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A NEW GENUS *NEOPECTINIMURA* (LEPIDOPTERA, GELECHIOIDEA, LECITHOCERIDAE), WITH FIVE NEW SPECIES FROM PAPUA NEW GUINEA

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ABSTRACT

A new genus, *Neopectinimura* Park, of the subfamily Lecithocerinae (Lepidoptera, Gelechioidea, Lecithoceridae) is described, based on the type species, *Neopectinimura beckeri* Park & Byun, **sp. nov,** from Papua New Guinea. Four additional new species for the new genus, *N. calligina* Park & Byun, *N. madangensis* Park & Byun, *N. setiola* Park & Byun and *N. morobeensis* Park & Byun are described. The genus is separable from its allied genus *Pectinimura* Park by the short and rounded forewing, with R5 absent, the unique character of antennae with long hairs, and often with an extremely long third segment of the labial palpus. A key to the 5 species of the genus is given. Illustrations of adults, wing venations, and the male genitalia are provided.

Key Words: Lepidoptera, Lecithocerinae, *Neopectinimura*, Papua New Guinea, taxonomy

RESUMEN

Se describe un nuevo género, *Neopectinimura* Park, de la subfamilia Lecithocerinae (Lepidoptera, Gelechioidea, Lecithoceridae), basado en la especie tipo, *Neopectinimura beckeri* Park & Byun, **sp. nov,** de Papua Nueva Guinea. Se describen cuatro adicionales nuevas especies para el género nuevo, *N. calligina* Park & Byun, *N. madangensis* Park & Byun, *N. setiola* Park & Byun y *N. morobeensis* Park & Byun. Este nuevo género se puede separar de su genero cercano, *Pectinimura* Park, por tener la ala anterior corta y redonda, con R5 ausente, un carácter único de la antena con pelos largos, y a menudo con el tercer segmento del palpo labial extremadamente largo. Se provee una clave de las 5 especies de este género con ilustraciones de los adultos, la venación de las alas, y de la genitalia de los machos.

The new genus *Neopectinimura* Park (Lepidoptera, Lecithoceridae, Lecithocerinae) is established, based upon the type species, *Neopectinimura beckeri* **sp. nov**. It was found among undetermined materials in the collection of the Smithsonian Institution (National Museum of Natural History), Washington DC, USA that were collected from Papua New Guinea in 1976 and 1992. The new genus, containing 5 new species described herein, is closely related to the genus *Pectinimura* Park, 2008, and it is apparently a derivative of *Pectinimura,* with a similar comb-like plate on the valva of the male genitalia. However, the new genus is separable from the latter and any other existing genera of the subfamily Lecithocerinae by having a combination of the following characters: forewing smaller with round termen, antenna with long hairs on the basal part of the flagellum anteriorly and an extremely long third segment of labial palpus (excepting *N. calligina* **sp. nov**.), and similar comb-like plate as *Pectinimura* in the valva of the male genitalia. The venation of the forewing is similar to that of *Pectinimura* or *Lecithocera* Herrich-Schäffer, 1853, but with R5 absent in the forewing, and M3 and CuA1 coincident in the hindwing.

In Papua New Guinea, a comprehensive faunal study of Lecithoceridae, as part of Gelechiidae, was published by Diakonoff (1954), in which only 2 genera of Lecithoceridae; *Lecithocera* with 31 species including 19 new species and *Crocanthes* Meyrick with 38 species including 10 new species, were reviewed. However, this figure is far short of their true diversity in the area, and we predict that further faunistic studies will result in many additional undescribed species of various lecithocerid genera of the family, in consideration of the material collected in only limited times and localities in the region. It is possible that more intensive study for the group will reveal a major radiation in the area. The aim of this work is to define the new genus *Neopectinimura*, and describe the 5 new species of the genus of the subfamily Lecithocerinae, Lecithoceridae (Gelechioidea), from Papua New Guinea. Due to the rare chance to obtain further material from that area in near

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future, we choose to proceed with the description of these last 2 new species based on a single specimen each.

Materials and Methods

Specimens examined are based mainly on loaned material from the National Museum of Natural History (USNM), Washington DC, USA, collected by G. F. Hevel & R. E. Dietz IV in 1976 and O. V. Becker in 1992 in Papua New Guinea. Along with examination of external characters, male genitalia and wing venation were dissected and examined. The new genus is described by the first author and the new species are described by names of both authors. All types will be deposited in the USNM. The color standard for description of adults follows Kornerup & Wanscher (1978).

Taxonomy

Genus *Neopectinimura* Park, **gen. nov.**

Type species: *Neopectinimura beckeri*, **gen.** & **sp. nov**.
Type locality: Papua New Guinea.

