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# A new species of the genus *Proantrusa* Tobias (Hymenoptera: Braconidae: Alysiinae) from northwestern China

Min-Lin Zheng<sup>1</sup>, Cornelis van Achterberg<sup>2</sup>, and Jia-Hua Chen<sup>1,\*</sup>

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## Abstract

A new species of *Proantrusa* Tobias, 1998 (Braconidae: Alysiinae: Dacnusiini), *P. tridentata* sp. nov., is described and illustrated from northwestern China (Ningxia). The genus *Proantrusa* Tobias is newly recorded for China.

Key Words: taxonomy; parasitoid; new record; Palearctic; Dacnusiini

## Resumen

Se describe e ilustra una nueva especie de *Proantrusa* Tobias, 1998 (Braconidae: Alysiinae: Dacnusiini), *P. tridentata* sp. nov. del noroeste de China (Ningxia). Se registra el género *Proantrusa* Tobias por primera vez para China.

Palabras Clave: taxonomía; parasitoide; nuevo registro; Paleártico; Dacnusiini

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The genus *Proantrusa* Tobias, 1998 (Hymenoptera: Braconidae: Alysiinae) is a monotypic genus in Dacnusiini containing only *P. kasparyani* Tobias, 1998 from the East Palaearctic region (Russian Far East). *Proantrusa* is reported here for the first time from China and as the first record outside Russia. A new species, *P. tridentata* sp. nov., is described and illustrated. Keys to the genera of *Trachionus* genus-group and the species of *Proantrusa* are provided.

## Materials and Methods

Specimens were collected from Ningxia (northwestern China) by sweep-netting in Aug 2001. For the terminology of morphological features and sculpture, measurements, and wing venation nomenclature, see van Achterberg (1988, 1993). The morphological characters were examined and photographed using the digital stereomicroscope system KEYENCE® VHX-2000E and LEICA® M205C. Type specimens were deposited in the Beneficial Insects Institute, Fujian Agriculture and Forestry University (Fuzhou, China).

## Results

### TAXONOMIC PART

*Proantrusa* Tobias, 1998

Type species: *Proantrusa kasparyani* Tobias, 1998

### Diagnosis

Head somewhat transverse in dorsal view; frons with a small and acute tubercle in front of anterior ocellus; clypeus hemi-circular, twice wider than high medially and face 1.6 to 1.7 times wider than clypeus (Fig. 1); mandible with 3 similarly sized teeth; pronope medium-sized to obsolescent; propleuron glabrous or setose; notauli incomplete; metanotum with a distinct acute median spine or triangular protuberance; vein 1-SR of fore wing 3 to 7 times as long as its minimum width (Fig. 3); pterostigma of fore wing subtriangular, vein m-cu antefurcal; length of 1st tergite nearly equal to its apical width; 2nd tergite smooth or almost entirely longitudinally striate; combined length of 2nd and 3rd metasomal tergites 0.4 times total length of metasoma (Fig. 9); 3rd tergite smooth and as long as 2nd tergite; 4th and 5th tergites of ♀ smooth and exposed (Figs. 8 and 9); setose part of ovipositor about 0.2 times as long as hind tibia.

### Remarks

This genus is included in the *Trachionus* genus-group because of the spined metanotum and the medium-sized to long vein 1-SR of the fore wing despite the comparatively short 2nd and 3rd metasomal tergites. For the differences within the *Trachionus* genus-group, see the key below. The genus may be confused with the genus *Laotris* Nixon, 1943 because of the smooth 3rd tergite and the well-exposed 4th tergite, but differs by the different shape of the mandible and of the 1st tergite.

### Distribution

East Palaearctic region (Russian Far East, northwestern China [new record]).

