GENUS *LECITHOCERA* OF THAILAND Part V, WITH REPORTS OF NINE SPECIES INCLUDING SIX NEW SPECIES (LEPIDOPTERA: LECITHOCERIDAE)

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Abstract - As the 5th part of the serial studies on the genus *Lecithocera* Herrich-Schäffer of Thailand, nine additional species including six new species: *L. gilviana* **sp. nov**., *L. orbiculata* **sp. nov.,** *L. tumidosa* **sp. nov.,** *L. calomerida* **sp. nov.,** *L. poculata* **sp. nov.,** and *L. eremiodes* **sp. nov.**, are reported in this paper. Three species, *L. mylitacha* Herrich-Schäffer, *L. castanoma* Wu, and *L. squalida* Gozmány, are first reported from Thailand, and the females of them are newly found since the species were described. Images of adults, venation, and the male and female genitalia of the known species are given.

Key words: Taxonomy, *Lecithocera,* Lecithocerinae, Gelechioidea, morphology, description.

INTRODUCTION

Lecithocera Herrich-Schäffer (Lecithoceridae: Lecithocerinae) is the largest genus of the family, and includes more than 300 species worldwide. Since Gozmány (1978) reviewed 46 Palaearctic species of the genus, including the northern border of the Oriental Region, additional papers have been subsequently published for the fauna of China (Wu, 1994, 1997; Wu et Liu, 1993), Taiwan (Park, 1999, 2000), Sri Lanka (Wu and Park, 1999), and the Korean peninsula (Park & Lee, 1999). In the recent studies for the genus *Lecithocera* of Thailand, 16 species including 10 new ones were reported by Park (2005, 2006a-b, 2009). In this 5th part of the study for the genus *Lecithocera*, we report nine species including six new species. These species are externally similar by the small size with less than 14 mm of the wingspan and the orange-white to pale brownish-orange forewing with conspicuous blackish discal stigmata. In the early days, *Patouissa* Walke had been synonymized with *Lecithocera* by Meyrick (1910). Gozmány (1978) divided *Lecithocera* into two subgenera, *Patouissa* and *Lecithocera,* based on the hindwing venation with M_3 and CuA_1 stalked or coincident. Wu (1997) followed this classification in his revision of the Chinese Lecithoceridae. Of the species presented here, the first seven species (numbers 1 to 7) belong to the subgenus *Patouissa* Walker and the last two species (numbers 8, 9) to the subgenus *Lecithocera,* according to Gozmány's classification.

MATERIALS AND METHODS

Material examined is based mainly on loaned specimens from the Osaka Prefecture University (OPU), Japan, which were collected by Japanese microlepidopterists during expeditions in 1981, 1985, and 1987. The wingspan was measured from the left to right forewing apex. For the descriptions of new species, color terms follow Kornerup and Wanscher (1978). Types will be deposited in the OPU, Japan, on an indefinite loan from Thailand and some types will be in the McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, Gainesville, USA.

SYSTEMATICS

Genus *Lecithocera* Herrich-Schäffer, 1853

Syst. Bearb. Schmett. Eur. 5: 11. Type: *Carcina luticornella* Zeller, 1839. Type locality: Europe.

Key to the species of *Lecithocera*, based on wing pattern and venation

1. Hindwing with M_3 and CuA_1 stalked ---------- 2

- Hindwing with M_3 and CuA_1 coincident ---------- 3

2. Forewing with R_3 free; CuA_1 and CuA_2 stalked ---------- ---------- *eremiodes* **sp. nov.**

- Forewing with R_3 stalked with R_{4+5}; CuA_1 and CuA_2 free ----------*poculata* **sp. nov.**

3. Forewing with R_5 absent---------- *gilviana* **sp. nov.**

- Forewing with R_5 present---------- 4

4. Forewing with R_3 free ---------- *squalid* Gozmány

- Forewing with R_3 stalked with R_{4+5} ---------- 5

5. Forewing ground color brownish ---------- *tumidosa* **sp. nov.**

- Forewing ground color orange white to pale orange ---------6.

Forewing more or less broad, wingspan more than 11 mm --- 7

- Forewing elongate, narrow; wingspan less than 10 mm -------- ---------- *calomerida* **sp. nov.**

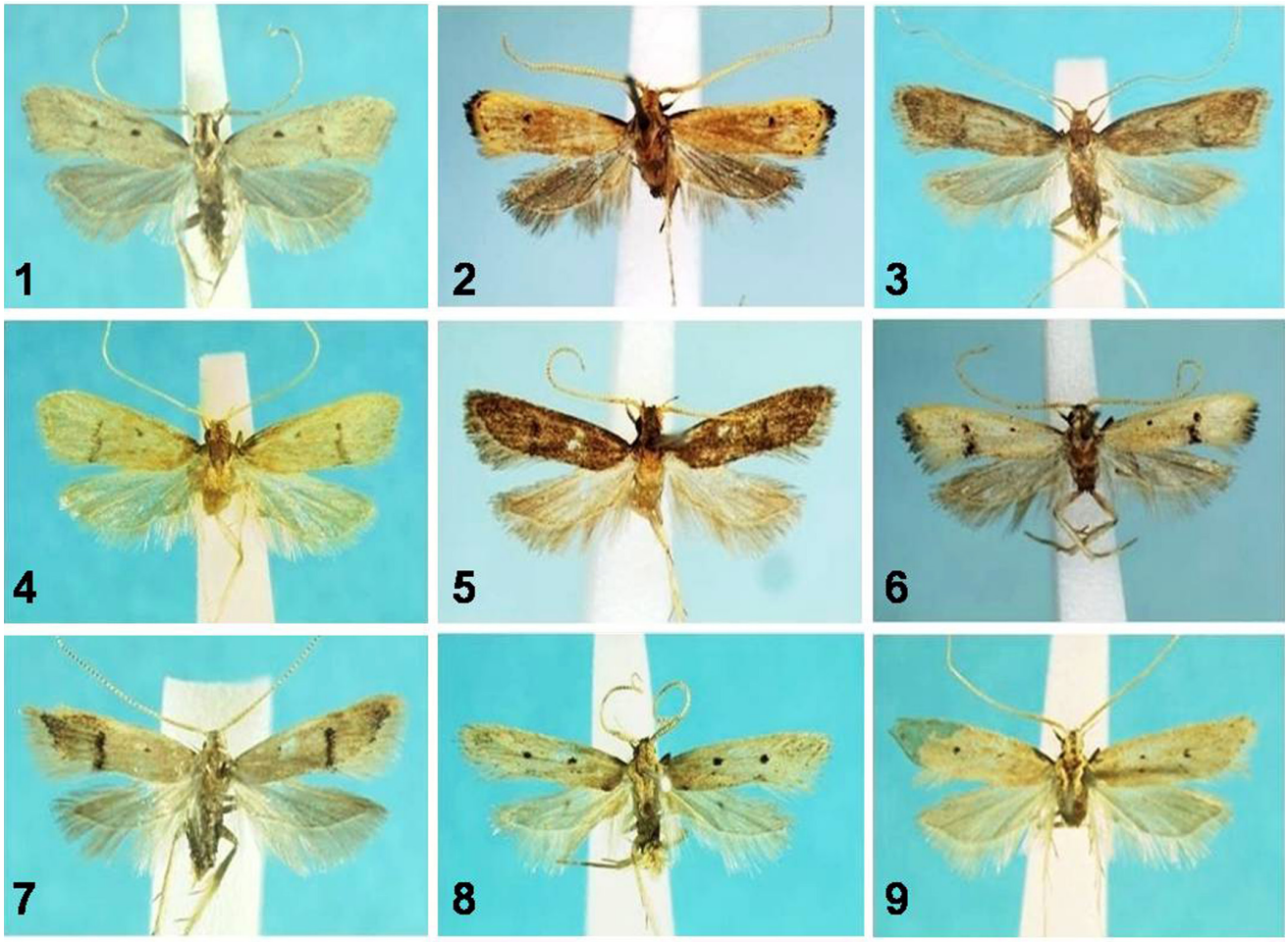
7. Head and thorax brownish orange; forewing with brownish fascia extending from discal spot to inner margin; R_5 reaching to apex; apex obtuse; termen less oblique ---------- 8

