LECITHOCERIDAE (LEPIDOPTERA, GELECHIOIDEA) OF NEW GUINEA, PART III: A NEW GENUS SCOLIZONA WITH DESCRIPTION OF TWO NEW SPECIES

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ABSTRACT

As the third part of a serial study on the family Lecithoceridae (Lepidoptera, Gelechioidea) of New Guinea, a new genus, *Scolizona* gen. nov. is described, with the type species, *S. rhinoceros* (Diakonoff 1954) comb. nov. and two additional new species: *S. ulnaformis* sp. nov. and *S. palinoides* sp. nov. Adults, wing venations, the male genitalia of these three species, and the female genitalia of *S. ulnaformis* sp. nov. are illustrated, and a key to the species of the new genus is given.

Key Words: Taxonomy, new genus, new species, *Scolizona*, New Guinea

RESUMEN

En la tercera parte de una serie de estudios sobre la familia Lecithoceridae (Lepidoptera, Gelechioidea) de Nueva Guinea, se describe un nuevo género, *Scolizona* gen. nov. con la especie tipo, *S. rhinoceros* (Diakonoff 1954) comb. nov. y dos adicionales nuevas especies: *S. ulnaformis* sp. nov. y *S. palinoides* sp. nov. Se ilustran los adultos, la nervadura de las alas y los genitales de los machos de estas tres especies, los genitales de la hembra de *S. ulnaformis* sp. nov. y se provee una clave de las especies en este nuevo género.
of New Guinea (Irian Jaya of Indonesia and Papua New Guinea), a new genus, *Onnuria* Park, gen. nov. including three new species, and *Hamatina* Park, gen. nov. including four new species were described (Park 2011b, c).

**MATERIALS AND METHODS**

This study is based (i) on specimens deposited in the National Museum of Natural History (USNM), Washington, D.C., USA, collected from Papua New Guinea by G. F. Hevel and R. E. Dietz IV in 1976, Scott E. and Pamela Miller in 1983, and V. O. Becker in 1992, and (ii) specimens in the Zoological Museum Amsterdam (ZMAN), The Netherlands, collected from Irian Jaya of Indonesia by Drs. Rob de Vos and colleagues in several expeditions during last two decades. All species described herein were compared with the types of *Lecithocera* described by Diakonoff (1954), which are deposited in the Rijksmuseum van Natuurlijke Historie (RMNH), Leiden, The Netherlands. The new species also were compared with the original descriptions of some early known species of *Lecithocera* described by Durrant (1915) and Meyrick (1910, 1918, 1929, 1931, 1938) from New Guinea, the types of which could not be found. Indeed they probably are lost or have been destroyed (Clarke 1955: 31). The types of *L. deloma* Durrant, 1915 and *L. strigosa* Durrant, 1915 are known to be deposited in The Natural History Museum, London (BMNH), but they are not found. The locations of the types of 6 species described by Meyrick (i.e., *autodyas*, *coleasta*, *praecentrix*, *prudens*, *squamifera*, and *tamiodes*) are unknown, and the types of *strepsicrena* Meyrick, *stelophanes* Meyrick, and *staurophora* Meyrick are in the BMNH. *Lecithocera invariellla* Walker (1846) was listed in the key by Diakonoff (1954), but it was not described from New Guinea, but was erroneously cited from there. The new species of *Scolizona* gen. nov. described in this paper are easily distinguished from any of the above species by having a characteristically specialized labial palpus as a diagnostic character in their description.

The wingspan is measured from the left apex to the right apex of the forewing. Images of genitalia and wings were captured with the Automontage Microscopic System at the Florida State Collection of Arthropods, Division of Plant Industry, Gainesville, Florida, USA. The color standard for the description of adults follows Kornerup and Wanscher (1978), and the morphological termi-
SYSTEMATICS

Genus Scolizona Park, gen. nov.

Type species: Lecithocera rhinoceros Diakonoff, 1954: 47.

The new genus is one of the genera related to Lecithocera Herrich-Schäffer by having a similar venation and the male genital character. However, the genus is characterized by the uniquely specialized labial palpus: 1st segment relatively long; 2nd segment remarkably stout, strongly recurved backwards and exceeding vertex, with long hair-pencils apically; 3rd segment considerably variable in the size and shape, as long as the 2nd or much longer than 2nd segment, with long hair-pencils.