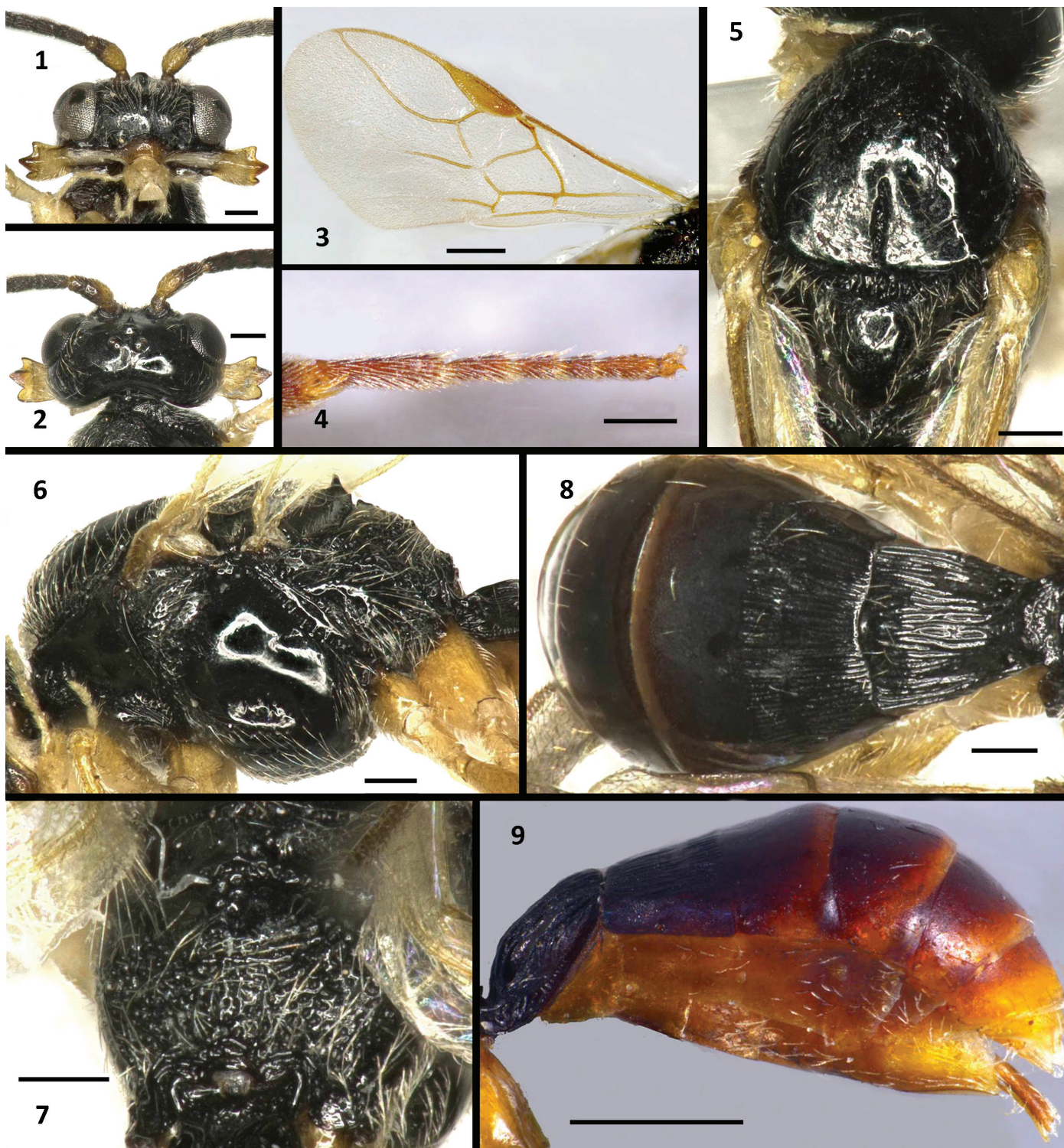
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**Figs. 1–9.** *Proantrusa tridentata* sp. nov., female, holotype. 1, Head (frontal view); 2, head (dorsal view); 3, forewing; 4, hind tarsus; 5, mesosoma (dorsal aspect); 6, mesosoma (lateral aspect); 7, propodeum; 8, metasoma (dorsal view with T1–4 visible); 9, metasoma (lateral aspect).