The new genus *Neopectinimura* (the gender is female) is closely related to the genus *Pectinimura* Park, 2008, and is similar in having the specialized comb-like structure on the valva of the male genitalia, but differs as follows: body smaller; forewing yellowish-white with round apex and termen; 1 or a pair of discal spots present at the end of cell; R_5 absent; antenna with long, specialized hairs on the basal part of flagellum anteriorly; seventh abdominal segment with a bundle of long, specialized hair-pencils, about as long as or longer than the segment. The third segment of labial palpus is longer than the second segment, with the exceptions of *N. calligina* and *N. morobeensis* **sp. nov**. Based on these unique characters of the wings and the antennae for these unknown species, a new genus *Neopectinimura* is described.

Adult: Head, tegula, and thorax yellowish-white to pale yellowish-brown dorsally. Scape of antenna comparatively long, often expanded apically; apex often white; flagellum pale brownish or metallic dark brown in basal half with long, specialized hairs which are yellowish-white throughout or dark brown in basal half anteriorly, and then slender with blackish pre-apical part, often with white apex. First segment of labial palpus normally short, second segment thickened or with scale-tuft ventro-apically; third segment variable in size, generally much longer than second, but sometimes about as long as second or shorter; apex acute. Forewing ground color yellowish-white to dark brown; usually with blackish discal spots at middle and end of cell, and sometimes with dark-brown round dot below cell medially; well-developed blackish dots present from pre-apex to tornus along termen; apex round; termen convex, slightly oblique. Venation: R_1 arising beyond middle of cell; position of R_2 variable, depending on species: R_1-R_2 much shorter or longer than R_2-R_3; R_3 and R_4 stalked; R_5 absent; M_1 remote from R_3 at base; M_2 nearly parallel to M_1, closer to M_3 at base; M_3 separated from CuA_{1+2}; CuA_1 stalked with CuA_2; Anal veins well developed; discal cell closed. Hindwing orange gray; apex more or less acute; termen oblique. Venation: Rs and M_1 usually short stalked; M_2 well developed, arising from 1/3 level of cell; M_3 and CuA_1 coincident; CuA_2 remote from or close to lower corner of cell; discal cell opened nearly half, with strong cross vein between M_2 and M_3 at base. Hind tibia usually slender, or with long, yellowish-white rough scales.

Male genitalia: Basal lobes of uncus ovate, slightly or deeply emarginate on caudal margin medially. Valva wider at base; distal part elongate with round apex; band-like bar connecting tegumen and valva gently curved, not angled at middle; costa usually concave before middle; then nearly straight to apex; ventral margin usually with broad median expansion, bearing dense setae; outer margin round or convex with dense setae along margin, comb-like pectinate well-developed on valva, variable in size, shorter or longer than width of valva, towards ventral corner of valva; sacculus narrow, heavily sclerotized, extended to middle of valva. Juxta usually triangular, with lateral flaps, weakly sclerotized, less than one-third as long as vinculum. Aedeagus stout, as long as valva, apically bifurcated, usually with a patch of minute spinules internally; cornuti consisting of weakly sclerotized plates. Seventh segment with a bundle of long specialized hair pencils, as long as eighth segment.

KEY TO THE SPECIES OF *NEOPECTINIMURA* PARK

1. Forewing ground color yellowish-white; hind tibia without hair-like scale tuft dorsally 2

- Forewing ground color yellowish brown or mustard brown; hind tibia with long, yellowish-white hair-like scale tuft dorsally- 4

2. Flagellum of antenna thickened and metallic dark brown on basal 2/5, with long, specialized hairs which dark brown at about basal 1/3 yellowish-white beyond . . . . . *N. calligina* **sp. nov**.

- Flagellum of antenna slender, yellowish-white on basal 2/5, with long, specialized yellowish-white hairs 3

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3. Wingspan more than 11.5 mm; forewing venation with R_2 closer to R_1 than R_3 at base, with a discal spot at end of cell; hindwing without long bristles along costa . . . . . *N. beckeri* **sp. nov**.

- Wingspan less than 10.5 mm; forewing venation with R_2 closer to R_3 than R_1 at base, with 2 discal spots at middle and at end of cell; hindwing with a row of long bristles from basal 1/4 to 1/2 of costa, longer than width of wing . . . . . *N. madangensis* **sp. nov.**

4. Forewing ground color mustard brown; antenna with curled, shorter hairs at basal part of flagelleum; third segment of labial palpus slightly shorter than second; hindwing with hair-like bristles on basal 1/3 of costa and also on lower surface of cell; male genitalia with nearly straight costa of valva beyond 1/3; comb-like plate on valva strongly bent downward. . . . . *N. setiola* **sp. nov**.