External Morphology. Head roughly scaled, with yellowish-brown to dark-brown scales dorsally. Antenna longer than forewing, with slender basal joint, without pectin; flagellum sometimes with blackish basal and preapical parts, with usually whitish apex. Labial palpus very stout, with appressed or rough scales; first segment relatively long, often about half the length of 2nd segment; 2nd segment flattened laterally, strongly recurved, longitudinally furrowed on inner surface with hair-like, long scale-tufts apically; 3rd segment as long as the 2nd, or extremely long, with hair-like, long scale-tufts, these hairs usually appressed, but sometimes erect (Figs. 3a and 4c). Forewing irregularly covered with dark brown scales, more densely scattered in base of costal area, with a pair of large blackish discal spots before middle and near end of cell, usually anterior one larger, elongate; apex more or less obtuse; termen sinuate; fringe usually with pale-orange basal line; venation with R arising before middle of cell; distance R and R more than 1.5 times than that of R and R; R and R stalked before middle; R and R stalked for more than 2/3 length; R, reaching termen; M, close to R, M approximately to M at base; CuA and CuA, short-stalked; anal vein well developed; cell closed with weak cross vein. Hindwing pale gray, slightly broader than forewing, nearly trapezoidal; apex more or less acute; termen slightly sinuate; venation with Rs and M, connate or short-stalked; M, well developed, closely approximated to M at base or stalked with M, +CuA, M, and CuA, short stalked; CuA, arising from near lower corner of cell; cell partly closed. Hind tibia roughly scaled all around. Abdomen has no spines on tergites.

Male Genitalia. Basal lobes of uncus usually ovate, directed outwardly. Gnathos strongly bent preapically. Costal bar sharply angulated at middle. Valva broad basally; cucullus elongate, with one or double stout spikes under a row of comb in 2/3 length on ventral margin and dense bristles along ventral margin. Juxta deeply or slightly concave on caudal margin. Aedeagus very stout, bent medially, as long as valve or slightly longer, with complex of heavily sclerotized plates and broad plate with numerous spicules dorsally. Seventh sternite with long hair-pencils.

Distribution. Irian Jaya of Indonesia and Papua New Guinea.

Etymology. The generic name is derived from the Greek, scoli (= curved) and zona (= belt), referring to the strongly recurved labial palpus.

Remarks. This genus is remarkable for its large, recurved palpus which resembles those of many deltoids of Noctuidae.

KEY TO SPECIES OF THE GENUS SCOLIZONA PARK

1. Second segment of labial palpus curved, as long as 3rd; 3rd segment stout, nearly straight (Figs. 2a, 3a, b, c, and 5). ................................................................. 2
   — Second segment of labial palpus slightly curved, less than 1/3 length of 3rd segment; 3rd segment extremely long, slender, bent before middle (Figs. 4a, b, and 6). ........................................... S. palinoides Park, sp. nov.

2. Flagellum of antenna blackish in basal 1/8 and apical 1/8, grayish orange speckled with dark-brown scales between them; second segment of labial palpus strongly bent anteriorly; forewing brownish yellow, with R and R, stalked beyond and CuA, stalked for 1/3 length; male genitalia with more slender cucullus, with double spikes at 2/3 on ventral edge. ................................. S. rhinoceros (Diakonoff)
   — flagellum of antenna blackish wholly, except orange white between apical 8th and 9th, with white apex; Second segment of labial palpus weakly bent; forewing yellowish brown, with R and R, stalked beyond 2/3 (Fig. 7); hindwing venation with M, and CuA, stalked for 1/4 length; male genitalia with less slender cucullus, with a single spike at 2/3 on ventral edge ............................... S. ulnaformis Park, sp. nov.

Scolizona rhinoceros (Diakonoff 1954), comb. nov.

(Figs. 2, 2a, 9, and 9a-b) Guinea, 4: 47.