- Head and thorax orange white; forewing without brownish fascia extending from discal spot to inner margin; R_5 reaching

to termen; apex acute and termen strongly oblique----------*mylitacha* Wu et Liu

8. Forewing with more obtuse apex; CuA_{1+2} strongly curved; hindwing with M_2 approximate to M_3 at base----------*orbiculata* **sp. nov.**

- Forewing with less obtuse apex; CuA1+2 moderately oblique; hindwing with M2 remote from M3 at base----------*castanoma* Wu



Figs. 1-9. Adults of *Lecithocera* species: 1. *L. mylitacha* Herrich-Schäffer; 2. *L. gilviana* **sp. nov**.; 3. *L. castanoma* Wu; 4. *L. orbiculata* **sp. nov.**; **5.** *L. tumidosa* **sp. nov**.; 6. *L. calomerida* **sp. nov.**; 7. *L. squalida* Gozmány; 8. *L .poculata* **sp. nov**.; 9. *L. eremiodes* **sp. nov.**

1. *Lecithocera mylitacha* Wu et Liu, 1993

(Figs. 1, 14, 14a, 14b, 14c, 23, 23a)

Lecithocera (*Patouissa*) *mylitacha* Wu & Liu, 1993. Sinzoologica 10: 334, fig. 16; Wu, 1997: 137, pl. 8, fig. 4.

Diagnosis. Wingspan, 11.0-14.0 mm. The male genitalia are similar to those of *L. ambona* Wu & Liu, 1993, but they differs as follows: the costal bar combined with the costa of valva apically, as opposed to terminating freely in *L. ambona,* and the cucullus with more or less rounded apex, whereas it is tapered to an acute apex in *L. ambona.* The female was unknown, and it is described herein.

Male genitalia (Figs. 14, 14a-c). See also Wu (1993, fig. 16; 1997, pl. 8, fig 4).

Female genitalia (Fig. 23, 23a). Caudal margin of 8th sternite slightly emarginate at middle. Apophyses anteriores about 1/2 as long as apophyses posteriores. Antrum weakly sclerotized, cup-shaped, as long as 8th sternite. Ductus bursae swollen twice at distal half, then narrowed, wrinkled; ductus seminalis arising from middle. Corpus bursae large, ovate, slightly shorter than ductus bursae, weakly wrinkled; signum reniform, elongate transverse, longer than ½ width of corpus bursae with strong conic spines.

Material examined. 6♂, 2♀, Loei, Phu Rua, 800 m, 15-19 VIII 1987 (Moriuti, Saito, Arita, Yoshiyasu), genitalia slide no. CIS-5577 (♂), -5815 (♂), -5894 (♀); 1♂, Chiang Mai, Doi Inthanon, 25 V 1983 (Kuroko, Moriuti, Arita, Yoshiyasu), gen. slide. no. CIS-5685; 3♂, Chiang Mai, Doi Inthanon, (Mae Klang), 1300 m, 8-12 x 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5678, -5582, -5587; 3♂, Kanchanaburi, Tham Than Lot 800 m, 22-24 XI 1985 (Moriuti, Saito, Arita), gen. slide no. CIS-5584; 1♂, Chaiyaphum, Chulebhorn Dam, 700 m, 14 VIII 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5679.

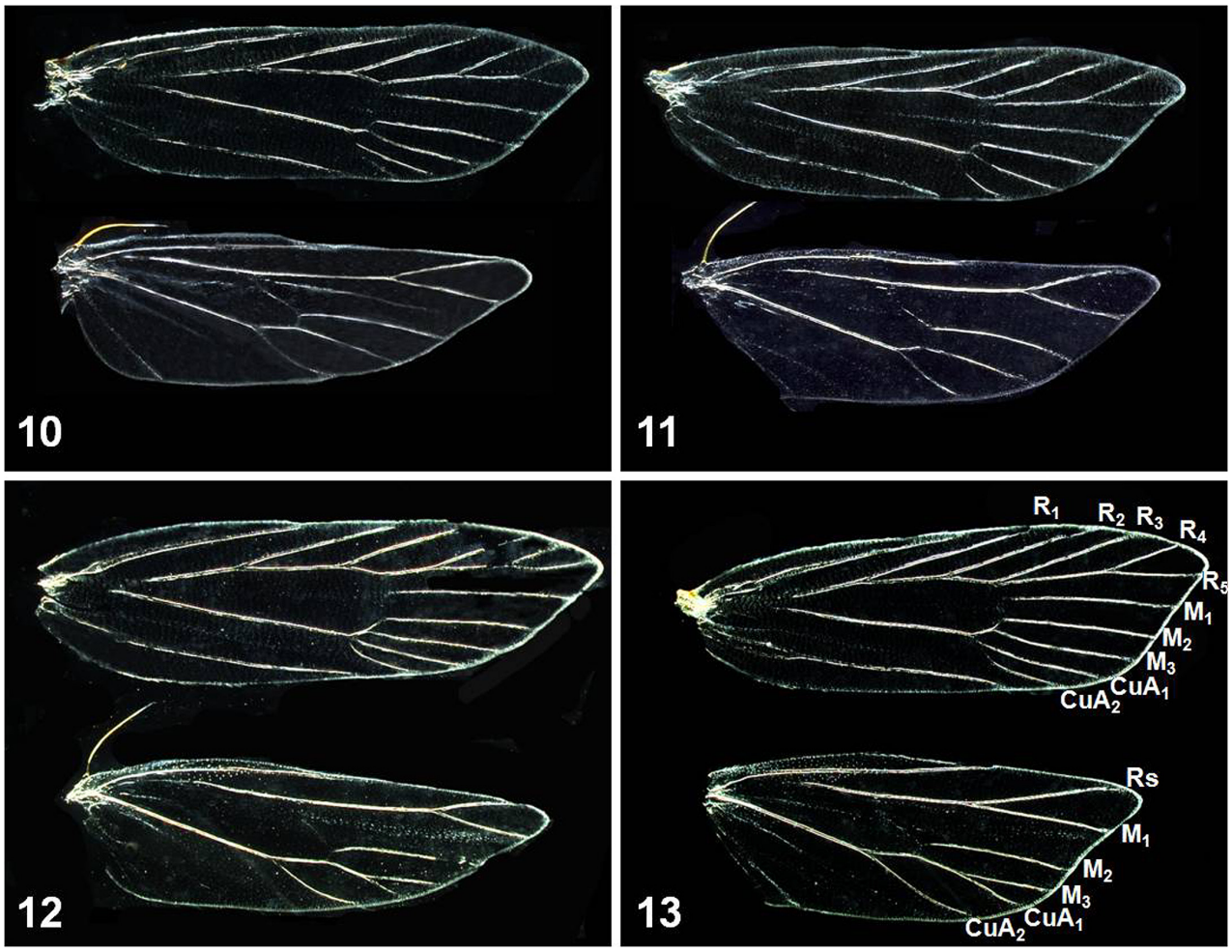
Distribution. Thailand (Chiang Mai, Loei, Kanchanaburi), China (Yunnan).