#### Key to the Genera of *Trachionus* Genus-Group

- 1.— Metanotum distinctly and acutely protruding dorsally (Fig. 6); vein 1-SR of fore wing 7–10 times as long as its minimum width (Fig. 3), but up to 4 times in *Proantrusa*; combined length of 2nd and 3rd metasomal tergites 0.4–0.8 times total length of metasoma (Fig. 9); pronope absent; *Trachionus* Haliday, 1833 s.l. . . . . 2
- 1'.— Metanotum not or slightly protruding dorsally; vein 1-SR of fore wing medium-sized to short, less than 5 times as long as wide; combined length of 2nd and 3rd tergites 0.3–0.5 times total length of metasoma; pronope variable . . . . . other genera of Alysiinae-Dacnusiini

- 2.— Third to 5th metasomal tergites of ♀ sculptured; 2nd tooth of mandible obtuse, lobe-shaped ..... *Parasymphya* Tobias, 1998
- 2'.— Third to 5th tergites of ♀ smooth (Fig. 8); 2nd tooth of mandible acute, triangular (Fig. 2) ..... 3
- 3.— Frons with small median tooth in front of anterior ocellus (Fig. 2); length of 2nd and 3rd metasomal tergites of ♀ 0.4 times total length of metasoma ..... *Proantrusa* Tobias, 1998
- 3'.— Frons without small median tooth in front of anterior ocellus; length of 2nd and 3rd metasomal tergites of ♀ 0.6–0.8 times total length of metasoma ..... *Trachionus* Haliday, 1833  
Syn.: *Aenone* Haliday, 1838 (not Lamarck, 1818); *Oenone* Haliday, 1839 (not Lamarck, 1818); *Symphya* Foerster, 1863; *Anarmus* Ruthe in Brischke, 1882; *Planiricus* Perepechayenko, 2000 (subgenus).

Key to Species of *Proantrusa* Tobias

- 1.— Second metasomal tergite largely longitudinally striate (Fig. 8); vein 1-SR 7 times longer than its minimum width (Fig. 3); vein SR1 distinctly curved below level of connection of veins 2-SR and r (Fig. 3); propleuron glabrous; hind basitarsus rather robust (Fig. 4) ..... *P. tridentata* **sp. nov.**
- 1'.— Second metasomal tergite largely smooth, only latero-basally striate; vein 1-SR 3–4 times longer than its minimum width; vein SR1 weakly curved and hardly below level of connection of veins 2-SR and r; propleuron setose; hind basitarsus slender ..... *P. kaspariyani* Tobias, 1998

## COMPARATIVE DIAGNOSIS

*Proantrusa tridentata* Zheng, van Achterberg & Chen **sp. nov.**

This new species is similar to *Laotris striatula* (Haliday, 1839) because of the smooth 3rd metasomal tergite and the well-exposed 4th tergite of female, but *P. tridentata* has 1) the mandible with 3 teeth; 2) the frons with a small acute tubercle in front of the anterior ocellus; and 3) the pterostigma of the fore wing being rather short and subtriangular.

## Description

Female (HOLOTYPE). Body length 4.0 mm; fore wing length 3.4 mm.

Head. Antenna with 31 segments, its length equal to the length of fore wing, 1st flagellomere 1.3 times as long as 2nd flagellomere. First, 2nd, and penultimate flagellomeres 2.5, 1.7, and 1.6 times as long as their maximum width, respectively. Head, in dorsal view, somewhat transverse, 2.1 times as wide as its median length. Eye 1.4 times as long as temple, temple slightly narrowed behind eye (Fig. 2). Ratio OOL:OD:POL = 20:8:7. Mandible (Figs. 1 and 2) 3-dentate, tooth somewhat curved outwards. Tooth 2 acute and equilateral-sided, tooth 1 and tooth 3 obtuse, tooth 3 somewhat longer than tooth 1 and tooth 2. Maxillary palp with 6 segments, 1.2 times as long as height of head. Face 1.7 times as wide as high, punctate, mainly glabrous, sparsely pubescent on area close to eyes and with a weak medio-longitudinal carina. Frons glabrous and smooth, with a small acute tubercle in front of anterior ocellus (Fig. 2), slightly depressed near antennal sockets; clypeus hemi-circular (Fig. 1).