- Forewing ground color yellowish brown; antenna with long hairs throughout at base of flagelleum; third segment of labial palpus about half as long as second; hindwing without hair-like bristles on basal 1/3 of costa and on lower surface of cell; male genitalia with slightly convex costa of valva beyond 1/3; comb-like plate on valva nearly straight to pre-apex . . . . . *N. morobeensis* **sp. nov**.

Neopectinimura beckeri Park and Byun, **new species**

(Figs. 1, 8, 13, 14, 21, 21a)

Diagnosis. This new species is distinguished from its congeners by the yellowish-white basal part of flagellum and its concolorous long hairs, and the venation of the both wings as compared in the following species.

Description. Male. Wingspan 11.5-12.0 mm. Head, tegula, and thorax yellowish- white. Scape of antenna slender, yellowish-white on dorsal surface, brownish on anterior and posterior surface, without pecten; flagellum yellowish-white, with specialized long, yellowish-white hairs in basal 2/5 anteriorly, apical 7th black (Fig. 8). Second segment of labial palpus thickened with scale-tuft ventrally, yellowish-white on both surfaces, speckled rarely with brownish scales; third segment more than 1.5 times as long as second, slightly dilated from beyond middle to preapex; apex acute (Fig 14). Forewing ground color yellowish-white, speckled with brownish scales sparsely; dark-brown discal spot at end of cell, extending to inner margin; dark brown similar spot below cell medially; blackish dots well present from preapex to tornus along termen; apex round; termen slightly oblique, not sinuate; fringe dark brown beyond basal 1/3. Venation (Fig. 13): R_1 arising beyond middle of cell; R_1-R_2 about half as long as R_2-R_3; R_3 and R_4 stalked beyond 2/3; R_5 absent; M_1 remote from R_3; M_2 nearly parallel to M_1, closer to M_3 at base; M_3 separated from CuA_{1+2}; CuA_1 and CuA_2 stalked at basal 1/4 of CuA_1; Anvein well developed; cell closed. Hindwing orange gray, slightly broader than forewing, nearly trapezoidal; apex more or less acute; termen slightly sinuate; fringe concolorous Venation: Rs and M_1 short stalked; M_2 well developed, arising from 1/3 of cell; M_3 and CuA_1 coincident; CuA_2 remote from lower corner of cell; cell closed between M_2 and M_3, with strong cross vein. Hind tibia slender, appressed with yellowish-white scales.

Male genitalia (Figs. 21, 21a): Basal lobes of uncus deeply concave on caudal margin medially. Valva elongate, with broad in distal part and round apex; costa expanded at basal 1/4 anteriorly, followed by deep emargination, then nearly straight beyond 2/5; ventral margin with 2 expansions sub-basally and medially, median expansion bearing dense setae; comb-like plate arising from beyond median expansion of ventral margin, short, as long as width of distal part of valva, slightly bent downward; apex round, with dense setae along termen; sacculus narrow, sclerotized, extending to middle of valva. Juxta triangular, weakly sclerotized, at about 1/3 length of vinculum. Aedeagus stout, slightly shorter than valve, bifurcated apically; cornuti consisting of weakly sclerotized plates, about 1/3 as long as aedeagus, with a patch of minute spinules internally. Seventh segment with a bundle of specialized long hair pencils, as long as eighth segment.

Female. Unknown.

Holotype: male, PNG, Morobe. Bulojo Gorge 800 m, 21 X 1992, V.O. Becker Col.; Col. Becker, PNG 1337, gen. prep. No. CIS-5677/Park. Paratypes: 2 males, same data as the holotype, gen. prep. No. CIS-5679/Park; 1 male, Morobe, Wau 1,000 m, 17-30 IX 1992, V.O. Becker Col., Col. Becker, PNG 862.

Distribution. Papua New Guinea (Morobe).