2. *Lecithocera gilviana* Park, sp. nov.

(Figs. 2, 15, 15a, 15b, 15c)

Type. Holotype: ♂, Prachaup Khiri Khan: Kui Buri (seaside), 14 IX 1985 (Kuroko, Moriuti, Saito, Arita), gen. slide no. CIS-5594. Paratype*:* 1♂, same data as for the holotype, gen. slide no. CIS-5682.

Diagnosis. This species is similar to *L mepsina* Park, 2006 and *L. similis* Park, 2006, which were described from Thailand, in their superficial and genital characters, but it can be distinguished from both by its smaller size and forewing venation with R_5 absent. Particularly, it differs from *mepsina* Park by the more brownish ground color and obtuse apex of the forewing, and from *similis* Park



Figs. 10-13. Wings of *Lecithocera* species: 10. *L. calomerida* **sp. nov**.; 11**.** *squalida* Gozmány**;** 12. *L .poculata* **sp. nov**.; 13. *L. eremiodes* **sp. nov.**

by the hind wing venation with M_3 and CuA_1 coincident.

Description. Male. Wingspan, 9.5-10.5 mm. Head more or less brownish gray on vertex, with light orange erect scales laterally. Antenna light orange throughout dorsally, brownish ventrally, slightly serrate beyond half length. Second segment of labial palpus thickened, yellowish brown on outer surface, light orange on inner surface; 3rd segment shorter than 2nd, slightly upturned, light orange dorsally, dark brown ventrally. Forewing uniformly pale orange to orange gray; blackish fascia at basal 1/4 along costa; costa slightly concave medially; discal stigma at end of cell blackish, an inconspicuous plical spot below it; postmedian line inconspicuous, brownish, strongly convex before middle; a large, ovate blackish dot at apex and 3-4 smaller ones along termen; apex obtuse; termen slightly oblique, sinuate medially; fringe same color as forewing on basal half and dark brown beyond; venation with R_1 arising before middle; R_2 arising from halfway between R_1 and R_3; R_3 stalked with R_{4+5} before half length; R_5 absent; M_1 remote from R_{4+5} at base; M_2 free from M_3+CuA_1; M_3 and CuA_1 coincident; CuA_2 arising from near lower corner of cell; cell closed. Hindwing gray; venation with Rs and M_1 stalked far beyond end of cell; M_2 remote from M_3+CuA_1 at base and nearly parallel: M_3 and CuA_1 coincident; cell opened; apex more or less acute; termen oblique; fringe unicolorous. Hind tibia slender, with pale orange, rough scales dorsally. Female is unknown.

Male genitalia (Figs. 15a-c). Uncus more or less T-shaped, slightly concave on caudal margin, directed outwardly. Gnathos relatively short, bent preapically. Tegumen moderate. Costal bar of valva connecting tegumen and valva heavily sclerotized, angled medially. Valva broad basally; cucullus slightly shorter than basal part of valva, about 1/2 as wide as basal part, with a bundle of setae at basal angle of ventral margin, more than 15 short bristles along ventral margin at basal half, and densely setose below middle level of cucullus; costa concave; apex round. Juxta vertically incised at middle. Aedeagus stout, strongly curved medially, apically bifurcate with two short, acute preapical processes; cornuti consisting of a cluster with less than 15 short spines basally, a strong needle-like rod which 1/5 as long as aedeagus medially, and two overlapping heavily sclerotized plates, about 2/3 as long as aedeagus. Seventh-eighth abdominal segments with a long, specialized hair pencils as shown in Fig. 15c.

Distribution. Thailand (Southern part).

Etymology. The species name is derived from the Latin *gilv* (= pale yellow) and the Latin suffix, *ana.*

3. *Lecithocera castanoma* Wu, 1997

(Figs. 3, 16, 16a, 16b, 16c, 24a, 24b)

Lecithocera (*Lecithocera*) *castanoma* Wu, 1997, Fauna Sinica Insecta 7: 125.

Diagnosis. Wingspan, 11.0-12.0 mm. This species is superficially similar to *L. rotundata* Gozmány, but can be distinguished by the shape of valva with more elongate cucullus and the aedeagus without ring-shaped cornutus. The female is newly described.

Male genitalia (Figs. 16, 16a-c). See Wu (1997, Pl. 10, fig. 4).

Female genitalia (Fig. 24, 24a). Caudal margin of 8th sternite convex. Apophyses anteriores about 1/2 as long as apophyses posteriores. Antrum weakly sclerotized, large, cup-shaped, 1/4 as long as ductus bursae. Ductus bursae narrowed at distal 1/4, twisted once, then broadened, as wide as antrum, with a large, triangular, heavily sclerotized plate; ductus seminalis broad, arising from distal 1/3. Corpus bursae large, ovate, as long as ductus bursae; signum reniform, about ¼ as long as corpus bursae, with conic spines.

Material examined. 4♂, 1♀, Nakhon Nayok, Khao Yai, 800 m, 11-19 XI 1985 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5581 & -5588;

1♂, same locality, 27 VIII 1981 (Kuroko, Moriuti, Arita, Yoshitasu), gen. slide no. CIS-5579; 3♂, 1♀, same locality, 18-19 VI 1983 (Kuroko, Moriuti, Saito, Arita), gen. slide no. CIS-5896 (♀); 2♂, same locality, 7-8 VIII 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5592 (♂); 1♂, Chaiyaphum, Chulabhorn Dam, 700 m, 14 VIII 1987 (Moriuti, Saito, Arita, Yoshitasu), gen. slide no. CIS-5567; 1♂, Ranong, Na Kha, 250 m, 15 X. 1985 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5586.

Distribution. Thailand (New record: Nakhon Nayok, Chaiyaphum Ranong), China (Guandong),

4 . *Lecithocera orbiculata* Park, sp. nov.
(Figs. 4, 17, 17a, 17b, 17c)

Type. Holotype: ♂, Nakhon Nayok, Khao Yai, 800 m, 2 VIII 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5593. Paratype: 1♂, same locality as the holotype, 19 VI 1983 (Kuroko, Moriuti, Arita, Yoshiyasu), gen. slide no. CIS-5680. 1♂, same locality, 11-19 XI 1985 (Moriuti, Saito, Arita); 1♂, same locality, 23 IX 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5585.

Diagnosis. This new species is superficially similar to *L. castanoma* Wu, but wings are broader, termen is less oblique, and M_2 of the hindwing is approximate to M_3 at base, whereas it is remote in the latter. The male genitalia differ by the shape of valva, with concave costa and the aedeagus with two strong preapical spines.

Description. Male. Wingspan, 12.5-13.5 mm. Head, tegula brownish orange. Scape of antenna relatively short, pale orange to pale grayish orange; flagellum pale orange throughout, with inconspicuous annulations. Second segment of labial palpus thickened, pale grayish orange on outer surface, paler on inner surface; 3rd segment slender, shorter than 2nd. Forewing relatively broader than *L. castanoma*, orange white to pale orange, with brownish scales scattered throughout, often more dense beyond 2/3 length; cell with a small, blackish discal stigma before middle and another larger one which extends to inner margin at end; costa nearly straight before 4/5 length, then slightly curved downward, with brownish fascia at basal 1/5; apex obtuse; termen slightly oblique; fringe concolorous with forewing ground color; venation with distance between R_1 and R_2 greater than 2 times distance between R_2 and R_3; R_3 stalked with R_{4+5} at basal 1/3; R_4 and R_5 stalked at beyond 2/3; R_5 reaching apex; M_1 remote from R_{4+5} at base; M_1 and M_2 nearly parallel; M_3 free from CuA_1; CuA_1 and CuA_2 stalked for 1/4 length; cell weakly closed; apex obtuse; termen slightly oblique, sinuate; fringe concolorous Hindwing pale grayish white; Rs and M_1 short-stalked; M_2 approximate to M_3 basally; M_3 and CuA_1 coincident; apex acute; termen slightly concave medially; cell partly open. Hind tibia slender; spurs and tarsi orange white. Female is unknown.