Mesosoma. Length of mesosoma 1.5 times its height. Propleuron largely crenulate-rugose and glabrous. Anterior area of mesoscutum densely pubescent and remainder only sparsely setose. Notauli absent on mesoscutal disk but impressed and crenulate on oblique anterior part of mesoscutum. Medio-posterior depression at posterior third of mesoscutum narrow, deep and crenulate (Fig. 5). Scutellar sulcus wide and distinctly crenulate, axilla densely white setose. Scutellum rather convex, mainly glabrous but laterally sparsely setose. Metanotum with a strong median spine (Fig. 6). Propodeum gradually lowered posteriorly, largely reticulate-rugose (Fig. 7) and sparsely setose. Mesopleuron mainly glabrous and smooth. Precoxal sulcus rather wide and shallow, rugulose (Fig. 6).

Mesopleural furrow finely crenulate dorsally and coarsely crenulate ventrally (Fig. 6). Metapleuron mainly smooth, posteriorly densely setose which setae directed to hind coxa (Fig. 6).

Wings. Length of fore wing 2.5 times as long as wide. Pterostigma rather short, subtriangular, 3.2 times as long as wide. Vein r arising just before middle of pterostigma. Vein 1-R1 1.4 times as long as pterostigma. Vein 3-SR+SR1 slightly curved posteriorly. Vein r 0.9 times as long as maximum width of pterostigma, 0.4 times as long as vein 1-SR+M, 0.2 times as long as vein 3-SR+SR1; vein 1-SR 7 times longer than its minimum width (Fig. 3); vein SR1 distinctly curved below level of connection of veins 2-SR and r (Fig. 3); vein 1-SR+M somewhat curved. Vein m-cu antefurcal. Hind wing 3.1 times as long as its maximum width.

Legs. Hind coxa smooth and finely setose. Hind femur 3.9 times as long as wide. Hind tibia 1.1 times as long as tarsus. Basitarsus 3.7 times as long as wide, 1.8 times as long as 2nd tarsal segment, 0.6 times as long as 2nd to 5th segments combined (Fig. 4). The inner and outer tibial spurs of hind leg 0.4 and 0.3 times as long as basitarsus, respectively.

Metasoma. First tergite distinctly longitudinally striate, its length nearly equal to its apical width, evenly widened from base to apex, its dorsal carinae remain separated. Second tergite almost entirely longitudinally striate, only laterally smooth, its median length 0.4 times its apical width. Third and following tergites smooth and nearly glabrous, 3rd tergite as long as 2nd tergite. Ovipositor short, but slightly projecting beyond the apical tergite in the retracted position, its setose part 0.2 times as long as hind tibia.

Color. Black. Antenna dark brown except yellow base of scapus. Clypeus brownish yellow, labrum and palpi yellowish, mandible yellow but its middle tooth yellowish brown. Pterostigma and most veins of hind wing yellowish brown. Legs mainly yellow but tarsi and apical part of hind tibia brown. First and 2nd tergites dark reddish brown, 3rd to 5th tergites mainly reddish brown but basally yellowish brown to yellow, remainder of metasoma yellowish brown to yellow; ovipositor sheath yellowish brown.

Male. Similar to female but antenna with 34 segments and precoxal sulcus distinctly crenulate.

## Habitat and Natural History

Unknown.



### Material Examined

HOLOTYPE: 1 ♀, CHINA, Ningxia, Liupan Mountain, 22-VIII-2001, collected by Guanghong Liang, deposited in Beneficial Insects Institute, Fujian Agriculture and Forestry University. PARATYPE: 1 ♂, China, Ningxia, Liupan Mountain, 17-VIII-2001, collected by Zhihui Lin, deposited in Beneficial Insects Institute, Fujian Agriculture and Forestry University.

### Distribution

Known only from the type locality in Ningxia (northwest China).

### Etymology

Named after the three- (“tri” in Latin) toothed (“dentatus” in Latin) mandible.

## Acknowledgments

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