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## 【Research report】

### 新幾內亞小型捕食性蠱嘶一新種-刺尾類棘蠱嘶 *Paraphisis spinicercis* sp. nov. (蠱嘶目：蠱嘶總科) 【研究報告】

金杏寶、D. Keith McE. Kevan、許洞慶

\*通訊作者E-mail:

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#### Abstract

#### 摘要

本文重新肯定了類棘蠱屬 *Paraphisis* Karny 的分類地位，並描述了一個產自新幾內亞西北部的新種—刺尾類棘蠱 *Paraphisis helleri* Karny。其主要區別在於新種的雄性尾毛具有細刺，其陰莖基背片非常特殊。兩個曾被鑒定為梳足棘蠱 *Paraphisis helleri* Karny。其主要區別在於新種的雄性尾毛具有細刺，其陰莖基背非常特殊。兩個曾被鑒定為梳足棘蠱 *Phisis pectinata* (Guérin) 的標本被重新鑒定。來自大溪地島 (Tahiti) 的雄性標本應為霍氏棘蠱 *Phisis holdhausi* Karny；來自可可島 (Cocos-Keeling) 的雌性應為漫游棘蠱 *Phisis peregrina* Karny。

#### Key words:

關鍵詞: 蠱蜚總科、新種、新幾內亞。

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# A New Species of Small Predacious Orthopteroid, *Paraphisis spinicercis* sp. nov., from New Guinea (Grylloptera: Tettigonioidea)

Xing-Bao Jin<sup>1</sup> Lyman Entomological Museum and Research Laboratory, Macdonald College, McGill University, Québec, Canada, H9X 1C0

D. Keith McE. Kevan Lyman Entomological Museum and Research Laboratory, Macdonald College, McGill University, Québec, Canada, H9X 1C0

Tung-Ching Hsu Department of Plant Pathology and Entomology, National Taiwan University, 1 Roosevelt Road, Sec. IV, Taipei.

## ABSTRACT

The taxonomic position of the genus *Paraphisis* Karny is reconfirmed and a new species, *Paraphisis (P.) spinicercis* sp. nov., from northwestern New Guinea is described. The new species is close to *Paraphisis helleri* Karny, 1912, but differs mainly by its spined male cercus and characteristic epiphallus. Two specimens from Tahiti and the Cocos - Keeling Islands belonging to the related genus *Phisis* stål have been identified as *Phisis holdhausi* Karny, 1926 and *P. peregrina* Karny, 1926 respectively.

**Keywords:** Tettigonioidea, new species, New Guinea.

# 新幾內亞小型捕食性螞蜥一新種— 刺尾類棘螞蜥 *Paraphisis spinicercis* sp. nov. (螞蜥目：螞蜥總科)

金杏寶<sup>1</sup> Lyman Entomological Museum and Research Laboratory, Macdonald College, McGill University, Québec, Canada, H9X 1C0

D. Keith McE. Kevan Lyman Entomological Museum and Research Laboratory, Macdonald College, McGill University, Québec, Canada, H9X 1C0

許洞慶 國立台灣大學植物病蟲害學系 台北市羅斯福路四段1號

## 摘要

本文重新肯定了類棘蝨屬 *Paraphisis* Karny 的分類地位，並描述了一個產自新幾內亞西北部的新種—刺尾類棘蝨 *Paraphisis spinicercis* sp. nov.。該種接近於本屬的模式種，海氏類棘蝨 *Paraphisis helleri* Karny。其主要區別在於新種的雄性尾毛具有細刺，其陰莖基背片非常特殊。兩個曾被鑒定為梳足棘蝨 *Phisis pectinata* (Guérin) 的標本被重新鑒定。來自大溪地島 (Tahiti) 的雄性標本應為霍氏棘蝨 *Phisis holdhausi* Karny；來自可可島 (Cocos-Keeling) 的雌性應為漫遊棘蝨 *Phisis peregrina* Karny。

