

## A NEW SPECIES OF THE GENUS RHOPALOTETTIX HANCOCK (ORTHOPTERA, TETRIGOIDEA, METRODORIDAE) FROM TAIWAN

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**Abstract** This paper describes a new species of Metrodoridae, *Rhopalotettix taipeiensis* sp. nov., collected from the farm of Taiwan University in Taipei, Taiwan, and provides a key to the 6 species of the genus *Rhopalotettix* Hancock, 1910. Type specimens are deposited in the Department of Entomology, Taiwan University, Taipei, Taiwan.

**Key words** Orthoptera, Tetrigoidea, *Rhopalotettix*, new species, Taiwan.

There were 6 known species in the genus *Rhopalotettix* Hancock, 1910 of the Metrodoridae. One was found in Sumantra, the other 5 species were found in China. In our study on specimens of Tetrigoidea borrowed from Taiwan University, we found that 1 species collected from Taipei City, Taiwan is new to science. This species is described below. Type specimens are preserved in the Department of Entomology, Taiwan University, Taipei, Taiwan, China.

A key to 7 species of the genus *Rhopalotettix* Hancock, 1910 is also given in this paper.

### 1 *Rhopalotettix taipeiensis* sp. nov. (Figs. 1-5)

**Male.** Body small, with granules. Fastigium angularly produced strongly before eyes, nearly triquetrous. In dorsal view, fastigium nearly triangular, length of fastigium 2.0 times width of its base, width of fastigial base 1.4 times width of an eye, the top of fastigium in dorsal view gradually narrowing, two lateral side nearly parallel before one half of fastigium, and with small teeth, dorsum of fastigium concave, without median keel. In lateral view the tip of the fastigium is slightly bent downward, inferior margin of it knife-like, with small teeth. Width of vertex between eyes wider than width of eye in dorsal view. Eyes strongly exserted, ball-like, inner margins of eyes not parallel. Frons oblique, frontal costa slightly protuberant between antennae in profile, lateral ocelli located between the middle of anterior margin of eyes. Antennae filiform, 13 segments, inserted on the inner

side of the inferior margin of eyes, length of middle segment 8 times its width. Anterior margin of pronotum truncated, hind process subulate, reaching 4/5 of hind tibia, median carina distinct, anterior half of pronotum slightly protuberant, nearly tectiform, posterior half of pronotum flat. Prozonal lateral carinae parallel, humeral angles obtusely angular, posterior angles of lateral lobes of pronotum turned downwards, slightly produced outwards, the end obliquely truncated. Tegmina oblong, wings developed, extending beyond the apex of hind process of pronotum. Anterior and middle femora slender, upper and lower margins nearly parallel, with fine teeth, the end of upper margin of middle femora slightly tooth-like. Hind femora stout, upper and lower margins with fine teeth, the end of upper margin tooth-like, upper and lower kneelobe obtusely rounded. Hind tibiae with thin teeth along the dorsal margins, with 6-7 spines on the outside and inside dorsally. First segment of posterior tarsi little longer than third segment and with 3 obtuse pulvilli below, third segment nearly club-like. The posterior margin of subgenital plate dichotomous.

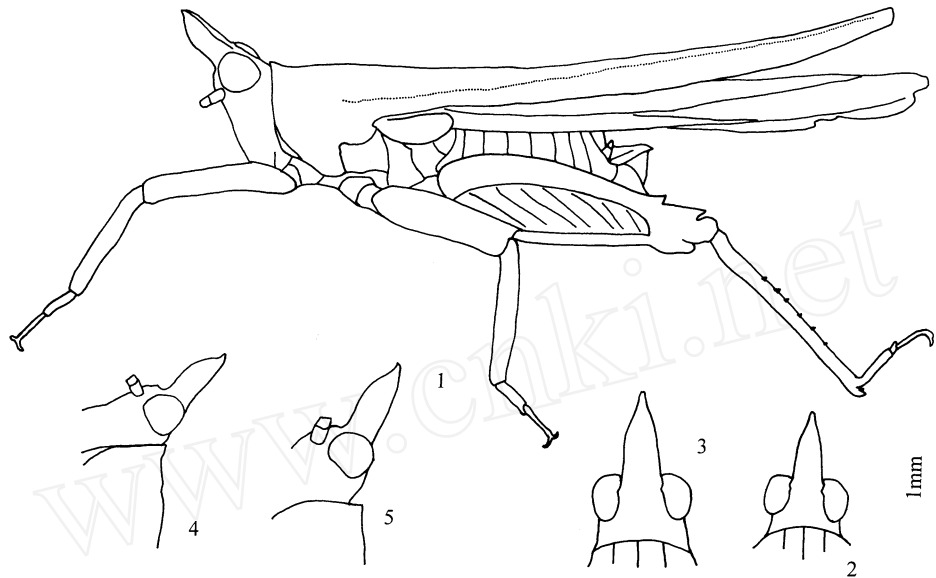
Body dark brown; eye white; vertex pitch-like; the apex of antennae, tegmina, hind tarsi and the apex of abdomen in both sides light yellow.