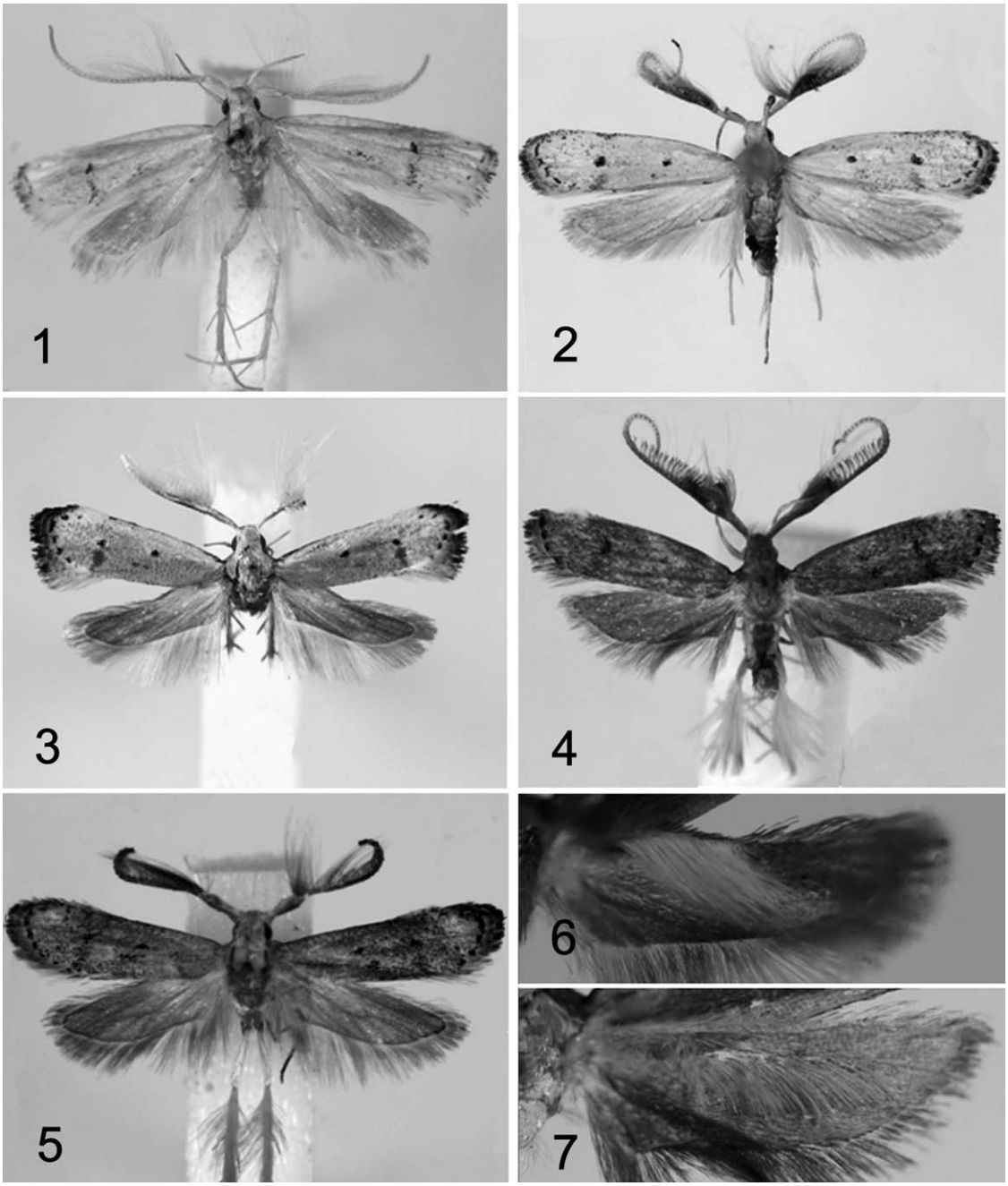
Etymology. The species is named for the collector of this species, Dr. V. O. Becker who is a microlepidoptera specialist in Brazil.

Neopectinimura calligina Park and Byun, **new species**

(Figs. 2, 9, 15, 22, 22a, b)

Diagnosis. The new species is similar to *N. beckeri*, but is distinguished by the followings: antenna with longer scape, basal 2/5 of flagellum slightly dilated, metallic dark brown; basal half of long hairs dark brown, then yellowish-white beyond; apical seventh black with white apex; second segment of labial palpus with more or less triangular scale-tuft ventrally, blackish apically; third segment longer than second, dentate beyond middle; venation with R_1-R_2 about half as long as R_2-R_3, and R_3 and R_4 stalked beyond 2/3. Hindwing with costa strongly concave beyond middle, with CuA_2 arising near lower corner of cell.

