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A NEW GENUS *CHRYSONASMA* (LEPIDOPTERA, GELECHIOIDEA, LECITHOCERIDAE), WITH DESCRIPTION OF A NEW SPECIES FROM THE PHILIPPINES

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ABSTRACT

A new genus, *Chrysonasma* Park, of Lecithoceridae (Gelechioidea) is described based on *C. cassiterota* (Meyrick) and a new species, *C. caliginosa*, from the Philippines. The genus is separable from its allies by the colorful wing-pattern with leaden metallic longitudinal streaks. A key to the 2 species of the genus is given. Illustrations of the imagos, forewing venation, and male and female genitalia are provided.

Key Words: taxonomy, Lepidoptera, Lecithoceridae, *Chrysonasma*, new genus, new species

RESUMEN

Se describe un nuevo género, *Chrysonasma* Park, de la familia Lecithoceridae (Gelechioidea) basado en *C. cassiterota* (Meyrick) y una nueva especie, *C. caliginosa*, de las islas Filipinas. Se puede separar este género de sus grupos cercanos por el patrón colorido del ala con rayos longitudinales metálicos de color plomo. Se provee una clave de las 2 especies en el género y se ilustran los imagos, la nervadura del ala anterior, y las genitálias del macho y la hembra.

Diakonoff (1967) was the first to review Lecithoceridae (referred to as Timyridae) from the Philippines, and he reported 27 species belonging to 7 genera. Diakonoff reported *C. cassiterota* (Meyrick) under the genus *Lecithocera* Herrich-Schäffer, with illustrations of the male genitalia for the first time. Reviews of *Tisis* Walker (Park 2003) and *Homaloxestis* (Park & Byun 2007) of the Philippines resulted in descriptions of 4 and 2 new species, respectively. However, the fauna of Lecithoceridae in the Philippines is very poorly known and incomplete. This paper is the result of a review of the Lecithoceridae in the Philippines that were or will be treated in a series of papers. The new genus *Chrysonasma* belongs to the family Lecithoceridae (Gelechioidea), which includes small moths occurring primarily in the Oriental Region.

MATERIALS AND METHODS

Examined material was borrowed from the Zoological Museum, Copenhagen, collected in the Philippines by O. Karsholt and his colleagues in 1961, and from the Museum für Naturkunde, Berlin, collected by W. Mey and his colleagues in 2000. The color standard for the description of adults was Kornerup & Wanscher (1978). The genus is described by the first author and the species is described by both authors.

RESULTS

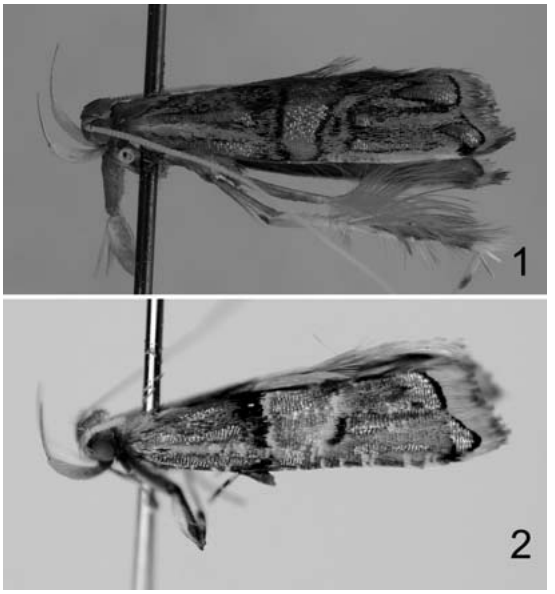
Genus *Chrysonasma* Park, **gen. nov.**

Type species: *Chrysonasma cassiterota* Meyrick, 1923, Exot. Microlep. 3: 40 (*Lecithocera*).

The genus *Chrysonasma* is related to *Torodora* Meyrick, but it is differentiated from the latter by the following characters: forewing elongate, with metallic blue longitudinal streak on the forewing; termen strongly oblique, concave medially, with black scales along margin; forewing *venation* with R_5 absent, CuA_1 and CuA_2 coincident. The male genitalia of *Chrysonasma* are separable from those of the latter by the heavily sclerotized, beak-like gnathos, which is similar to that of *Epharmonia* Meyrick. However, the latter has different venation from this new genus by the presence of R_5 in the forewing and absence of M_2 in the hindwing.