Diagnosis. Wingspan, 19-21 mm. This species is hardly distinguishable from S. ulnaformis sp.
by external characters, but it has a slightly larger and darker forewing. The venation of both wings also differs slightly: R$_4$ and R$_5$ stalked for more than 2/3 length in the forewing and CuA$_1$ and CuA$_2$ with longer stalk than that of the latter. The male genitalia are also similar, but can be distinguished by the following description for the male genitalia: the cucullus more elongated, with nearly straight costal margin, with longer spike on ventral margin; and the aedeagus with cornutus-complex bearing elongate apical process and more heavily sclerotized dorsal projection.

Female. Unknown.

Male Genitalia (Figs. 9, 9a, and 9b): Very similar to those of *S. ulnaformis* sp. nov. but differs as follows: cucullus more elongated; costal edge nearly straight; spikes at 2/3 on ventral edge double, longer than comb; juxta with shorter caudal lobes; cornutus-complex with more elongate apical lobe and strong spike-like projection before middle dorsally; 7th sternite triangularly convex medially on posterior margin, whereas truncate medially in *S. ulnaformis* sp. nov. (Fig. 9b). Aedeagus with cornutus-complex consists of heavily sclerotized plates, with elongated apical process and a short, spike-like dorsal projection before
middle; a broad plate with numerous spicules dorsally.

Material Examined. Male (holotype in Rijksmuseum of Natuurlijke Historie (RMNH), Leiden), Araucaria Camp, 800 m, 21 iii 1939, slide no. 962 D.; 1 ♂, Indonesia, Irian Jaya, Kokamatan Oksibil, Mobilabol 1,340 m, 4°54’S 140°37’E, 21-25 ii 2005, disturbed montane forest, UNCEN-ZMA Expedition Papua Indonesia 2005, gen. slide no. C.I.S-5951/Park

Distribution. Irian Jaya (Indonesia).

Remarks. After the species was described by Diakonoff (1954), an additional male was newly found in the area not far from the type locality.

**Scolizona ulnaformis** Park, **sp. nov.**

(Figs. 3, 3a-c, 5, 7, 10, 10a-b, and 12)

Diagnosis. This new species is externally very similar to the type species, *S. rhinoceros* (Diakonoff), but can be distinguished by the wholly blackish antenna with whitish color between apical 8th and 9th; the forewing brownish yellow, with venation R₄ and R₅ stalked beyond ⅜ and Cu₄ with longer stalk in the hindwing; the basalarial part of flagellum shorter, the 2nd segment of labial palpus less bent anteriorly; the male genitalia with a single spike at 2/3 on ventral edge, whereas double spikes in *S. rhinoceros*. The new species is distinguished from the following new species by the labial palpus with shorter thickened 3rd segment, whereas *S. palinoides* sp. nov has an extremely long 3rd segment, as illustrated in Figs. 4a and 4b.

Description. Male & Female (Figs. 3, 3a-c, 5, and 7). Wingspan, 18.0-19.0 mm. **External morphology**: Head brownish yellow to yellowish brown. Antenna with basal joint slender, blackish dorsally, grayish orange ventroapically, without pectin; flagellum wholly blackish except orange white part between apical 8th and 9th, with white apex. Labial palpus (Fig. 5) very stout; 1st segment relatively long, about half length of 2nd segment; 2nd segment thickened, brownish orange, speckled with dark-brown scales on outer surface, orange white and longitudinally furrowed on inner surface with hair-like, long scale-tuft apically; 3rd segment as long as 2nd, darker than 2nd on outer surface, with hair-like, long scale-tuft on inner surface, these hairs usually appressed, but sometimes erect (Figs. 3a and 5); apex obtuse. Tegula and thorax brownish yellow to yellowish brown. Forewing uniformly covered with brown-
ish scales throughout; a pair of large blackish discal spots before middle and at end of cell, usually middle one larger; apex more or less obtuse; termen sinuate; fringe yellowish brown, with pale-orange basal line; venation (Fig. 7) with R1 arising before middle of cell; distance R-R1 about 1.5 times as long as R2; R and R2 stalked for about 1/3 length; R3 and R4 stalked for 2/3 length; R4 reaching termen; M1 closed to R3+4+5; M2 nearly parallel to M3, closer to M3 at base; CuA1 and CuA2 stalked for 1/5 length of CuA1; anal vein well developed; cell closed with weak cross vein. Hindwing pale gray, slightly broader than forewing, nearly trapezoidal; apex more or less acute; termen slightly sinuate; fringe yellowish brown, with pale-orange basal line; venation with Rs and M1 connate; M2 well developed, closed to M3 at base; M2 and CuA2 stalked for 2/5 length; CuA2 arising from near lower corner of cell; cell open. Abdomen brownish yellow dorsally; spinous zones on tergites absent.

