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Sabactiopus gen. nov. with a Redescription of Sabactus institutus Distant, 1910 (Hemiptera: Miridae: Mirinae) 【Research report】

薩盲蝽屬 (新屬) (Sabactiopus, gen. nov.) 的建立及Sabactus institutus Distant 1910 的重新描述 (半翅目: 盲蝽科: 盲蝽亞科) 【研究報告】

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Abstract

A new mirine plant bug genus, Sabactiopus, gen. nov., is described and erected to accommodate the type species *Lygus sauteri* Poppius, 1912. Sabactiopus sauteri, new combination, is redescribed and transferred from Sabactus Distant, 1910. Sabactus institutus Distant, 1910 the type species of Sabactus is redescribed based on the lectotype newly designated herein.

摘要

本文記述盲蝽科盲蝽亞科的一個新屬 -- 薩盲蝽屬 (Sabactiopus, gen. nov.)，以容納該屬的模式種 *Lygus sauteri* Poppius, 1912; 文章對後者重新描述，並將該種作為新組合，由 Sabactus Distant 屬移至薩盲蝽屬，名為“邵氏薩盲蝽” Sabactiopus sauteri (Poppius), comb. nov.。本文還對 Sabactus Distant 屬的模式種 *S. institutus* Distant, 1910 的正模標本作了重新描述。

Key words: Heteroptera, Mirinae, new genus, new combination, redescription.

關鍵詞: 半翅目 · 盲蝽科 · 盲蝽亞科 · 新屬 · 重新描述

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Sabactiopus gen. nov. with a Redescription of *Sabactus institutus* Distant, 1910 (Hemiptera: Miridae: Mirinae)

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ABSTRACT

A new mirine plant bug genus, *Sabactiopus*, gen. nov., is described and erected to accommodate the type species *Lygus sauteri* Poppius, 1912. *Sabactiopus sauteri*, new combination, is redescribed and transferred from *Sabactus* Distant, 1910. *Sabactus institutus* Distant, 1910 the type species of *Sabactus* is redescribed based on the lectotype newly designated herein.

Key words: Heteroptera, Mirinae, new genus, new combination, redescription.

Introduction

Poppius (1912) described *Lygus sauteri* based on specimens from Taiwan. Schwartz and Kerzhner (1997) transferred it into *Sabactus* Distant, 1910. Previous to this action *Sabactus* contained only the type species *S. institutus* Distant, 1910 described from Sri Lanka (Ceylon) (Distant). Except for a brief diagnosis and documentation of the female genitalia by Kelton (1955), both the genus and its type species has been rarely studied. Herein, the holotype of *Sabactus institutus* is redescribed. Our examination of *L. sauteri* revealed that it differs greatly from *S. institutus*. Specifically its strongly shiny surface, boldly contrasting dark and pale color pattern, protruding preocular portion of the head, more sunken collar, and the practically glabrous pronotal disc with

very shallow and sparse punctation demonstrate that *L. sauteri* is not congeneric with *S. institutus*. Furthermore the female genitalia of *S. institutus* with narrow and distally bifid interramal lobe (Kelton, 1955, fig. 130) also differs from that of *L. sauteri* (Fig. 1c, this paper; Schwartz and Kerzhner 1997, fig. 38). We interpret this structural variation in the female genitalia to be of generic significance.

No described genus within the *Lygus-Lygocoris* generic complex of the Mirini can adequately contain *L. sauteri*. It is superficially close to the neotropical genus *Proba* Distant, 1884 in the similar form of the posterior wall, the unarmed vesica, and the overall habitus (Kelton, 1955; Carvalho and Costa, 1989). However, the well-developed hemelytral and scutellar vestiture, the simple and non-subapically dilated ductus seminis,

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and the distinctly punctate dorsum of *P. gracilis* Distant, 1884, the type species of *Proba*, are not present in *L. sauteri*. Another possible generic placement for *L. sauteri* is *Prolygus* Carvalho, 1987 of Oriental distribution. *Lygus sauteri* shares the following characters with the type species of *Prolygus*, *L. papuanus*: small and shiny body, similar head structure, slender collar obscured laterally by the eyes, flattened collar area, tibial spines with a black basal spot, and a subapically dilated ductus seminis (Carvalho 1987). But the well-developed spicule and associated spine like sclerotized appendages of the vesica, the different left paramere, and the more-pubescent pronotum of *L. papuanus* differ from those of *L. sauteri*. The practically glabrous pronotum and unarmed vesica of *L. sauteri* distinguish it from the other genera of the *Lygus-Lygocoris* complex which have small compact bodies, transversely carinate vertices, small preocular area heads, and hind tibial spines with dark basal spots. Based on this discussion, we erect the new genus *Sabactiopus* to accommodate *L. sauteri* Poppius.