Male genitalia (Figs. 17, 17a-b). Balsal lobes of uncus semiovate; lobes setose along apical margins. Gnathos slender, bent preapically. Tegumen moderate. Costal bar strong basally, slightly angled medially. Valva broad basally; cucullus as long as basal part of valva, about 2/3 as wide as basal part, with a bundle of setae at basal corner, short bristles along ventral margin at basal half, densely setose submesially; costa concave at basal 2/3; apex obtuse. Vinculum broad, with round apex. Juxta with ring-shaped emargination at middle of caudal margin, with acute apex on anterior margin medially. Aedeagus gently curved, produced ventrally at base; cornuti consisting of a semiovate batch of numerous spinules near base, two heavily sclerotized, asymmetrical rods medially connecting to a row of spinules, and two strong spines preapically. Abdominal segments seven and eight with a bundle of long, specialized hair pencils as shown in Fig. 17c.

Distribution. Thailand (Nakhon Nayok).

Etymology. The species names is derived from Latin, *orbis* (= circle, orbit), referring to round spots on the forewing.

5. *Lecithocera tumidosa* Park, sp. nov.
(Figs. 5, 18, 18a, 18b, 18c, 25, 25a)

Type. Holotype: ♂, Loei, Mae La Mun, 400 m, 25-26 XI 1985(Moriuti, Saito, Arita), gen. slide no. CIS-5687. Paratypes: 1♂, 1♀, same data as the holotype, gen. slide no. CIS-5810 (♂), -5895 (♀), wing prep. no. CIS-5899.

Diagnosis. This species differs from congeners presented in this papers by its smaller size, the brownish ground color of the forewing, and the male genitalia with broadly specialized, short valva.

Description. Male and female. Wingspan,10.0-11.0 mm. Head brownish, with pale orange erect scales laterally. Scape of antenna pale orange, elongate; flagellum pale orange, with dark brown annulations. Second segment of labial palpus thickened, brownish on outer surface, orange white on inner surface; 3rd segment shorter than 2nd, dark brown dorsally, with acute apex. Thorax brownish. Forewing uniformly covered with brownish scales, with two indistinct blackish discal stigmata at middle and at end; venation with R_1 arising before half length of cell; distance between R_2-R_3 about 1/3 as long as R_1-R_2; R_3 stalked with R_{4+5} for 1/3 length; R_4 and R_5 stalked for 2/3 length; R_5 to termen; M_1 remote from R_{4+5} basally; M_1 and M_2 nearly parallel; M_3 arising from half way between M_2 and CuA_1; CuA_1 and CuA_2 stalked for 1/5 length; cell weakly closed; apex obtuse; termen strongly oblique; fringe concolorous with forewing ground color, often with speckling of dark scales near tornus. Hindwing pale gray; costa slightly expanded on basal half; Rs and M_1 stalked for 3/5 length; M_3 and CuA_1 coincident; apex acute; termen strongly oblique; cell closed with weak cross vein. Hind tibia with orange-white hairlike rough scales dorsally; tarsi orange white, with blackish scales on outer surface.

Male genitalia (Figs. 18, 18a-c). Differ from those of any other species presented in this paper with broad, more or less triangular cucullus. Uncus more or less triangular, directed outwardly. Gnathos very slender, bent downward preapically. Tegumen with slender arms extending from dorsal surface anterolaterally. Costal bar heavily sclerotized, S-shaped, concave medially. Valva broad basally; cucullus broad, more or less triangular, about 2/5 length of valva, with a row of more than 10 short, conic bristles along outer margin at basal half; costa concave; apex rounded; sacculus weakly sclerotized, bandlike. Vinculum broad, with round apex. Juxta long, caudal margin U-shaped, with round apices laterally. Aedeagus stout, longer than valva, gently curved, bifurcate with a pair of short apical spines; cornuti consisting of narrow, long, heavily sclerotized rod bearing a short process at middle, an irregular sclerotized plate, and a bundle of more than 10 spines near base. Abdominal segments seven-eight are shown in Fig. 18c.

Female genitalia (Figs. 25a, 25b). Eighth sternite with emarginate caudal margin medially. Apophyses anteriores about 1/2 as long as apophyses posteriores. Antrum large, cup-shaped, weakly sclerotized, as long as 8th sternite. Ductus bursae narrow for basal 1/3, then broadened, as wide as antrum; ductus seminalis arising from basal 1/3. Corpus bursae large, ovate, as long as ductus bursae; signum triangularly swollen, bearing 8-10 conic sclerotized spines

Distribution. Thailand (Nakhon Nayok).

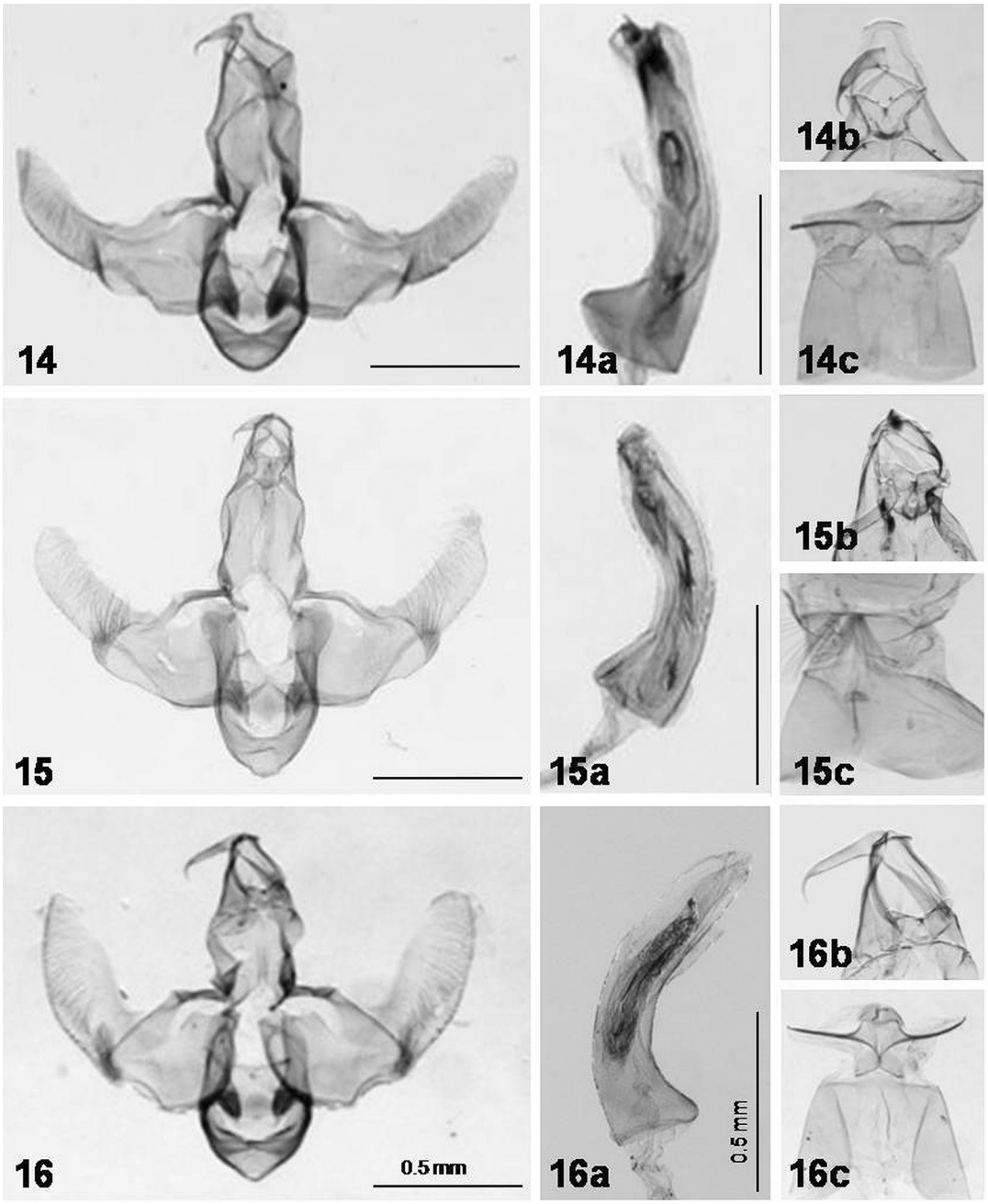
Etymology. The species name is derived from the Latin, *tumidus* (= swollen) and the Latin suffix, - *osus*.