關鍵詞：蝨總科，新種，新幾內亞。

## Introduction

While checking the type specimens of "*Decolya*" *kotoshoensis* Shiraki, 1930, at the Department of Plant Pathology and Entomology of the National Taiwan University, a few other Phisidini were identified. Two males from New Guinea belong to an undescribed species of *Paraphisis*. Two specimens determined by Shiraki as *Phisis pectinata* were re-examined. Of these latter, one, a female from Tahiti, is *Phisis holdhausi* Karny, and the other, a male from the Cocos-Keeling Island, is *P. peregrina* Karny. An entire revision of the tribe Phisidini, to which all of the species in question belong, is in preparation for publication, but a brief, taxonomic background of the genera *Paraphisis* and *Phisis* is presented here in order to introduce the description of the new species.

### Taxonomic position of the genus *Paraphisis* Karny, 1912

The genus *Paraphisis* was established by Karny (1912) with the type species *P. helleri*. Since then no species has been assigned to it, though a couple of species described later in the genus *Phisis* Stål do, in fact, belong to this genus. When Kaltenbach (1968) first proposed the tribe "Phisiini" (invalidly, cf. Jin 1990), he

included the genera *Phisis* Stål, *Estrinia* Karny, *Decolya* Bolívar and *Beiericolya* Kaltenbach, but, for an unknown reason, no *Paraphisis*. This may have been because of the absence of prosternal processes in *Paraphisis*, previous authors perhaps having not accepted it as being related to *Phisis*. Jin (1987) redefined the tribe Phisidini and assigned *Paraphisis* to it. Further careful character analysis of the whole tribe has confirmed that *Paraphisis* indeed belongs to it.

The genus is now known to comprise 18 species, but only five of them have hitherto been named: the type species and four others previously assigned to *Phisis*. These are: *rubrosignata* Bolívar, 1905, and *longipennis* Kästner, 1933, both of which may be considered as being fairly typical of *Paraphisis*, and *listeri* Kirby, 1888 and *brevipennis* Chopard, 1951 (not *brevipennis* of Kästner, 1933: 22, 23)<sup>2</sup>, which are small, comparatively short-winged species atypical for the genus.

### *Paraphisis spinicercis* sp. nov.

**Etymology:** From *spina* = spine, *cercos* = tail; referring to the basal lobe of the

<sup>1</sup> Permanent address: Shanghai Institute of Entomology, Academia Sinica, 225 Chongqing Road (S), Shanghai, China, 200025.

<sup>2</sup> *Phisis brevipennis* Chopard, 1951:532 is a primary homonym of *Phisis brevipennis* dKästner, 1933. *Paraphisis chopardi* nom.nov. is here proposed as a replacement name.

male cerci beset with fine spines.

**Holotype**, ♂: New Guinea (northwest): Wareng; VIII. 1936; S. Issiki.

**Paratype**, ♂: same as Holotype.

**Description:**

Body size small for the tribe (14 mm).

**Head.** Fastigium of vertex short, conical, acutely pointed between the antacava. Antennae long and fine. Eyes globose and prominent. Maxillary and labial palpi long, terminal segments spatulate distally.

**Thorax.** Pronotum with disc smooth, anterior and posterior margins slightly concave, prosolcus prominent (Fig. 1a), lacking yellowish longitudinal stripes, lateral lobe deep. Prosternal processes absent, mesosternal processes very short and blunt, metasternum unarmed. Thoracic auditory openings small, same size as associated spiracles (Fig. 1b). Tegmina and hind wings well developed, reaching far beyond ends of hind femora, male left tegmen having thickened stridulatory file vein, mirror (central wing – cell) area of rectangular form, venation as in Fig. 1c. Front leg with coxa lacking spine – like process, femur with 6 external and 5 internal spurs, tibia with 7 external and 7 or 8 internal spurs; tympanal organ with dorsally – directed orifices, size moderate (Fig. 1d). Middle leg with trochanteral spine present, femur with 5 external and 2 internal spurs, tibia with 7 external and 6 internal spurs, dorsal sub – basal spur absent and apical spur present. Hind femur armed with rather fine teeth on ventral margin, tibia with normal outer and inner rows of small tooth – like spines.