Sabactiopus, gen. nov.

Type species: *Lygus sauteri* Poppius, 1915

Diagnosis: Body small, rounded, and shiny, with simple setae. Head vertical, transverse basal carina complete. Pronotum strongly declivent and tumid, subglabrous; collar dull, thin, glabrous and low, lateral apices obscured by eyes. Corium finely and shallowly punctate. Tibial spines brown, with black spot at bases. Right paramere with long, straight, slender, tapered hypophysis. Vesica lacking spicule and other sclerotized appendages, portions of membranous lobes with lobal sclerites. Sclerotized ring narrow and transverse. Posterior wall without lateral lobes, interramal lobes spinulate, with broadly rounded and

complete margin, apex not bifid.

Description: Body small, thick and compact, strongly shiny. Pubescence simple, setae like.

Head vertical, shiny and smooth, vertex weakly depressed medially, mesal sulcus shallow, basal carina distinct and complete, relatively thick, very slightly and broadly curved anteriorly; posterolateral area of vertex smooth, surface without microsculptures; clypeus separated from frons basally by a shallow depression. Head, in lateral view, comparatively short and high, top of eye reaching level of top of vertex. In anterior front view, antennal fossa situated just below middle of inner margin of eye, lower apex distant from lower apex of eye, carinate margin of fossa low; outer margin of mandibular plate broadly and weakly angulate, lateral margin of pre-ocular portion of head not straight. Antennal segment I linear, comparatively thin, only a little thicker than greatest diameter of segment II, longer than vertex width, about 1/2 as long as head width, barely surpassing apex of clypeus; segment II sublinear, slightly thickened apically; segments III and IV linear, 1/2 as thick as segment II; pubescence of segments I and II short, semi-decumbent, moderately dense.

Pronotum distinctly declivent and tumid, shiny, with very sparse, short, minute, erect hairs, or almost glabrous; collar thin, dull, glabrous, about 1/2 as thick as antennal segment I, or about as thick as vertex carina; lateral apices of collar covered by eyes, lower than foremost portion of pronotum; punctures fine, shallow, sparse, practically obsolete; lateral margin straight, not carinate; posterior margin broadly arcuate, median portion nearly straight; callus area usually reddish brown, flat, almost as high as pronotal disc, or weakly tumid, polished, margins mostly indistinct, calli connected medially and confluent with

each other, extending forward up to collar anteriorly, reaching anterolateral angle laterally.

Scutellum weakly raised, smooth or very shallowly rugulose; vestiture as on hemelytra, almost impunctate, base of each seta finely pitted.

Hemelytra shiny; corium very finely and shallowly punctate; clavus shagreened, coarsely and shallowly punctate; vestiture of hemelytra composed of moderately dense semi-decumbent simple setae of moderate length.

Tibial spines brown, about as long as diameter of hind tibia, each tibial spine with a black spot at base. Tarsal segments I and II of hind leg subequal in length, altogether subequal to segment III.

Left paramere: sensory lobe conically developed, hypophysis bird head-like (Fig. 1a). Right paramere: hypophysis elongate, slender and tapered, straight and slanted (Fig. 1b). Vesica: lacking spicule and other sclerotized appendages, only some membranous lobes with sclerotized and spinulate lobal areas; secondary gonopore small, ductus seminis widened subapically, flask like (Fig. 1c); sclerotized rings narrow and transverse (Fig. 1e); posterior wall of bursa copulatrix lacking lateral lobes, interrampal lobes spinulate, broad, with broadly rounded and complete apical margin, apex not bifid (Fig. 1f).

Etymology: named to recognize the superficial similarity of the new genus to *Sabactus* Distant, 1910.