6 . *Lecithocera calomerida* Park, sp. nov.
(Figs. 6, 10, 19, 19a, 19b, 19c, 26, 26a)

Type. Holotype: ♂, Loei, Phu Rhu, 800 m, 15-19 VIII 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5583. Paratypes: 2♂, 1♀, same data as the holotype, gen slide no. CIS-5568 (♂), 5848 (♀), wing prep. no. CIS-5900.

Diagnosis. This new species is externally similar to *L. squalida* Gozmány by the conspicuous fascia extending vertically from the discal spot at end of cell to the inner margin. However, the venation of the forewings differ and the male genitalia are also quite different from each other.

Description. Male and female. Wingspan 10.0-10.5 mm. Head with narrow, brownish-gray band dorsomesially and with pale orange-erect scales laterally. Scape of antenna relatively short, orange white; flagellum orange white throughout, with brownish annulations, weakly serrate. Second segment of labial palpus thickened, brownish on outer surface with orange-white apex, paler on inner surface; 3rd segment short, about 2/3 as long as 2nd, orange white dorsally, dark brown ventrally. Forewing relatively elongate; ground color orange white, with irregularly scattered brownish scales, especially beyond 2/3 length of wing; costa slightly concave beyond middle, with blackish streak at basal 1/5 along margin; with two blackish discal spots: first one small near middle and second one at end of cell, which extends to larger blackish spot near 2/3 length of inner margin. Venation (Fig. 10) very similar to that of *L. tumidosa* with R_1 arising from near half length of cell; distance between R_2 and R_3 about 1/3 that of R_1-R_2; R_3 stalked with R_{4+5} for basal 2/5; R_4 and R_5 stalked for more than 2/3 length; R_5 to termen; M_1 remote from R_{3+4+5} at base; M_1 and M_2 nearly parallel; M_3 free, arising midway between M_2 and CuA_{1+2}; CuA_1 and CuA_2 stalked for basal 1/5; cell open. Apex acute; termen strongly oblique, slightly concave; fringe dark brown along termen Hindwing pale grayish white; Rs and M_1 long stalked, separated just beyond half length; CuA_1 and CuA_1 coincident; apex acute; termen strongly oblique; cell closed with weak cross vein. Hind tibia slender, with orange-white rough scales dorsally; tarsi orange



Figs. 14-16. Male genitalia of *Lecithocera* species (a: close-up uncus+gnathos part; b, aedeagus; c: 8th segment)**:** 14. *L. mylitacha* Herrich-Schäffer; 15. *L. gilviana* **sp. nov**.; 16. *L. castanoma* Wu;

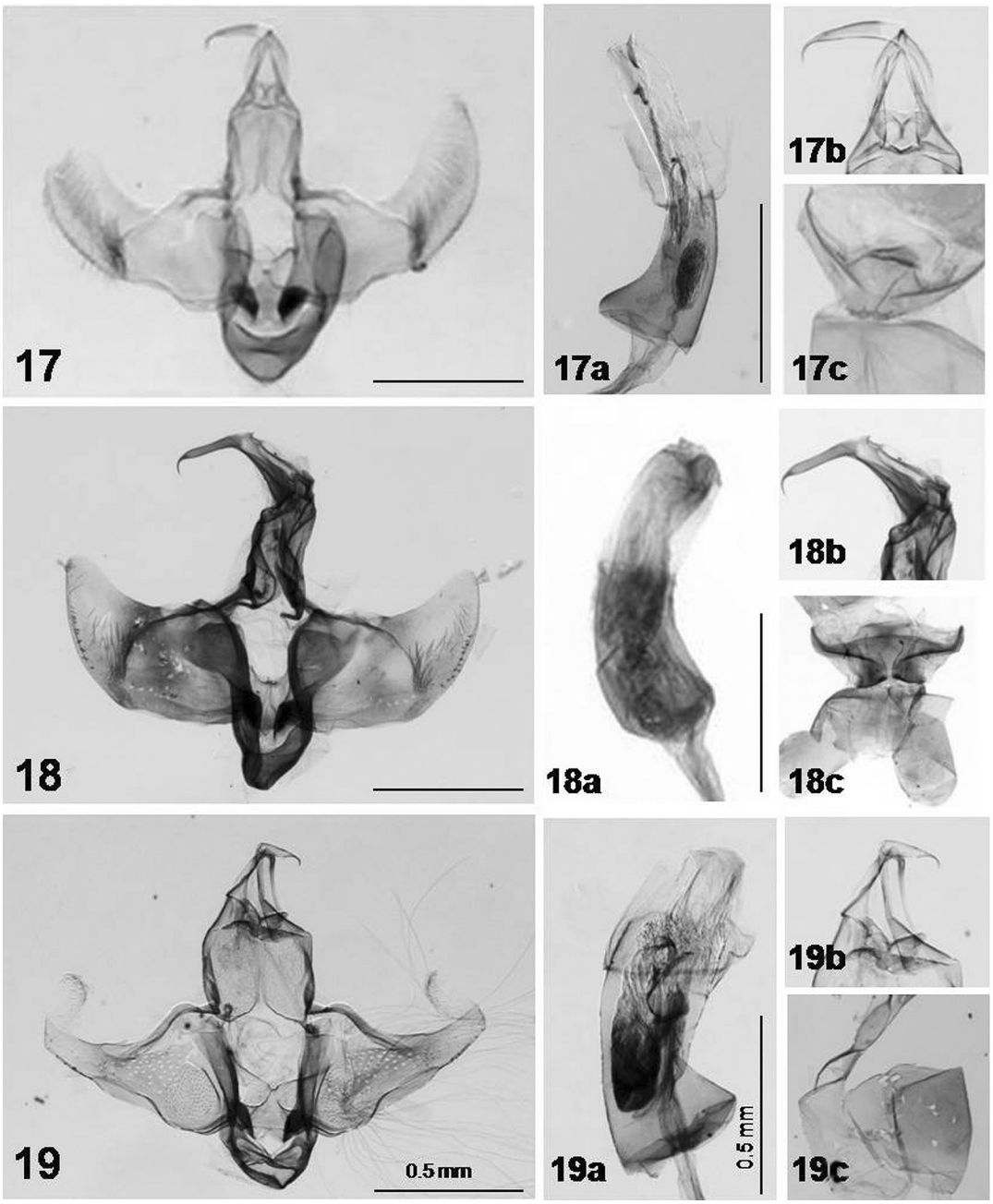
white, speckled with blackish scales irregularly.

