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A new subspecies of *Trachythorax* Redtenbacher, 1908 (Phasmatoidea: Necrosiinae) from Yunnan, China

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Keywords:

Phasmatoidea; taxonomy;
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Trachythorax; key;
maculicollis; Yunnan;
yunnanensis; China.

Abstract. – *Trachythorax maculicollis yunnanensis* **subsp. nov.** from Yunnan, China is here described. Photographs of the adults and eggs as well as a key to female of the six known species from China are provided.

Gao H. R. & Liang L., 2021. – A new subspecies of *Trachythorax* Redtenbacher, 1908 (Phasmatoidea: Necrosiinae) from Yunnan, China. *Faunitaxys*, 9(4): 1 – 5.

ZooBank: <http://zoobank.org/67DCCF75-4DF0-46ED-9292-431E8DC55DF4>

Introduction

The genus *Trachythorax* Redtenbacher, 1908 belongs to the tribe Necrosiini of the subfamily Necrosiinae within the family Lonchodidae. This genus consists of eleven species, mainly distributed over Asia. So far, there are five species recorded from China (Westwood, 1848; Redtenbacher, 1908; Shiraki, 1911; Cai, 1989; Chen & He, 1995, 2008). A new species, *Trachythorax maculicollis yunnanensis* **subsp. nov.** from Yunnan, China is described herein.

Materials and methods

All type materials were collected from Yunnan, China. Photos of the type specimens of *Trachythorax* Redtenbacher, 1908 (Phasmida Species File Online <http://phasmida.speciesfile.org/>) (Brock *et al.*, 2021), together with all original and subsequent descriptions of known species were checked.

Photos were taken by Olympus EM1 Mark II with 60mm F2.8 and Sony a6300 with LAOWA 60mm F2.8.

Type materials are deposited in the following public and private collections:

- YNAU: Yunnan Agricultural University;
- SWFU: Southwest Forest University, China;
- CAU: China Agricultural University;
- GHR: Author's personal collection.

Taxonomy

Genus *Trachythorax* Redtenbacher, 1908

(Chinese vernacular name: 瘤胸蝽属)

Type species: *Phasma maculicollis* Westwood, 1848 by subsequent designation (Brock, 1995).

Key to the species of *Trachythorax* Redtenbacher, 1908 in China (Female)

- | | |
|---|---|
| 1. Head behind flattened | <i>T. fuscocarrinatus</i> |
| – Head behind elevated | 2 |
| 2. Head with black spots | 3 |
| – Head without distinct black spots | 4 |
| 3. Hind wings long, distinctly surpassing tip of abdomen | <i>T. chinensis</i> |
| – Hind wings shorter, not surpassing tip of abdomen | 5 |
| 4. Hind wings rather long, distinctly surpassing tip of abdomen | <i>T. longialatus</i> |
| – Hind wings short, not surpassing tip of abdomen | <i>T. sexpunctatus</i> |
| 5. Apex of prothorax dark red | <i>T. maculicollis maculicollis</i> |
| – Apex of prothorax light yellow | <i>T. maculicollis yunnanensis</i> subsp. nov. |

***Trachythorax maculicollis yunnanensis* Gao & Liang
subsp. nov.**

(Chinese vernacular name: 暗斑瘤胸螳云南亚种)

(Fig. 1-11)

ZooBank: <http://zoobank.org/A15EE29C-DE04-404F-ABB3-7D7F740A569B>

Holotype, ♀, Menglun, Yunnan, China, 7.X.2020, Zha Yue, *in* YNAU.

Paratypes (9 ex.)

- 1 ♂, Menglun, Yunnan, China, 14.IX.2020, Li Hao-Kun, *in* YNAU.
- 1 ♀ (with 14 eggs), Menglun, Yunnan, China, 7.X.2020, Li Hao-Kun, *in* CAU.
- 1 ♀, Jinghong, Yunnan, China, V.2015, Gao Hao-Ran, *in* GHR.
- 4 ♀ & 2 ♂, Menglun, Yunnan, China, 6.III.2020, Xie Chong-Xin (1 ♀ *in* YNAU; 1 ♀ with 14 eggs *in* CAU; 1 ♂ & 1 ♀ *in* GHR; 1 ♂ & 1 ♀ *in* SWFU).

Diagnosis. – *Trachythorax maculicollis yunnanensis* subsp. nov. is very similar to *Trachythorax maculicollis maculicollis* (Westwood, 1848), but can be easily separated by light yellow anterior margin of the prothorax of both male and female (Fig. 3).

Description of the female (Fig. 1, 3-4 & 11)

General aspect. – Medium-sized. Larger and more robust than male. General coloration of body dark brown. Winged.