Sabactiopus sauteri (Poppius, 1912), comb. nov., Zheng and Lin

Lygus sauteri Poppius, 1912: 303; Schuh, 1995: 825.

Sabactus sauteri (Poppius): Schwartz and Kerzhner, 1997: 25; Lu and Zheng, 1998: 188; Kerzhner and Josifov 1999: 176.

Materials examined: 1 (lectotype, Zoological Museum, Uni. of Helsinki), TAIWAN: NANTOU: Chichi, II-1909, Sauter leg.; Chito, Exo, For., 1150m, 5-8-1957, 12-15-X-1957, T. C. Maa leg. (Bishop Museum); Hweishun, 4-4-20-II-1990, C.S. Tseng leg.; Hsini, 2-3-18-19-VI-1990, K. H. Huang leg.; Sanlinchi, 3-1-19-V-199, C.C. Chiang leg.; TAIPEI: Pibh, 49 km E of Taipai, 1-18-II-1972, T.C. Maa leg. (Bishop Museum); CHAIYI: Alishan, 2130m, 21-23-22-23-VIII-1947, J.L. Gressitt leg. (Bishop Museum); Fenchifu, 2-25-26-IV-1986, C.S. Lin leg.; ILAN: Taipingshan 1-1-8-VIII-1989; Suanlienpi, 1-15-II-1990, C.C. Chiang leg.; KAOHSIUNG: Liukuei, Tenchih, 4-7-IX-1989, K.H. Huang leg.

Redescription: Body oval, yellowish brown to brown, with bold dark markings.

Head shining and smooth, ochraceous to brown, vertex sometimes paler; apical half of clypeus, maxillary and mandibular plates black; vertex width = 1.6x () or 0.7x () eye width; vestiture on frons and vertex short, fine, pale, semi-erect, moderately sparse. In lateral view, head comparatively short and high, top of eye reaching level of top of vertex. Antennal segment I slightly surpassing head apex, basal 2/5 whitish yellow, remaining portion black, with a pale spot on dorsal side, subbasally with narrow dark ring; segment II slightly thickened apically, apical portion almost as thick as segment I, basal 1/2 whitish, base black, apical 1/2 black; segments III and IV black, basal 1/2 of III white. Rostrum yellowish-brown, reaching apex of middle coxa to middle of hind coxa.

Pronotum yellowish-brown to pale reddish-brown, strongly shiny; callus area usually reddish brown.

Scutellum shiny, blackish-brown, anterior angles and apical angle yellowish white, or margins broadly yellowish white as a pale v-shaped

marking; vestiture pale brownish, fine, semi-decumbent, moderately dense, slightly longer than diameter of hind tibia. Mesoscutum usually not exposed.

Hemelytra brown to blackish-brown, shiny, base of corium, a triangular spot at outer 1/2 of middle portion of corium, and apical marginal band yellowish-brown; pale individuals with yellowish-brown clavus except a large blackish-brown spot at commissure margin, corium mostly yellowish-brown with 2 blackish-brown obliquely transverse fasciae, cuneus yellowish-brown with central blackish-brown transverse fascia. Membrane smoky black, gradually paler toward apex, veins slightly paler.

Legs yellowish-brown; base of femora of front and middle legs black, a wide median ring and 2 apical rings reddish-brown; hind tibial spines pale brown, about as long as tibial diameter. Hind leg with yellowish-brown tarsal segments I and II, segment III blackish-brown.

Body beneath shiny. Underside of front and middle thorax yellowish brown; the distal portion black; area of ostiolar peritreme dull.

Genitalia characters: Schwartz and Kerzhner (1997) provided genitalia illustrations of both sexes. Herein, figures of the fully inflated vesica, sclerotized ring, and posterior wall of the bursa copulatrix are provided (Fig. 1). Descriptions of these structures are given in the diagnosis of the genus.

Measurements (mm): Body length 3.33-4.06, body width 1.75-1.85. Head length in dorsal view 0.13, head width 0.75-0.88, vertex width () 0.22, () 0.33. Antennal segment lengths: 0.48: 1.10: 0.68: 0.70. Protonum mesal length 0.68-0.70, hind margin width 1.43-1.45. Scutellum length 0.58, width 0.70. Commissure length 0.57-0.58, embolium length 1.53-1.56, cuneus length 0.63.