Male genitalia (Figs. 19, 19a-c). Basal lobes of uncus more or less triangular; caudal margin V-shaped medially; lateral margins slightly divergent distally. Gnathos more or less short, bent preapically. Tegumen broad, with slender arms extending from dorsal surface anteriorly. Costal bar of valva strong, gently bent, without acute angle medially. Valva very broad basally; cucullus slender, taenioid, about 1.5 times as long as basal part of valva, with 5-6 setae at base; apex round; sacculus heavily sclerotized, narrow, band-like. Vinculum long, with round apex. Juxta emarginate, V-shaped distally; distal half divided into two lateral plates each acute lateroapically. Aedeagus stout, about 2/3 as long as valva, bifurcate with sharply pointed apical processes; a large sac containing numerous dense spicules; a heavily sclerotized, curved linear rod and shorter irregular sclerite medially, and a bundle of spines near base. Seventh-eighth abdominal segments are shown in Fig. 19c.

Female genitalia (Figs. 26a-b). Eighth sternite with caudal margin slightly concave. Apophyses anteriores about 1/2 as long as apophyses posteriores. Antrum weakly sclerotized, cup-shaped, about 2/3 as long as 8th sternite. Ductus bursae narrowed beyond antrum, then broadened, heavily wrinkled, twisted beyond middle; with a long, heavily sclerotized plate on anterior half, which strongly serrate along lateral margins and about ¼ length of ductus bursae; ductus seminalis arising from beyond middle of ductus bursae. Corpus bursae ovate, about ½ as long as ductus bursae; signum reniform, elongate transversally, shorter than ½ width of corpus bursae, with conic spines.

Distribution. Thailand (Loei).

Etymology. This species name is derived from Greek, *kalos* (= beautiful), *mer* (= a part), and *dos* (= portion, part).



Figs. 17-19. Male genitalia of *Lecithocera* species (a: close-up uncus+gnathos part; b, aedeagus; c: 8th segment): 17. *L. orbiculata* **sp. nov.**; 18. *L. tumidosa* **sp. nov.**; 19. *L. calomerida* **sp. nov.**

7. *Lecithocer squalida* Gozmány, 1978

(Figs. 7, 11, 20, 20a, 20b, 20c, 27, 27a)

Lecithocera (*Patouissa*) *squalida* Gozmány, 1978, Microlep. Palaearctica 5: 120. Fig. 68; Wu, 1997: 131, pl. 12, fig. 1.

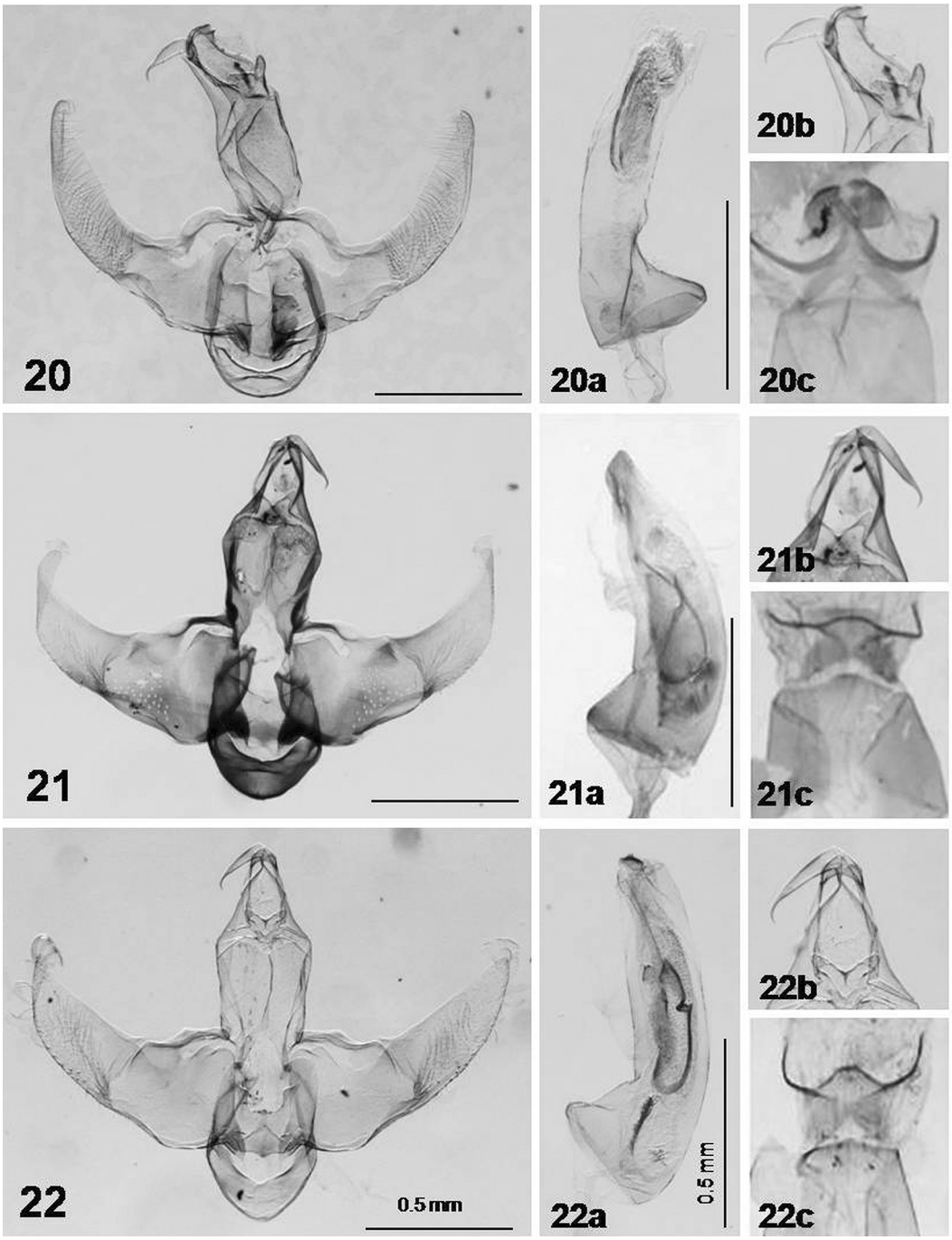
Diagnosis. Wingspan, 11.5-12.0 mm. This species is superficially similar to *L. parenthesis* Gozmány and *L. flavicosta* Gozmány, which are known from Nepal. The male genitalia are similar, but differ by the costal bar being gently curved medially without distinct median angle. The forewing venation also differs from that of the preceding species by having R_3 free from R_{4+5}, and CuA_1 and CuA_2 coincident. The female is known for the first time and described.

Male genitalia (Figs 20, 20a-c). See also Gozmány (1978, fig. 68) and Wu, 1997, pl. 12, fig 1).