Adults: Head with appressed scales, shining metallic blue with golden yellow erect scales laterally. Basal segment of antenna grayish brown dorsally; flagellum pale grayish orange with pale brown annulations. Second segment of labial palpus thickened, light orange on outer and inner surfaces, black ventrally; 3rd segment as long as 2nd. Hind tibia with long tufts dorsally. Forewing light orange to golden yellow, sparsely speckled with dark brown scales; basal third of wing with 3 metallic blue, longitudinal streaks: first streak

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Figs. 1-2. Adults of *Chrysonasma* species. (1) *C. cassiterota* (Meyrick); (2) *C. caliginosa* **sp. nov.**

runs between costa and R vein, rounded apically; 2nd median, dilated, truncate apically; 3rd narrower, between cell and dorsum; median zone broad, trapezoidal, gently dilated towards dorsum, uniform metallic blue or partly; distal 3rd of wing golden yellow or pale brownish orange, speckled with dark brown scales, with 2 metallic blue, longitudinal streaks: a long one below costa, terminated before apical patch, and shorter one beyond cell, not so much extended; a large, oval, metallic blue patch at apex and larger one at tornus. Abdominal tergites II-VII with broad spinulose zones.

Male Genitalia (Figs. 5, 6): Uncus slender, relatively straight beyond curved base. Gnathos heavily sclerotized, beak-like; acute apically. Valva short, extremely broad at base and strongly narrowed towards apex; costa with a long, digitate process beyond middle (in the type species) or without (in this new species); ventral margin slightly concave medially. Juxta gently concave on caudal margin, with slender, acute, latero-caudal lobes. Aedeagus stout, cylindrical, longer than valva; cornutus a long sinuate blade, serrated on ventral margin posteriorly, with pointed apex.

Female Genitalia (Figs. 7, 8): Eighth sternite deeply or slightly incised at middle, sometimes with long sclerotized plates latero-ventrally. Ostium bursae with nearly straight caudal margin; antrum cup-shaped, heavily sclerotized or not. Ductus bursae narrowed beyond antrum, then expanded; ductus seminalis arising before middle. Corpus bursae, ovate; sigum a round plate with short conical spines on surface.

Distribution. Oriental Region (the Philippines)

Etymology. The genus name is derived from Greek, *chrysos* (= gold) + *nasmos* (= stream).

Key to Species of the Genus *Chrysonasma* Park

1. Forewing ground color golden yellow; fringe pale orange, but distal part metallic blue; hind tibia with long hair-tufts dorsally. Valva of male genitalia with digitate process on costa beyond middle . . . *cassiterota* Meyrick

2. Forewing ground color light orange to grayish orange; fringe pale orange, but distal part shining orange gray**;** hind tibia without long hair-tufts dorsally. Valva of male genitalia without digitate process on costa . . . . . *caliginosa* **sp. nov.**

Chrysonasma cassiterota (Meyrick, 1923), **comb. nov.** (Figs. 1, 3, 5, 5a, 7)

Lecithocera cassiterota Meyrick, 1923. Exot. Microlep. 3: 40; 1925: 240; Meyrick, 1925: 240; Clarke, 1955: 74; 1965: 115pl. 57, figs 4-4d; Diakonoff, 1967: 135, Figs. 176, 200, 201, 606. TL: Luzon, Philippines. [BMNH].