Sabactus Distant, 1910

Sabactus institutus Distant, 1910

Sabactus institutus Distant, 1910: 21; Schuh, 1995: 944.

Material examined: 1 type specimen, Ceylon (Sri Lanca): Peradeniya (Natural History Museum, London; labelled "type, H. T." [printed]), here designated as lectope.

Redescription: Body short, compact, subshiny, almost completely and uniformly yellowish brown; vestiture of simple setae.

Head vertical, in dorsal view, frons not visible; vertex narrow, almost as wide as eye in male; frons and vertex evenly and moderately tumid, subshiny, impunctate, vestiture short and fine, moderately dense, semi-erect, pale, extensively and evenly distributed; mesal sulcus of vertex shallow, rather indistinct, concolorous with vertex; transverse basal carina of vertex distinct and complete, weakly and broadly curving anteriorly; frons and clypeus perpendicular, clypeus basally separated from frons by shallow depression, clypeus and mandibular plate slightly tinged with bright brown. In front view, preocular area of head triangular in outline, lateral margin straight, length about 1/2 the remaining portion (0.8:2.0). Antennal fossa situated just below the middle point of inner margin of eye. Antennal segments I and II concolorous with head, segment I largely cylindrical, comparatively thin, slightly surpassing apex of clypeus; segment II sub-linear, slightly thinner than I, vestiture of I and II pale, short, dense and decumbent; segments III and IV black, diameter about 1/2 of II, linear. Rostrum yellowish brown, reaching apex of hind coxae.

Pronotum unicolorous, evenly tumid, declivent; lateral margin straight; hind margin broadly arcuate with median portion almost straight; hind pronotal angle rounded; callus flat and extensive, calli connected medially, reaching