Female genitalia (Figs. 27, 27a). Eighth sternite slightly concave on caudal margin. Apophyses anteriores less than 1/2 as long as apophyses posteriores. Antrum large, cup-shaped, sclerotized, slightly shorter than 8th sternite. Ductus bursae narrowed at conjunction with antrum, then broadened, becoming as wide as antrum, looped 2-3 times, slightly wrinkled; ductus seminalis arising from middle. Corpus bursae pear-shaped, as long as ductus bursae; signum absent.

Material examined. 1♂, Chiang Mai, Doi Pakia, 1500 m, 5-7 IX 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5580; 1♂, Chiang Mai, Pakia, 23 VII 1981 (Kuroko, Moriuti, Arita, Yoshiyasu); 1♀, Chiang Mai, Doi Chang Khian, 1250 m, 29 V 1983 (Kuroko, Moriuti, Saito, Yoshiyasu), gen. slide no. CIS-5846; 3♂, Chiang Mai, Doi Pui, 1300 m, 1-4 IX 1987 (Moriuti, Saito, Arita, Yoshiyasu), gen. slide no. CIS-5589, wing prep. no. CIS-5854.

Distribution. Thailand (Chiang Mai), China (Chekiang), Taiwan (new record).



Figs. 20-22. Male genitalia of *Lecithocera* species (a: close-up uncus+gnathos part; b, aedeagus; c: 8th segment)**:** 20. *L. squalida* Gozmány**;** 21. *L .poculata* **sp. nov.;** 22. *L. eremiodes* **sp. nov.**

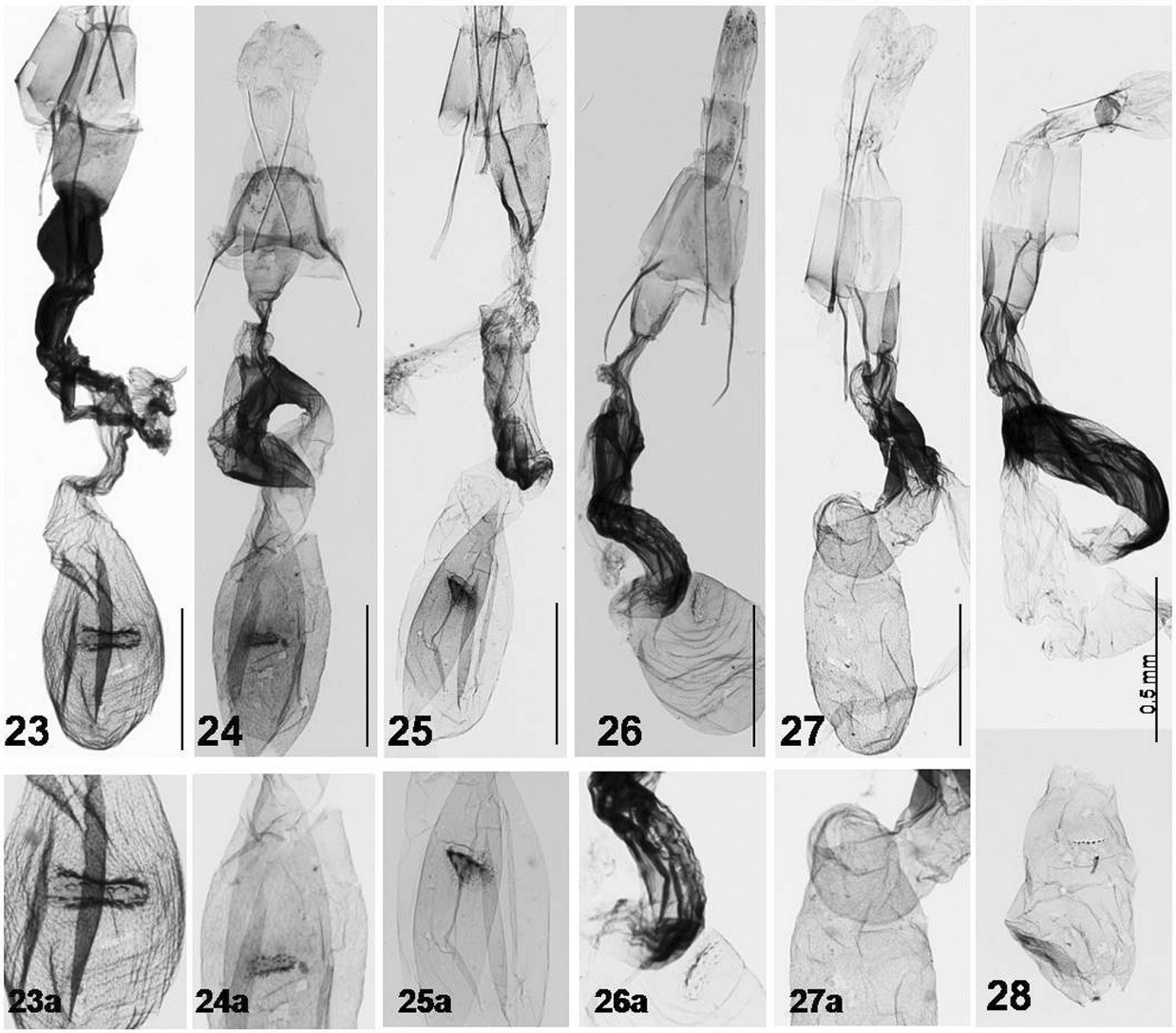
8. *Lecithocera poculata* Park, sp. nov.

(Figs. 8, 12, 21a, 21b, 21c, 28a, 28b)

Type. Holotype: 1♂, Kanchanaburi, Tam Tarn Lod, 21 VIII 1981 (Kuroko, Moriuti, Arita, Yoshiyasu), gen. slide no. CIS-5575. Paratypes: 4♂, same data as the holotype, wing prep. no. CIS-5852; ♂, Kanchanaburi, Mae La Mun, 400 m, 25-26 XI 1985 (Moriuti, Saito, Arita), gen. slide no. CIS-5574; 1♀, Kanchanaburi, Erawan, 19 VIII 1981 (Kuroko, Moriuti, Arita, Yoshiyasu), gen. slide no. CIS-5847.

Diagnosis. This new species is characterized by the narrow forewing with two conspicuous black discal spots and the veins M_3 and CuA_1 stalked in the hindwing.

Description. Male and female. Wingspan, 10.0-11.0 mm. Head with a brownish-gray dorsomedial band, with orange-white erect scales laterally. Scape of antenna moderate, orange white dorsally, not ciliate; flagellum orange white, slightly serrate, with inconspicuous brownish annulations. Second segment of labial palpus thickened, yellowish brown on outer surface, orange white, shiny on inner surface; 3rd segment slender, shorter than 2nd. Tegumen and thorax light orange. Forewing narrow, with acute apex; ground color orange white, brownish scales scattered throughout, more dense beyond 2/3 length of wing, especially along termen; blackish fascia at basal 1/5 of costa; two conspicuous dark-brown discal spots: one at middle and another at end of cell, a plical dot extending to inner margin, and a small blackish short streak near base of inner margin; termen strongly oblique; fringe with brownish band medially and irregularly scattered brownish scales; venation (Fig. 12) with R_1 arising from before half length of cell; R_2 closer to R_3 than R_1 at base; R_3 stalked with R_{4+5} for 1/3 length; R_4 and R_5 stalked for 2/3 length; R_5 reaching costa; M_1 remote



Figs. 23-28. Female genitalia of *Lecithocera* species**:** 23. *L. mylitacha* Herrich-Schäffer; 24. *L. castanoma* Wu; 25. *L. squalida* Gozmány**;** 26. *L. calomerida* **sp. nov.;** 27. *L. squalida* Gozmány**;** 28. *L .poculata* **sp. nov.**

from R_{3+4+5} basally; M_1 and M_2 nearly parallel; M_3 free from CuA_1; CuA_1 and CuA_2 approximate, nearly connate; cell weakly closed. Hindwing pale grayish white; nearly lanceolate, apex narrowly rounded; Rs and M_1 stalked far beyond cell; M_2 well developed, remote from M_3 basally; M_3 and CuA_1 stalked for 1/2 length; termen strongly oblique; cell closed with weak cross vein. Hind tibia slender with orange-white, shiny rough scales dorsally; spurs yellowish brown; tarsi with broad, brownish band on each segment. Female is unknown.