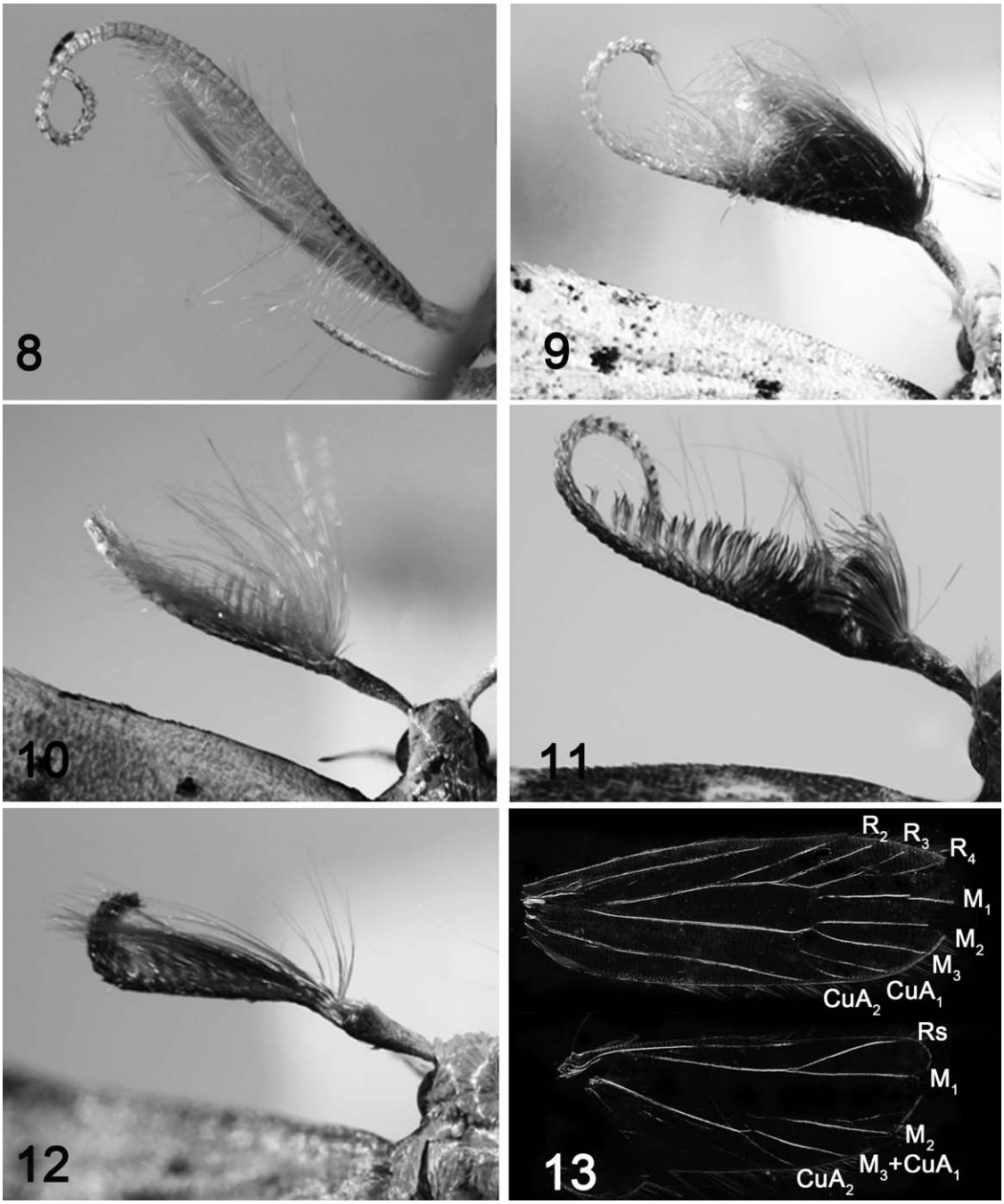
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Figs. 1-7. Adults and hindwings of *Neopectinimura* spp.: 1. *N. beckeri* **sp. nov.**; 2, *N. calligina* **sp. nov.**; 3, *N. madangensis* **sp. nov.**; 4, *N. setiola* **sp. nov.**; 5, *N. morobeensis* **sp. nov.**; 6, Right hindwing of *N. madangensis* **sp. nov.**; 7, Right hindwing of *N. setiola* **sp. nov.**;

Description. Male. Wingspan 10.0- 12.0 mm. Head yellowish-white. Scape of antenna slender, long, yellowish-white speckling with brownish scales sparsely, without pecten; flagellum dilated, metallic dark brown at basal 1/3 with long hairs, dark brown at basal part and then yellowish-white, with brownish annulations beyond the dilated basal part; apical part blackish (Fig. 9). Second segment of labial palpus with more or less triangular scale-tuft ventrally, blackish apically; third segment extremely long, more than 1.5 times as long as

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Figs. 8-13. Antennae and venation of *Neopectinimura* spp.: 8, *N. beckeri* **sp. nov.**; 9, *N. calligina* **sp. nov.**; 10, *N. madangensis* **sp. nov.**;11, *N. setiola* **sp. nov.**; 12, *N. morobeensis* **sp. nov.**; 13, venation of *N. beckeri* **sp. nov.**

second segment; apical half dentate on anterior surface (Fig. 15). Thorax pale brownish. Forewing ground color yellowish-white, speckled with brownish scales sparsely beyond basal 1/3; blackish round discal spots at middle and at end of cell; another similar spot below cell medially; setae-like scales well present on lower surface of cell; 6-7 blackish dots from preapex to tornus along termen; apex rounded; termen slightly oblique; fringe dark brown beyond basal half. Venation: R_1 arising beyond middle of cell; R_1-R_2 about 1.5 times as long as R_2-R_3; R_3