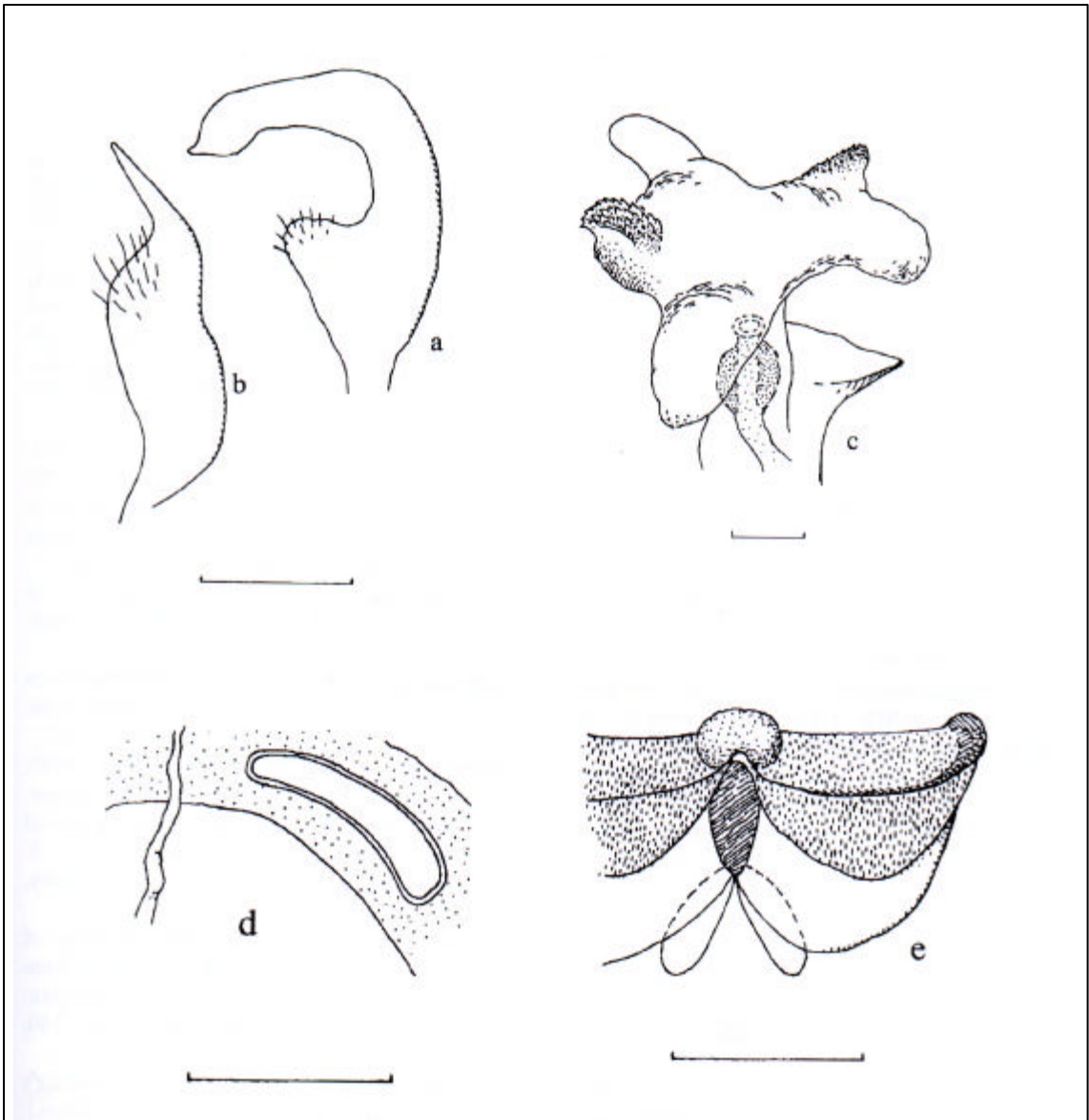


Fig. 1. Male genitalia of *Sabactiopus sauteri* (Poppius). a. Left paramere; b. right paramere; c. vesica; d. ring sclerite; e. posterior wall of bursa copulatrix. Scale = 0.1 mm.

anterolateral angle of pronotum laterally, reaching collar anteriorly, margins indiscernible, slightly dull, vestiture without basal punctures, setae sparser than on disc; pronotal disc densely punctate, punctures distinct, moderately shallow and evenly distributed, somewhat

shallowly rugulopunctate; vestiture dense, pale, moderate in length and semi-decumbent.

Scutellum tumid, densely and transversely rugulose. Setae same as on pronotum and hemelytra.

Hemelytra unicolorous, only with

apex of cuneus narrowly black; clavus comparatively wide, covered with uniformly dense, shallow punctures; corium shagreened, punctures dense, shallower than those of clavus; pubescence the same with that of pronotum, hairs semi-decumbent and dense, almost concolorous with hemelytra.

Legs yellowish-brown. Hind femur weakly incrassate, subapically with 2 narrow, reddish-brown rings. Hind tibial spines brown to dark brown, comparatively long, about twice as long as tibial diameter, base of each spine with a reddish-brown or blackish-brown spot. Tarsi pale, hind tarsus with segment I subequal to II in length, both about 1/2 as long as III.

Body beneath unicolorously pale yellowish brown, with pale vestiture.

Genitalia not dissected.

Measurements (mm): Body length 2.83, body width 1.42. Head length in dorsal view 0.13, head width 0.85, vertex width 0.30. Antennal segment lengths: 0.38: 1.18: 0.53: 0.48. Pronotum mesal length 0.55, hind margin width 1.45. Scutellum length 0.55, width 0.85. Commissure length 0.58, embolium length 1.50, cuneus length 0.50.

Remarks: In his key to world genera, Carvalho (1955) distinguished *Sabactus* by the presence of the "frons with 4 to 5 punctures above antennal fossa". However we can not confirm the presence of this character, as the frons and vertex area of the holotype of *S. institutus* are entirely impunctate.

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摘 要

本文記述盲蝽科盲蝽亞科的一個新屬 -- 薩盲蝽屬 (*Sabactiopus*, gen. nov.), 以容納該屬的模式種 *Lygus sauteri* Poppius, 1912: 文章對後者重新描述, 並將該種作為新組合, 由 *Sabactus* Distant 屬移至薩盲蝽屬, 名為“邵氏薩盲蝽” *Sabactiopus sauteri* (Poppius), comb. nov.。本文還對 *Sabactus* Distant 屬的模式種 *S. institutus* Distant, 1910 的正模標本作了重新描述。

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