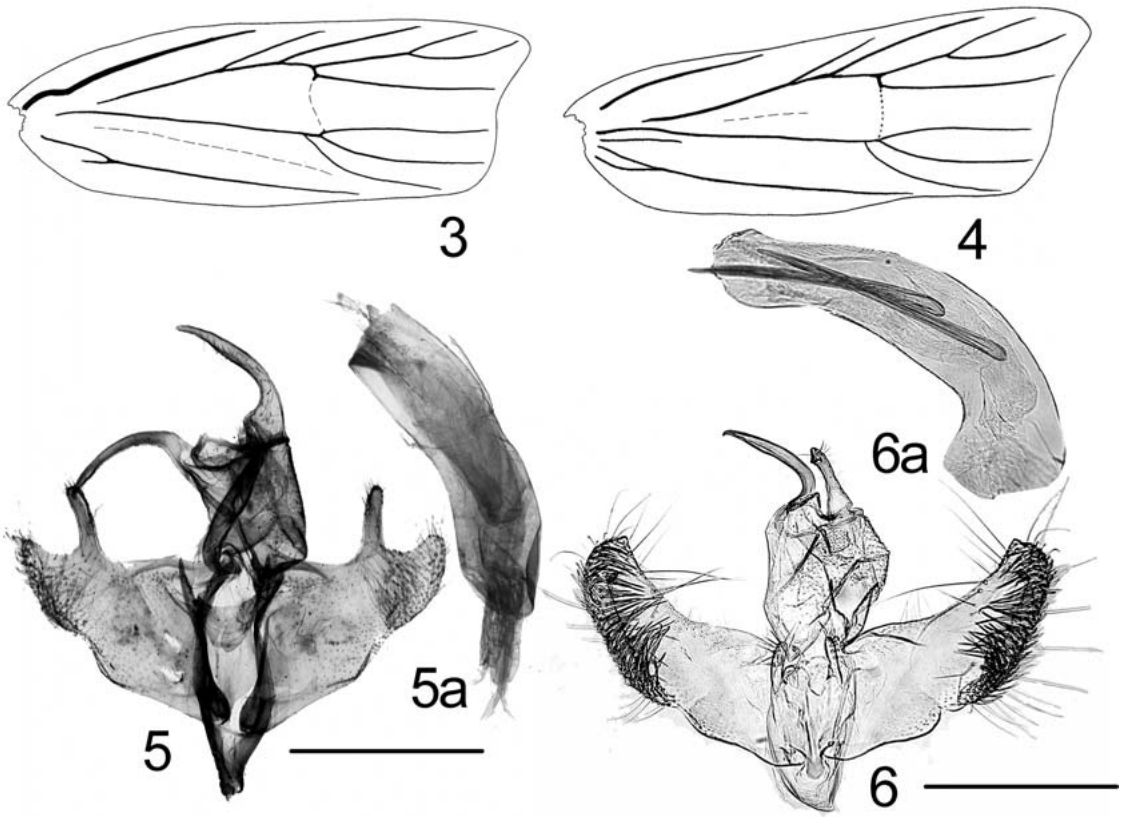
Diagnosis. Wingspan, 16.0-17.0 mm. The forewing venation differs from species of *Torodora* by the absence of R_5, and the coincidence of CuA_1 and CuA_2, and the termen that is strongly concave medially (Fig. 3). This species can be distinguished from the following new species by the broad valva of the male genitalia with a digitate process at the middle of the costa.

Material Examined. Three males & 1 female, Philippines, Luzon, Mt. Makiling 400 m, 14-16 III 2000, LF (W. Mey & K. Ebert), gen. prep. no. CIS-5023/Park, -5042/Park (female); 1 male, Santa Fe, Bald Mts 1150 m, 11-13 XI 1997 (W. Mey & K. Ebert) 7; 3 males, Luzon, Quezon, NP, LF, 20 III 2000 LF(W. Mey & K. Ebert). All specimens deposited in Museum für Naturkunde, Berlin.

Distribution. The Philippines (Luzon).

Remarks. The species was originally described as a species of *Lecithocera*, based on a female from Luzon, Philippines. The male genitalia subsequently illustrated by Diakonoff (1967). Meyrick (1922) noted that he had an undescribed species from the Philippines that was closely allied to *lamprodesma* Meyrick. Diakonoff (1967) considered that the undescribed species mentioned by Meyrick (1922) to be same as what Meyrick described in 1923 as *cassiterota*. Diakonoff further noted that *cassiterota* was allied with *lamprodesma* and that he knew of "two closely allied, undescribed species" from Java and Borneo, but it

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Figs. 3-6. Forewing venation and male genitalia of *Chrysonasma* species. (3) *C. cassiterota (*Meyrick), forewing venation; (4) *C. caliginosa* **sp. nov.**, forewing venation; (5) *C. cassiterota*, male genitalia, (5a) aedeagus; (6) *C. caliginosa* **sp. nov.**, male genitalia; (6a) aedeagus. Scale bar for the male genitalia: 1 mm.