Male Genitalia (Figs. 10 and 10a-b). Basal lobes of uncus ovate, directed outwardly, forming Y-shape. Gnathos strongly bent preapically. Costal bar broadly angulated at middle. Valva broad basally, concave medially; ceculus nearly ovate, with gently arched costal margin, with dense bristles along ventral margin; with a single, small spike under a row of comb in 2/3 length on ventral margin, length of spike shorter than comb. Juxta deeply concave on caudal margin; caudal lobes long, about half the length of juxta. Aedeagus stout, bent medially; cornuti consist of complex of heavily sclerotized plates, with strongly curved apical process; median spike-like projection absent; with a broad plate with numerous spicules dorsally. Seventh sternite with long hair-pencil, truncate medially on posterior margin.

Female Genitalia (Fig. 12). Apophyses anteriora about 1/2 length of apophyses posteriores. Ostial plate wide, membranous. Ductus bursae narrow in posterior 1/3, broad in anterior 2/3; ductus seminalis arising beyond middle, as broad as anterior part of ductus bursae, with large accessory sac. Corpus bursae ovate, relatively small; signum long, with transverse median groove.


Distribution. Papua New Guinea (Morobe).

Etymology. The species name is derived from Latin, *ulna* (= elbow) and *formis* (= forma), referring to the shape of labial palpus.

*Scolizona palinoides* Park, sp. nov. (Figs. 4, 4a-b, 6, 8, 11, and 11a-b)

Diagnosis. The new species is distinguished from the preceding new species, *S. ulnaformis* sp. nov., by the extremely long 3rd segment of labial palpus as in the figures 4b and 6. The structure of the male genitalia also can be a good separation character, with a nail-like projection apically in the aedeagus.

Description. Male (Figs. 4, 4a-b, 6, and 8). Wingspan, 18.0-20.0 mm. External characters: Head yellowish brown. Antenna with slender, blackish basal segment, without pectin; flagellum blackish in basal 1/8 length and in apical 1/8 length, orange white wholly between them. Labial palpus characteristic, with exceptionally unusual shape: 1st segment relatively long, about 1/3 as long as 2nd segment; 2nd segment thickened, triangularly dilated apically, dark brown on ventro-outer surface; 3rd segment more than 3 times as long as 2nd, basal half thickened, yellowish white, with long hair-like scale tuft ventrally, then slightly bent, narrowed toward apex, with acute apex (Fig. 6). Tegula and thorax yellowish brown. Forewing with dark-brown scales irregularly scattered, especially dense in basal area and below discal spots; a pair of large blackish discal spots before middle and near end of cell, usually middle one elongate; apex more or less acute; ter-
small emargination at middle; caudal lobes not
devoloped. Aedeagus stout, bent at basal 1/3; cor-
nutri consist of two heavily sclerotized long plates,
a plate with dense spicules, and with a nail-like
strong spike apically.

Holotype: Male, Papua New Guinea, Morobe
P. M. Miller, 1,200m. UV Light, Montane For.,
gen. slide No. CIS-5703/Park. Paratypes: 6 ♂, same locality, 12-24 vii 1983, gen. slide No. CIS-
5747/Park, -5749/Park; 2 ♀, same locality, 1-10

Distribution. Papua New Guinea (Morobe).

Etymology. The species name is derived from
the Greek, ρaλiν (=backward) with suffix -oides.

Remarks. This new species has some differ-
ences from S. ulnaformis sp. nov. by the extremely
long 3rd segment of the labial palpus, and the
hindwing venation with M2 stalked with M3 and
CuA1, whereas they are free in S. ulnaformis sp.

nov. However, the author placed tentatively these
two species in the same new genus Scolizona gen.
nov. because they are very similar in other exter-

nal and male genital characters. It is needed a fur-
ther study when additional species are found.

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with four species from Thailand and the Philippines.
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