Head. – Longer than wide. Dark brown with black maculae. Vertex elevated and sharp. No ocellus. Compound eye with brown spots and foggy-like black maculae. Two black strips behind compound eye. Frons has three black maculae, two behind torulus, one in the middle. Antenna brown with black spots. Scapus setose.

Thorax. – Dark brown with black maculae. Pronotum with a pair of parallel rows of three black maculae, with conspicuous mid-longitudinal sulcus. The light-yellow anterior margin of the pronotum is curved inward. The hind margin of the pronotum is black (Fig. 3). Mesonotum is almost two times longer than pronotum. Mesonotum with a pair of tubercles in the middle and a pair of three black maculae, one stripe-shape front tubercle and two tubercles behind. Mesopleuron smooth. Metasternum fused to abdominal sternum I.

Legs. – All legs are dark brown with foggy-like maculae, covered with irregular patches and bristles. Pro- and mesocoxa are light yellow, being the same color as the anterior margin of the pronotum. Profemora incurved basally. The profemora almost reaches the length of the pronotum and mesonotum combined. Mesofemora are almost 2/3 the length of the profemora. Metafemora is almost the same length as the profemora. Tibiae are unarmed.

Wings. – Tegmina dark brown with a definite hump anterolaterally. Alae developed. Costal area with same color as tegmina. Veins dark brown. Anal area translucent brown. Alae just reaching the abdominal segment VIII.

Abdomen. – Dark brown. Median segment smooth. Terg II-VII rectangular, length gradually decreasing, approximately 2 longer than wide. Tergum VII with a pair of black humps. Segments II-VII cylindrical. Segments II-V lateral margins with black maculae. Cercus cylindrical, short, robust, setose, light brown, with rounded apex. Subgenital plate longer than segments VIII-IX combines.

Description of the male (Fig. 2 & 5-7)

General aspect. – Small size. Almost half length of female. Similar to female.

Head. – Oval. Longer than wide. Dark brown with black maculae. Vertex elevated but not obvious. Compound eye with brown spots and foggy-like black maculae. Two black strips behind compound eye. Antenna brown with black spots. Scapus setose.

Thorax. – Dark brown with black maculae. Pronotum with a pair parallel rows of three black maculae, with conspicuous mid-longitudinal sulcus. Pronotum anterior margin curved inward and light yellow, hind margin is black. Mesonotum almost 2.5 times longer than pronotum. Mesonotum with a pair of three black maculae, front macula long and stripe-shape, middle one tiny and hind one triangular. Mesopleuron smooth and setose. Metasternum fused to abdominal sternum I.



Fig. 1-2. *T. maculicollis yunnanensis* subsp. nov., habitus, dorsal view. 1) Holotype, ♀. 2) Paratype, ♂.



Fig. 3-10. *T. maculicollis yunnanensis* subsp. nov.

3-4) Holotype, ♀: 3) Head and thorax, lateral view; 4) Apex of abdomen, lateral view.
5-7) Paratype, ♂, apex of abdomen: 5) Lateral view; 6) Ventral view; 7) Dorsal view.
8-10) Egg: 8) Dorsal view; 9) Lateral view; 10) Anterior view.

Legs. – Unarmed. Dark brown with yellow maculae. Profemora incurved basally. Profemora length almost reaches pronotum and mesonotum combined. Mesofemora are almost 2/3 the length of the profemora. Metafemora is almost the same length as the profemora.

Wings. – Tegmina dark brown with a definite hump anterolaterally. Alae developed. Costal area of the same color as the tegmina. Veins dark brown. Anal area translucent brown. Alae just reaching abdominal segment VI.

Abdomen. – Dark brown. Median segment smooth. Terga II-VII rectangular, length gradually decreasing. Segments II-VII cylindrical. Segments II-V lateral margins with black maculae. Anal segment rounded posteriorly. Cercus cylindrical, short, robust, setose, yellow, with rounded apex. Vomer triangular.

Measurements

Lengths (mm)	Male	Female
Body	40.7	77.7
Head	3.5	6.3
Antennae	36	-
Pronotum	3.0	5.5
Mesonotum	6.2	10.1
Metanotum	7.0	14.2
Profemora	13.5	20.5
Mesofemora	7.9	11.4
Metafemora	11.6	19.8
Protibiae	11.5	18.1
Mesotibiae	6	11.5
Metatibiae	11.5	18.7

Eggs (Fig. 8-10)

Capsule oval in lateral view; circular in cross-section; similar in width and length. Micropylar plate connects both ends of capsule, anterior margin approaching the opercular collar; significantly wider in the posterior region. Operculum circular and perpendicular in relation to capsule length; ornamented with distinctive lobate protuberance commonly. Each strand of protuberance about 1.5-1.6 times longer than diameter of operculum. Operculum rough with nondistinctive ridge. Capsule smooth with relative homogeneous yellow coloration. Protuberance and posterior dull light yellow. Micropylar plate milky white. Operculum gray.