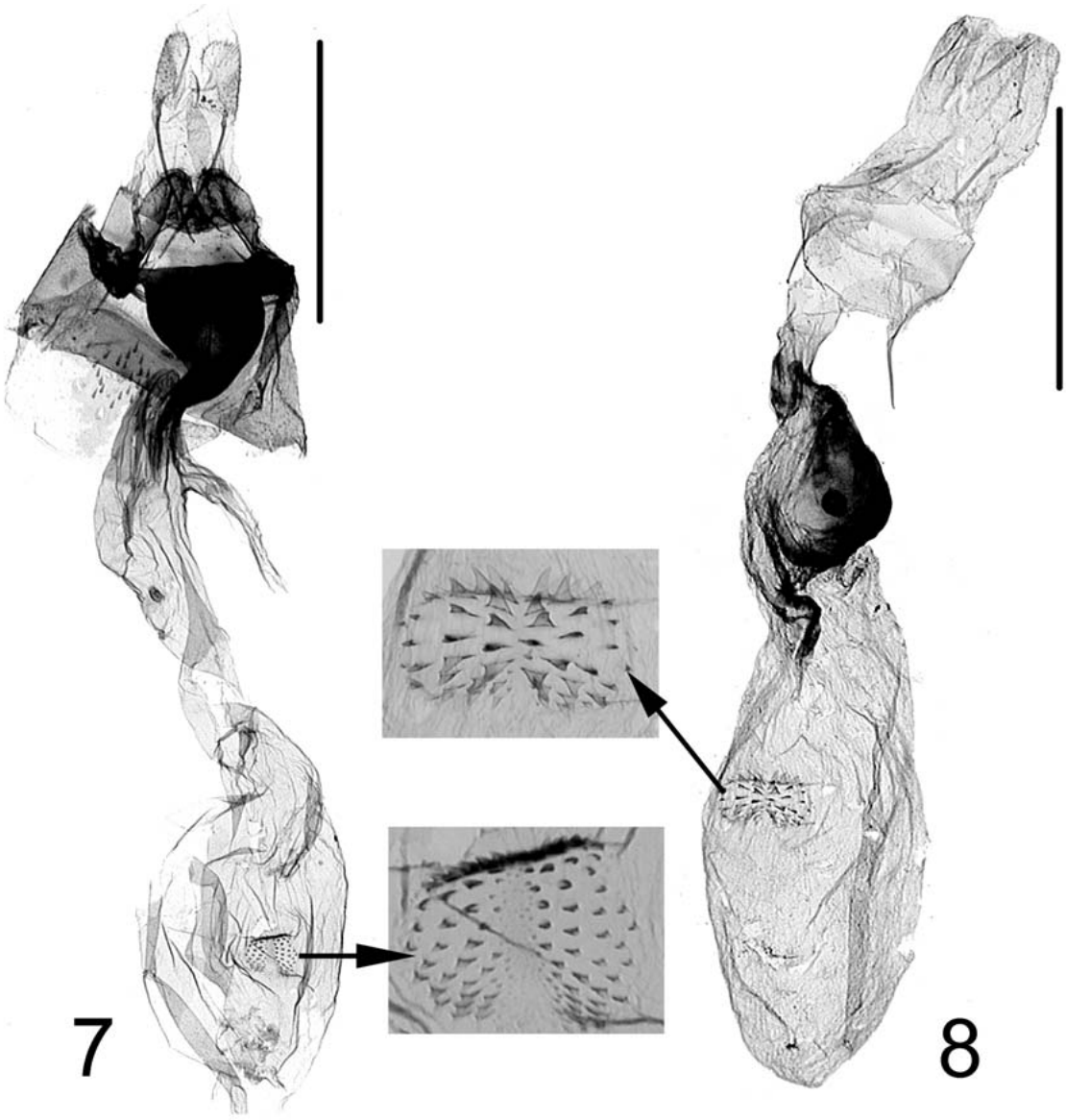
is unclear if the 2 undescribed species by Diakonoff's notes are members of the new genus. We had no chance to examine *lamprodesma* Meyrick and cannot define its generic status in this paper. However, we can expect additional species of this new genus because of the presently limited collecting in the Oriental Region.

