than 2Rs, vein cu-a meeting cell 1M at apical 0.4; hind anal cell 2.4 times as long as petiole of anal cell, which is about 1.2 times as long as cu-a (Fig. 1). Apex of sheath abruptly tapering toward apex in lateral view (Fig. 8) and remote from each other in dorsal view (Fig. 7). Lancet as in Fig. 1f, radix broad with a large tangium, basal 5 annular sutures distinct and entire, annuli 8–17 without distinct suture, dorsal length of annulus 1 as long as annuli 2 and 3 together; serrulae roundly convex, middle serrulae each with 8 proximal and distal subbasal teeth (Fig. 10).

Male. Unknown.

**Holotype.** ♀, **China**, Zhejiang, Lin'an, Mt. Tianmu, Chanyuan Temple, alt. 481 m, 15-IV-2014, Ting LIU & Xinjie YU legs.

Etymology. The specific epithet refers to the very short and broad postocellar area.

Remarks. This new species is similar to *A. tianmunicum* Wei & Wen, 2000. See the key below for the differences in detail between them.

#### Key to Chinese species of *Aprosthem* Konow

1. Abdomen largely yellowish brown, basal 2 tergites and apex of abdomen black. Inner Mongolia..... *A. melaneura* (Klug)
- . Abdomen entirely yellowish brown, or entirely black except for sheath sometimes pale..... 2
2. Body black, pronotum largely and tegula yellowish brown; apex of apical sheath acute..... 3
- . Thorax and abdomen yellowish brown, mesothorax with black macula; apex of apical sheath round..... 4
3. Fore wing hyaline without infusate band below pterostigma, cell 1Rs as long as 2Rs, 2nd abscissa of vein Rs as long as 3rd abscissa of vein Rs; postocellar area 1.3 times as broad as long, posterior part distinctly elevated and higher than ocelli in lateral view; malar space clearly broader than diameter of median ocellus; mesoscutal middle lobe with a distinct middle furrow; apex of sheath in lateral view gradually tapering toward apex and close to each other in dorsal view. Zhejiang..... *A. tianmunicum* Wei & Wen
- . Fore wing hyaline with infusate band below pterostigma, cell 1Rs clearly longer than 2Rs, 2nd abscissa of vein Rs 1.3 times as long as 3rd abscissa of vein Rs; postocellar area 2.2 times as broad as long, posterior part feebly elevated and lower than ocelli in lateral view; malar space narrower than diameter of median ocellus; mesoscutal middle lobe without a distinct middle furrow; apex of sheath abruptly tapering toward apex in lateral view and remote to each other in dorsal view. Zhejiang..... *A. brevivertexis* Wei **sp. nov.**
4. Female mesonotum partly black; male unknown ..... 5
- . Female mesonotum entirely yellowish brown; each coxa, trochanter and base of femur black, apex of hind tibia and hind tarsus dark brown; male body largely black, legs largely pale. Hebei .. *A. jeholicum* (Malaise)
5. Mesonotum yellowish brown with 2 broad black stripes on top of lateral lobes; legs yellowish brown, fore femur and hind tibia with a few black maculae. Beijing; Hebei ..... *A. bimaculatum* Wei & Wen

-. Mesonotum black, mesoscutal middle lobe yellowish brown; legs black, tibiae with pale macula. Qinghai····  
 ..... *A. nigroscutis* Wei & Wen

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