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and R_4 stalked before middle; R_5 absent; M_1 remote from R_3; M_1 nearly parallel to M_1, closer to M_3 at base; M3 separated from CuA_{1+2}; CuA_1 and CuA_2 stalked at basal 1/5 of CuA_1; Anal vein stalked at basal 2/5; discal cell closed. Hindwing orange gray, slightly broader than forewing, nearly trapezoidal; apex more or less acute; termen slightly sinuate; fringe concolorous. Venation: R_5 and M1 short stalked; M2 well developed, arising from 1/3 level of cell; M_3 and CuA_1 coincident; CuA_2 arising from near lower corner of cell; cell closed with strong cross vein between M2 and M3 at base. Hind tibia slender, with yellowish-white appressed scales dorsally.

Male genitalia (Figs. 22, 22a, b): Basal lobes of uncus gently concave on caudal margin medially. Median part of gnathos small, about 1/2 as long as latero-basal arms. Valva narrowed at 1/3, broadened medially, then narrowed at apical 1/5; costa concave before middle, then slightly expanded anteriorly; ventral margin with broad median expansion from basal 2/5 to 4/5; comb- like plate long, about 2/5 as long as valva, S-shaped, along margin of median expansion; distal part narrow, 1/3 as wide as basal part; apex round; sacculus sclerotized, extending to middle of valva. Vinculum relatively broad medially, narrowed apically. Juxta triangular, weakly sclerotized, at about 1/4 as long as vinculum. Aedeagus stout, as long as valve, bifurcated apically; cornuti consisting of 2-3 irregularly sclerotized plates, about 1/3 as long as aedeagus, with a patch of minute spinules internally. Seventh segment with a bundle of long, specialized hair pencils, longer than eighth segment (Fig. 22b).

Female. Unknown.

Holotype: male, PNG, Madang, Brahman Mission, 200m, 11-15 X 1992, V.O. Becker Col.; Col. Becker, PNG 2989, gen. prep. No. CIS-5862/Park. Paratypes: 2 males, same data as the holotype; 2 males, PNG, Morobe Dist., Wau 1200 m, 8-14 Dec. 1976, mercury vapor light, G.F. Hevel & R.E. Dietz IV, gen. prep. No. CIS-5863/Park; 1 male, PNG, Morobe, Wau, Wau Ecol Inst., 1-10 Aug. 1983 S.E. & P.M. Miller, 1200 m. UV Light, Montane Forest.

Distribution. Papua New Guinea (Madang, Morobe).

Etymology. The species name is derived from the Latin, *calligin,* meaning dark or obscura, referring to the dark color of the basal part of antenna.

Neopectinimura madangensis Park and Byun, **new species**

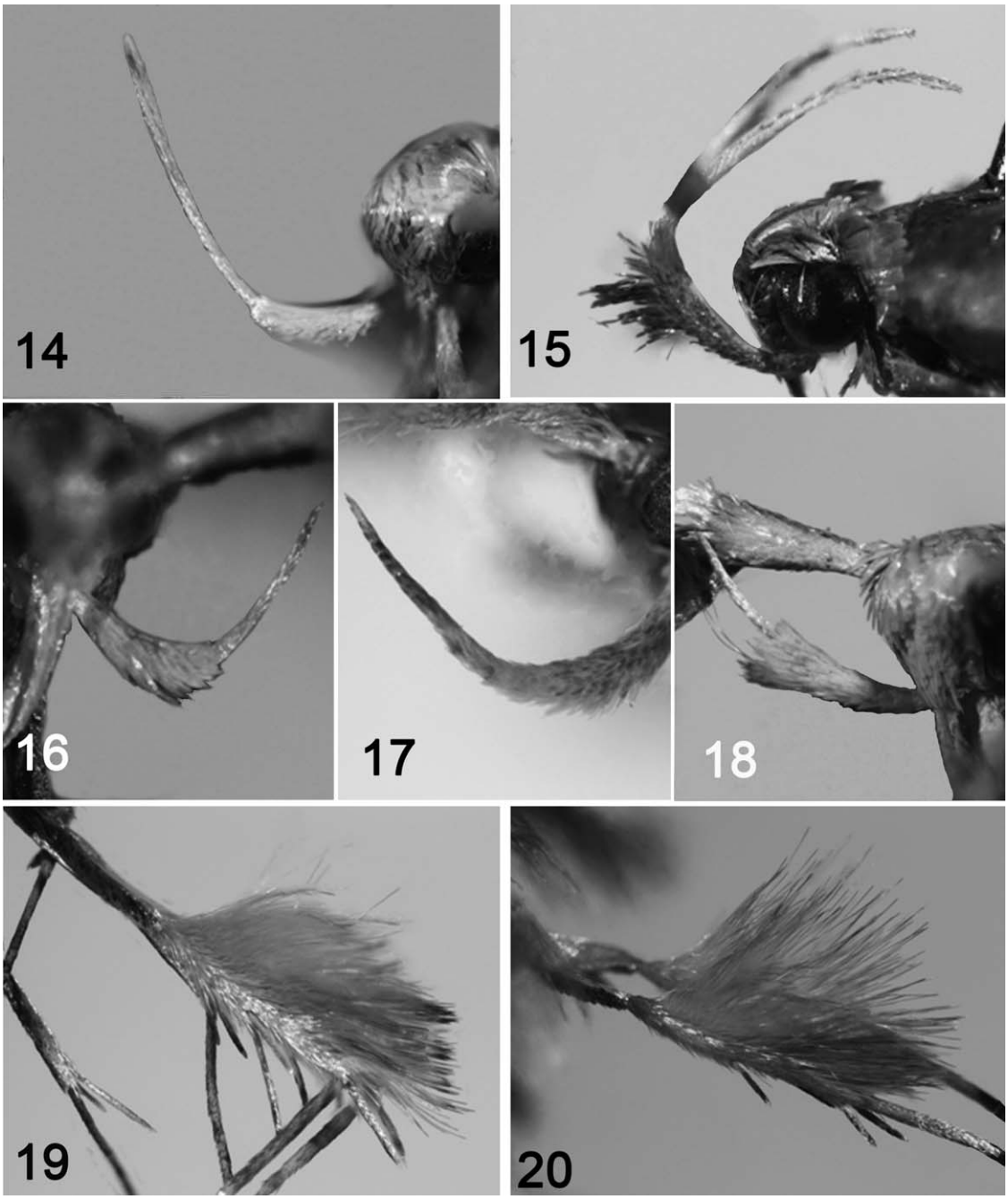
(Figs. 3, 6, 10, 16, 23a, b)