**Abdomen.** Male with hind margin of last (10th) tergum deeply concave in middle, forming a pair of elongate lateral lobes (Fig. 1e). Epiproct of semicircular or lens – like form. Paraprocts in form of small lobes (Fig. 1e). Subgenital plate narrowly triangular, notched apically, without styli (Fig. 1e). Cerci expanded for about 1/2 of basal length, each forming a broad lobe armed with fine spines on its surface, after which forming a narrowed, inwardly bent part. Lateral phallobes of phallic complex moderately long, dorsal phallobes sac – like with two expanded apices, ventral phallobes not visible, probably very short (Fig. 1h, sam-

ple shrunk). Epiphallus of modified triangular form, cephalic lobe elongate, apical part bearing fine denticles, basal lobes broad and curved inward (Fig. 1i, j).

Female unknown.

Measurements(mm):	Holotype	Paratype
Body	13.5	14.0
Pronotum	3.0	3.2
Tegmen	24.0	24.0
Hind femur	14.2	14.2

**Type material examined:**

**Holotype**, ♂: NEW GUINEA/WARENG/VIII. 1936/COL.S.ISSIKI [all printed, except "VIII"].

**Paratype**, ♂: same as Holotype.

This species is fairly close to the type species of the genus, *Paraphisis helleri* Karny, but differs in: (1) male last tergum forming a pair of elongate lateral lobes; (2) basal lobes of male cerci broad and armed with fine spines; (3) cephalic lobe of epiphallus elongate, bearing fine denticles apically.

**A general remarks on the genus *Phisis* Stal, 1861.**

A recent revision of the tribe Phisidini (Jin, 1990) shows that the type genus *Phisis s. lat.* was a polymorphic group. The newly defined true *Phisis s. str.* retains only four species previously assigned to *Phisis* (excluding three synonymized species), of which three are widely distributed (*P. holdhausi* Karny, 1926, *P. willemsei* Kevan, 1987, and *P. peregrina* Karny, 1926) and one, the type species, *P. pectinata* (Guérin, 1831), known only by the unique male holotype from Buru Island in Indonesia. Because of the similar morphological features and the unclear distributional range of the three widespread species, many specimens have been determined in the past as *P. pectinata*, apparently almost solely on the basis of having predatory spurs of the front and middle legs. It is now clear that, besides the morphological features, especially the detailed form of the male epiproct and paraprocts, the three species have their own distribution ranges. Roughly, *P. holdhausi* occurs on the islands of