**Female.** Same as male. Size bigger than male, length of fastigium in longer than that in , length of fastigium about 2.1 times width of its base, width of fastigial base 1.7 times width of eye. The valves of the ovipositor narrow, outer margins of valves distinctly serrated, the middle of posterior margin of subgenital

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Figs. 1-5. *Rhopalotettix taipeiensis* sp. nov. 1. Body of male, lateral view. 2. Head of male, dorsal view. 3. Head of female, dorsal view. 4. Fastigium of male, lateral view. 5. Fastigium of female, lateral view. (Scale bar = 1 mm)

plate projecting angularly.

Body luridus; eye black brown; vertex pitch-like; the apex of antennae and tegmina light brown.

Length of body (from the top of fastigium to the end of pronotum): 14.0 mm, 16.2 mm; length of fastigium: 1.3 mm, 1.6 mm; length of antennae: 6.4 mm, 6.5 mm; length of pronotum: 12.1 mm, 13.3 mm; length of hind femora: 5.4 mm, unknown.

Holotype, Taiwan of China: Taipei (25.0°N, 121.5°E), Farm of Taiwan Univ., 19 Jan. 1999, LIN Ming-Xin. Paratype 1, Taiwan of China: Taipei (25.0°N, 121.5°E), Farm of Taiwan Univ., 12 June 1999, LIU Geng-Ming.

This new species is similar to *Rhopalotettix taiwanensis* Liang, 1993. It differs from both as described in Table 1.

Table 1. Comparison of morphological characters between *Rhopalotettix taipeiensis* sp. nov. and *R. taiwanensis*.

	<i>R. taipeiensis</i> sp. nov.	<i>R. taiwanensis</i>
Fastigium from dorsal view	The top gradually narrows	The top suddenly narrows
Fastigium in lateral view	The tip slightly bend downward	The tip straight
Length of fastigium larger than its base width in female	2.1 times	1.8 times

Key to the species of the genus *Rhopalotettix* Hancock, 1910

- 1 (2) Width of vertex between eyes narrower than width of eye from dorsal view ..... *Rhopalotettix clavipes* Hancock
- 2 (1) Width of vertex between eyes wider than width of eye from dorsal view.
- 3 (6) Length of a segment in the middle of antennae 10.0-12.5 times of width.
- 4 (5) Fastigium from dorsal view, its top gradually narrows; pronotum with oblique abbreviated carinae .....  
..... *R. guangxiensis* Zheng et Jiang
- 5 (4) Fastigium from dorsal view, nearly 1/4 of its top suddenly narrows; pronotum without abbreviated carinae .....  
..... *R. uncusivertex* Zheng
- 6 (3) Length of a segment in the middle of antennae under 8 times of width.
- 7 (8) Head from lateral view, the tip of fastigium slightly bend downward ..... *R. taipeiensis* sp. nov.
- 8 (7) Head from lateral view, the tip of fastigium not bend downward.
- 9 (12) Head in dorsal view, fastigium, except its tip, broader, two lateral side nearly parallel, dorsum of fastigium concave, without median keel.
- 10 (11) Fastigium shorter and suddenly becoming narrow in the apical one-fifth; fastigium of male shorter than that of female; median carina of pronotum raised ..... *R. taiwanensis* Liang
- 11 (10) Fastigium longer and gradually becoming narrow in the apical one-fifth; fastigium of male longer than that of female; median carina of pronotum lower ..... *R. hainanensis* Tinkham
- 12 (9) Head in dorsal view, fastigium gradually become narrow from its base to apex; dorsum of fastigium flat, with a slight median keel .....  
..... *R. chinensis* Tinkham

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## 台湾棒蚱属一新种 (直翅目, 蚱总科, 短翼蚱科)

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**摘要** 记述了采自台北台湾大学农场的短翼蚱科 Metrodoridae 棒蚱属 *Rhopalotettix* 1 新种, 即台北棒角蚱 *R. taipeiensis* sp. nov., 并编制了棒蚱属已知 7 种的检索表。新种同台湾棒蚱 *R. taiwanensis* Liang 近似, 异点为头顶背面观

端部逐渐变细, 顶端略向下弯曲, 雌性头顶长为基部宽的 2.1 倍。正模, 台湾台北, 1999-01-19, 林明昕采; 副模, 台湾台北, 1999-06-12, 刘耕名采。模式标本保存于台湾大学昆虫学系。

**关键词** 直翅目, 蚱总科, 棒蚱属, 新种, 台湾.

**中图分类号** Q969.26