Egg measurements

- Capsule length: 2.9;
- Capsule width: 1.9;
- Capsule height: 1.8;
- Micropylar plate length: 2.2;
- Operculum diameter: 1.1.

Materials condition. – Holotype has lost the apex of both antennae.

Etymology. – This new species is named after the type locality Yunnan province, China.

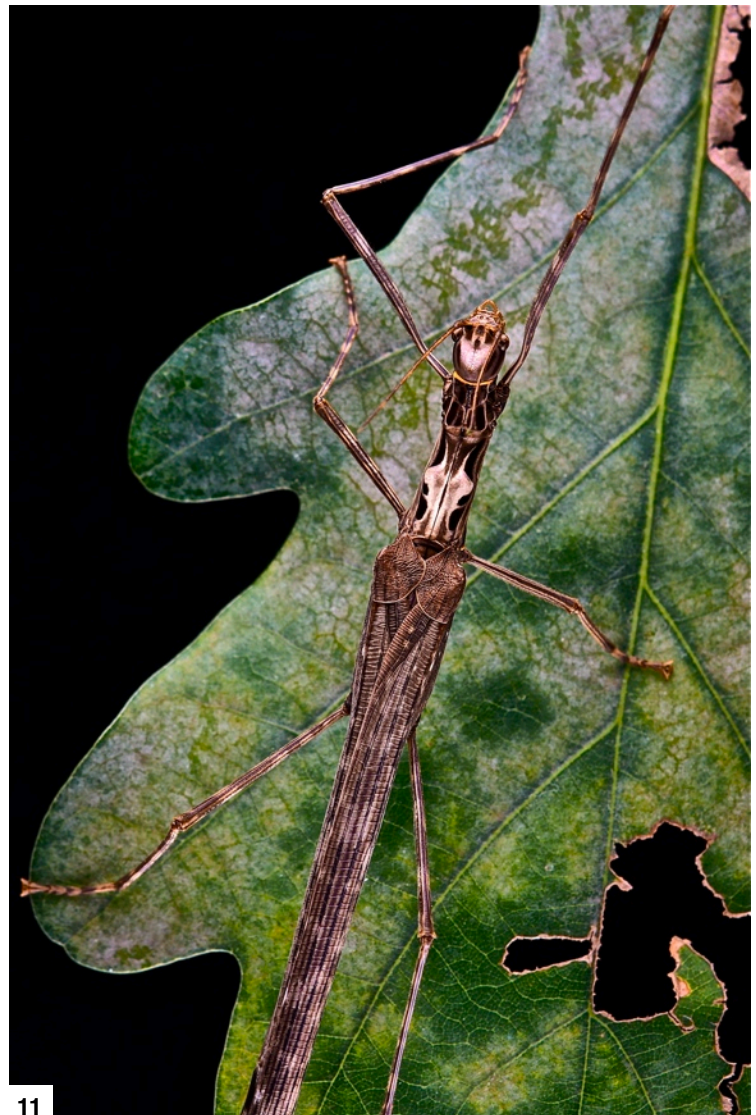
Distribution. – Xishuangbanna, Yunnan Province, China.

Notes. – The anterior margin of the pronotum in the male is light yellow as in the female. This yellow fades rapidly after death.

China certainly distributed *T. maculicollis maculicollis*, authors had seen the living photos of them. But the recorded location Jinghong, Xishuangbanna in Chen & He (2008) mostly distributed the new subspecies *T. maculicollis yunnanensis*.

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Fig. 11. – *T. maculicollis yunnanensis* subsp. nov., living photo (by Liao Pei-Lin).

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Fig. 12. - Habitat of *T. maculicollis yunnanensis* subsp. nov.

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Résumé

Gao H. R. & Liang L., 2021. – Description d'une nouvelle sous-espèce du genre *Trachythorax* Redtenbacher, 1908 (Phasmatodea: Necrosiinae) du Yunnan, Chine. *Faunitaxys*, 9(4): 1–5.

Trachythorax maculicollis yunnanensis subsp. nov. est décrite du Yunnan, Chine. Les photos des adultes et des oeufs sont présentées. Une clé des exemplaires femelles des 6 espèces connues de Chine est proposée.

Mots clés. – Phasmatodea, Necrosiinae, *Trachythorax*, *maculicollis*, *yunnanensis*, taxonomie, nouvelle sous-espèce, clé, Yunnan, Chine.

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Illustration de la couverture : Xishuangbanna, Yunnan, Chine.

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