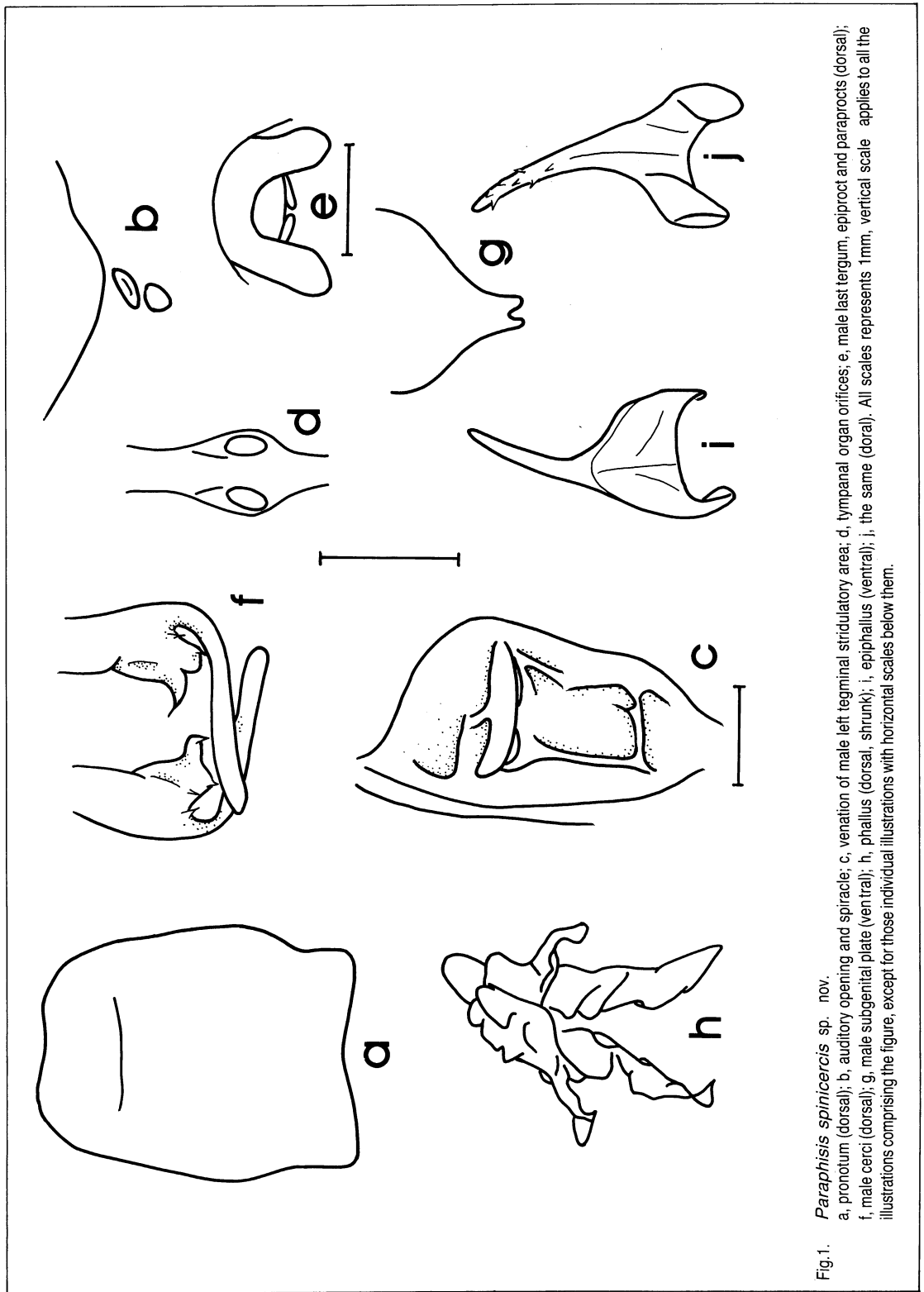


Fig. 1. *Paraphasis spinicercis* sp. nov.

a, pronotum (dorsal); b, auditory opening and spiracle; c, venation of male left tegminal stridulatory area; d, tympanal organ orifices; e, male last tergum, epiproct and paraprocts (dorsal); f, male cerci (dorsal); g, male subgenital plate (ventral); h, phallus (dorsal, shrunk); i, epiphallus (ventral); j, the same (dorsal). All scales represent 1mm, vertical scale applies to all the illustrations comprising the figure, except for those individual illustrations with horizontal scales below them.

Polynesia, *P. willemsei* on the islands of Micronesia and *P. peregrina* on the islands of the Indian Ocean and Indo – Malayan region (Jin, 1990).

#### Redetermination of Shiraki's *Phisis* "pectinata"

Two species of *Phisis* *Stål* from Shiraki's material are redetermined as follows:

##### (1) *Phisis peregrina* Karny

1 ♂ : (1) Cocos Keeling Is. [printed]; (2) *Phisis* Guér./ *pectinata* [handwritten]/ Det. T. Shiraki [printed].

##### (2) *phisis holdhausi* Karny

1 ♀ : (1) Papite/ Tahiti [handwritten]; (2) *Phisis* Guér./ *pectinata* [handwritten]/ Det. T. Shiraki [printed].

All the examined material is deposited in the Department of Plant Pathology and Entomology, National Taiwan University, Taipei, China.

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