Diagnosis. This species is externally similar to *N. calligina* **sp. nov**., but it differs as follows: antennae with yellowish-white long hairs in basal part of flagellum; third segment of labial palpus shorter, as long as second segment; forewing ground color silvery white; and hindwing with unique character of a row of long bristles along costa from basal 1/4 to nearly half.

Description. Male. Wingspan 10.0 mm. Head and thorax yellowish-white to silvery- white. Scape of antenna slender, yellowish-white to silvery-white on dorsal surface, brownish on anterior and posterior margins, without pecten; flagellum with long, yellowish-white hairs in basal 2/5 and shorter ones beyond (Fig. 10). Second segment of labial palpus thickened, roughly scaled ventrally, yellowish-white, speckled with brownish scales on outer surface and silvery-white on inner surface; third segment slender, as long as second segment, with acute apex (Fig. 16). Forewing ground color silvery white in upper 1/3, covered with brownish dense scales in lower 2/3 of wing; costa nearly straight to preapex, covered with blackish scales; with round dark brownish discal spots at middle and at end of cell, and similar brownish dots below cell medially; a brownish elongate fascia extending from end of cell to inner margin; 6-7 blackish dots from preapex to tornus along termen; apex round; termen more or less round; fringe dark brown from preapex to tornus, with pale narrow median and basal bands, yellowish-white beyond. Venation similar to that of *N. calligina*: R_1 arising beyond middle of cell; R_1-R_2 about 1.5 times as long as R_2-R_3; R_3 and R_4 stalked about middle; R_5 absent; M_1 remote from R_3; M_2 nearly parallel to M_1 closer to M_3 at base; M_3 separated from CuA_{1+2}; CuA_1 and CuA_2 stalked at basal 1/5 of CuA_1; cell closed. Hindwing orange gray; elongate, slightly narrower than forewing; costa nearly straight, with a row of specialized long bristles, longer than width of wing, along costa from basal 1/4 to half; apex more or less acute; termen rounded; fringe concolorous. Venation similar to that of *N. calligina*. Hind tibia slender, with yellowish-white appressed scales dorsally.

Male genitalia (Figs. 23, 23a, b): Basal lobes of uncus ovate, emarginated medially. Gnathos small, strongly bent beyond 2/3, pointed apically. Valva elongate, wider basally, roundly expanded in distal part; costa strongly concave before middle and then straight obliquely; apex round; ventral margin nearly straight to middle, then strongly expanded; median expansion bearing dense setae; comb-like plate arising from middle of median expansion and terminate at its distal end; outer margin of distal part rounded; sacculus narrow, heavily sclerotized, extending to middle of valve, with dilated part at middle. Juxta conic, with lateral flaps, sclerotized, about 1/4 as long as vinculum. Aedeagus stout, slightly longer than valva, bifurcated apically; cornuti consisting of a broad sclerotized plate and a long dentate rod, 1/2 as long as aedeagus. Seventh segment with a

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Figs. 14-20. Labial palpi and hind tibia of *Neopectinimura* spp.: 14, *N. beckeri* **sp. nov.**; 15, *N. calligina* **sp. nov.**; 16, *N. madangensis* **sp. nov.**; 17, *N. setiola* **sp. nov.**; 18, *N. morobeensis* **sp. nov.**; 19, hind tibia of *N. setiola* **sp. nov.**; 20, hind tibia of *N. morobeensis* **sp. nov.**

bundle of long specialized hair-pencils, longer than eighth segment (Fig. 23b).