Chrysonasma caliginosa Park and Byun, **new species** (Figs. 2, 4, 6, 6a, 8)

Diagnosis. The new species is superficially similar to *C. cassiterota* (Meyrick) in color pattern and markings, with metallic, longitudinal streaks at the basal part of the forewing. *Chrysonasma caliginosa* has a light orange to grayish orange ground color of the forewing, a fringe that is shining orange gray at distal half, and the male genitalia with valva lacking a costal process, whereas *C. cassiterota* has a golden yellow color of the forewing, a fringe that is metallic colored at distal half, and male genitalia with a costal process of the valva.

Description. Male and Females. Wingspan, 15.0-16.0 mm. Head dark brown dorsally, with orange gray erect scales laterally. Tegula dark brown. Second segment of labial palpus moderately thickened, pale grayish orange suffused with dark scales on basal half on outer surface, paler on inner surface; 3rd segment shorter than 2nd, dark brown ventrally. Antenna with basal joint brown dorsally; flagellum pale grayish orange with dark brown annulations. Hind tibia dark brown scales, without long hair-tufs dorsally; mid spur very long, outer one nearly twice length of the inner one. Forewing elongate; ground color light orange to grayish orange; costa nearly straight; apex more or less acute; basal 2/5 of wing light orange to grayish orange, with three shining metallic blue, longitudinal streaks; first streak along subcosta, narrowed to apex; 2nd median, dilated apically; 3rd shorter, runs between cell and dorsum; median line almost vertical, light orange, narrow, with blackish scales along proximal side; median zone trapezoidal between median and postmedian line with oblique outer margin followed by a crescent blackish mark beyond upper corner of cell; a narrow leaden longitudinal streak between costa and R_3 vein and the other broad similar streak beyond cell in distal 3rd of wing; a large triangular metallic blue patch at

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Figs. 7-8. Female genitalia of *Chrysonasma* species. (7) *C. cassiterota* (Meyrick); (8) *C. caliginosa* **sp. nov.** Scale bar: 1 mm.

apex, edged by black scales along outer margin, and the other larger one at tornus. Venation with R_2 closer to R_3 than R_1 at base; R_3 and R_4 stalked about 2/5 of R_4; R_4 reaching to costa before apex; R_5 absent; CuA_1 and CuA_2 coincident; CuA_{1+2} arising from near lower corner of cell; apex acute (Fig. 4); termen strongly concave medially, slightly sinuate, with dense black scales along margin; fringe pale orange at basal half, shining orange gray at distal half. Hindwing with costa slightly expanded before termination of Sc vein; Rs and M_1 stalked well beyond end of cell; M_2 present; M_3 and CuA_1 shortly stalked; cell opened.

Male Genitalia (Figs. 6, 6a): Gnathos similar to that of *Epharmonia ardua* (Meyrick), which was described from N. India, but valva somewhat similar to that of *Hygroplasta lygaea* Meyrick. Uncus slender, gently bent downward. Gnathos beak-like, heavily sclerotized, strongly bent at basal 1/4. Valva elongate; costa slightly concave medially, with dense long setae along ventral margin beyond middle, and with a thin row of short spines near along ventral margin, reaching to middle of apical margins; apex right angled dorso-apically; ventral margin slightly emarginated near middle. Juxta with digitate lateral lobes, about 1/3 length

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of uncus. Aedeagus longer than valva; cornuti consist of a pair of needle-like spines, about 3/4 length of aedeagus.

Female Genitalia (Fig. 8): Eighth sternite slightly incised medially. Antrum short, weakly sclerotized, about same width as posterior part of ductus bursae. Ductus bursae with broad expansion medially. Corpus bursae as long as ductus bursae; signum elliptical, with dense conical spines on surface.

Holotype: male, Palawan, Mantalingajan, Pingisan 600 m, 17 IX 1961, Noona Dan Expedition. 61-62, gen. prep. No. CIS-5408/Park. Paratype: 2 males, same locality, 16 IX 1961, Noona Dan Exp. 61-62, gen. prep. no. CIS-5409/Park; 3-, same locality, 13 IX 1961; 1 male, same localiry, 19 IX 1961; 4 males and females, 23 & 24 IX 1961. gen. prep. no. CIS-5498/Park (female). The holotype and paratypes are deposited in the Zoological Museum, Copenhagen.

Distribution. The Philippines (Palawan).

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