Male genitalia (Figs. 21, 21a-c). Basal lobes of uncus elongate, deeply emarginate medially into V-shape. Gnathos slender, bent preapically. Tegumen moderate. Costal bar of valva sclerotized, without acute angle medially. Valva broad basally; cucullus elongate, more or less lanceolate, with rounded apex, as long as basal part of valva, with a bundle of setae at basal corner and short bristles along ventral margin at basal half and sparse relatively short setae on mesial surface; costa gently concave; apex obtuse. Juxta concave on caudal margin with a small emargination at middle. Aedeagus stout, slightly shorter than valva, gently curved, broad basally, bifurcate distally with short apical spines; cornuti consisting of two clusters of strong spines near base, a pair of long, heavily sclerotized, curved linear rods medially, and a sac containing numerous spicules on distal half, several spines on ventral margin medially and short sclerotized spines apically. Abdominal segments seven and eight are shown in Fig. 21c.

Female genitalia (Figs. 28a-b). Caudal margin of eighth sternite nearly straight. Antrum large, cup-shaped, weakly sclerotized, as long as 8th sternite. Ductus bursae membranous for posterior 2/5, weakly sclerotized for anterior 3/5; anterior part more or less elongate, pear-shaped, with a triangular, broad, sclerotized plate which has a short transverse band posteriorly; appendix bursae large, triangular, membranous; ductus seminalis narrow, arising from apex. Corpus bursae pear-shaped, about as long as ductus bursae; signum narrow, bandlike with about 10 conic spines.

Distribution. Thailand (Kanchanaburi).

Etymology. The species name is derived from the Latin, *poculum* (= cup), referring to the shape of the antrum of the female genitalia.

9 . *Lecithocera eremiodes* Park, sp. nov.
(Figs. 9, 13, 22, 22a, 22b, 22c)

Type. Holotype: ♂, Kanchanaburi, Mae La Mun, 400 m, 25-26 XI 1985 (Moriuti, Saito, Arita), gen. slide no. CIS-5576, wing prep. no. CIS-5853.

Diagnosis. This species is externally similar to *L. castanoma* Wu & Liu, but differs by the orange-white ground color of the forewing with vein R_3 free from R_{4+5} and the hindwing with M_3 and CuA_1 stalked. The male genitalia are similar to those of *L. ambona* and *L. eligmosa* Wu & Liu, but differ by the less slender basal lobes of the uncus and the convave, U-shaped caudal margin of the juxta.

Description. Male. Wingspan, 11.5 mm. Head with an orange-gray dorsomedian line, with orange-white erect scales laterally. Scape of antenna moderate, orange white dorsally, not ciliate; flagellum pale orange, paler toward apex, slightly thickened for basal 1/3, with inconspicuous annulations.

Second segment of labial palpus relatively short, thickened, brownish on outer surface, orange white on inner surface; 3rd segment slender, shorter than 2nd. Tegumen and thorax pale orange. Forewing narrow, elongate, with acute apex; ground color orange white to orange gray, irregularly scattered brownish scales beyond 2/3 length of wing; a short, black subbasal streak present; a dark-brown discal spot at middle and another at end of cell, and similar plical dots below them; costa nearly straight, with blackish streak along margin at basal 1/5; apex more or less acute; termen slightly concave medially; fringe unicolorous, speckled with brownish scales near apex; venation (Fig. 13) with R_1 arising before middle of cell; distance between R_1 and R_2 longer than that between R_2 and R_3; R_3 connate with R_{4+5}; R_4 and R_5 stalked for nearly 3/5 length; R_5 to termen; M_2 nearly parallel to M_1; M_3 free; CuA_1 and CuA_2 stalked for short distance; cell weakly closed. Hindwing pale gray to whitish, broad; Rs and M_1 short-stalked; M_3 and CuA_1 stalked for 2/5 length; apex acute; termen slightly concave medially; cell closed with weak cross vein. Hind tibia slender, with rough orange-white scales dorsally. Female unknown.

Male genitalia (Figs. 22, 22a-b). Basal lobes of uncus elongate, directed outwardly; caudal margin broadly V-shaped. Gnathos slender, bent preapically. Valva with costal bar heavily sclerotized, angled medially, broad basally; cucullus elongate, tapered toward apex, with nearly straight costa; apex narrowly rounded, as long as basal part of valva, bearing broad scales apically, with bristles on basal half of ventral margin. Caudal margin of juxta U-shaped. Aedeagus stout, gently curved, broad basally, with a short apical spine; cornuti consisting of two clusters of spines near base: one long and another much shorter; a long heavily sclerotized, curved rod, zigzaged at middle and strongly curved at both ends, and a long sac containing densely spinous spicules with a heavily sclerotized plate on ventral surface.

Distribution. Thailand (Kanchanaburi).

Etymology. This species name is derived from the Greek, *eremos (*= lonely, solitary) with the Greek suffix, *-odes*, denoting resemblance.

DISCUSSION

The genus *Lecithocera* Herrich-Schäffer has been characterized by the wing venation with CuA_1 and CuA_2 stalked in the forewing; M_2 present, and M_3 and CuA_1 stalked or coincident in the hindwing; normally thickened 2nd segment and slender 3rd segment of labial palpus; the male genitalia with an elongate valve; and the specialized abdominal sclerite between the 7th and 8th segments with well-developed hair pencils. As Park (1999, 2000) noted, some related genera that have been separated by the difference in venation (Walker, 1864; Meyrick, 1904; Gozmány, 1978) should be reconsidered for their generic status and be re-defined using recent techniques such as DNA sequence analysis. Considerable variation in wing venation is often found within the genus. For this reason, Park(1999) treated *Patuoissa* Walker to a synonym with *Lecithocera* as Meyrick (1910) did. Additional examples of variable venation are shown by *L. orbiculata* **sp. nov.** with R_5 absent in the forewing, *L. squalida* Gozmány and *L. eremiodes* **sp. nov**. with R_3 free from R_{4+5}, and *L. poculata* **sp. nov**. with CuA_1 and CuA_2 free in the forewing. No distinct, separable characters are found in male genital structures among species of the *Patouissa*-group (species No. 1-7 in this article) and *Lecithocer*-group (species No. 8-9) as classified by Gozmány (1978). Meyrick (1904) described the genus *Sarisophora*, based on the type species*, S. leptoglypta* Meyrick from Queensland, distinguishing it from *Macrotona* Meyrick, which currently is a junior synonym of *Lecithocera,* by the absence of M_2 of the hindwing. In fact, the vein referred as M_3 in his description is M_2, and M_3 is coincident with CuA_1. There is no difference between *Patouissa* and *Sarisophora* in venation. This will be discussed in a following article. Without doubt, all species described in this study belong to *Lecithocera,* based on the combination of characters of the venation and the male genitalia.

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