Female. Unknown.

Holotype, male, PNG, Madang, Brahman Mission, 200 m, 11-15 X 1992, V.O. Becker Col.; Col. Becker, PNG 2989, gen. prep. No. CIS-5871/Park.

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Distribution. Papua New Guinea (Madang).

Etymology. The species name is derived from the type locality.

Neopectinimura setiola Park and Byun, **new species**

(Figs, 4, 7, 11, 17, 19, 24, 24a-b)

Diagnosis. This new species is distinguished from the preceding 3 new species by the dark brownish ground color of the forewing and the hair-like long scales on the hind tibia. It is externally similar to the following new species, *N. morobeensis* **sp. nov**., but is distinguished by the hindwing with a row of long bristle-like hairs along costa basally and also on lower surface of cell.

Description. Wingspan 10.0 mm. Head dark brown; face yellowish-white. Scape of antenna dark brown dorsally, yellowish-white ventro-anteriorly, without pecten; flagellum with long specialized hairs on its basal half: slightly curled, yellowish-brown bristle-like hairs at base, as long as scape, followed by extremely long hair-pencils which brownish basal 1/4 and yellowish-white beyond, and then with yellowish brown short, comb-like scales, shorter towards distal end of the part; apical eighth dark brown with white apex (Fig. 11). Second segment of labial palpus normally thickened, pale yellowish brown on outer surface, yellowish-white on inner surface; third segment slender, shorter than second segment, with acute apex (Fig. 17). Forewing relatively short, densely covered with dark brown scales, with a small yellowish-white fascia pre-apically; costa nearly straight to preapex; with 2 round, blackish discal spots at middle and at end of cell, and another similar dot at below of cell medially; 6-7 blackish dots well present from pre-apex to tornus along termen; apex round; termen slightly convex; fringe dark brown. Venation: R2 arising from near upper corner of cell; R_2-R_3 about 1/3 as long as R_1-R_2; R_3 stalked with R_4 beyond 2/3; R_4 reaching to before apex; R_5 absent; M_1 remote from R_{4+5}; M_2 closer to M_3 at base; M_3 near to CuA_{1+2} at base; CuA_1 and CuA_2 stalked at basal 1/4; cell closed. Hindwing orange gray, as wide as forewing, nearly trapezoidal, with a row of long bristles along costa at basal 1/4 and more specialized pale yellowish-brown dense bristles, longer than width of wing, on lower surface of cell; cubital pectin well present; apex more or less acute; Rs and M_1 long stalked; M_2 absent. Hind tibia with yellowish-white long, specialized hairs above (Fig. 19).

Male genitalia (Figs. 24, 24a, b): Basal lobes of uncus ovate, slightly concave on caudal margin medially. Gnathos small, strongly bent preapically. Tegumen relatively broad. Band-like bar connecting tegumen and valva gently curved downward, not angled medially. Valva slightly wider at base; costa concave at basal 1/3, then nearly straight to apex; apex slightly protruded, round; ventral margin with small, triangular protrusion at basal 1/4, then slightly concave, followed by median part slightly expanded; outer margin round, with dense setae along margin; comb-like plate arising from middle of median expansion, curved toward lower corner of valva, about as long as valva width; sacculus sclerotized, extending to base of comb-like plate. Vinculum weakly sclerotized, broadly developed, narrowed toward apex; apex round. Juxta wide, sclerotized, strongly convex on caudal margin medially, about 1/4 as long as vinculum. Aedeagus stout, bent medially, as long as valva, bifurcate apically; cornutus long, heavily sclerotized, rod-like plate, broadly expanded apically, about 2/3 as long as aedeagus. Seventh segment with a bundle of long hair-pencils.

Female. Unknown.

Holotype: Male, PNG, Madang, Brahman Mission, 200 m, 11-15 X 1992, V.O. Becker Col.; Col. Becker, PNG 2990, gen. prep. No. CIS-5861/Park

Distribution. Papua New Guinea (Madang).

Etymology. The species name is derived from the Latin, *set*, meaning bristle, referring to the specialized bristles on hindwing.

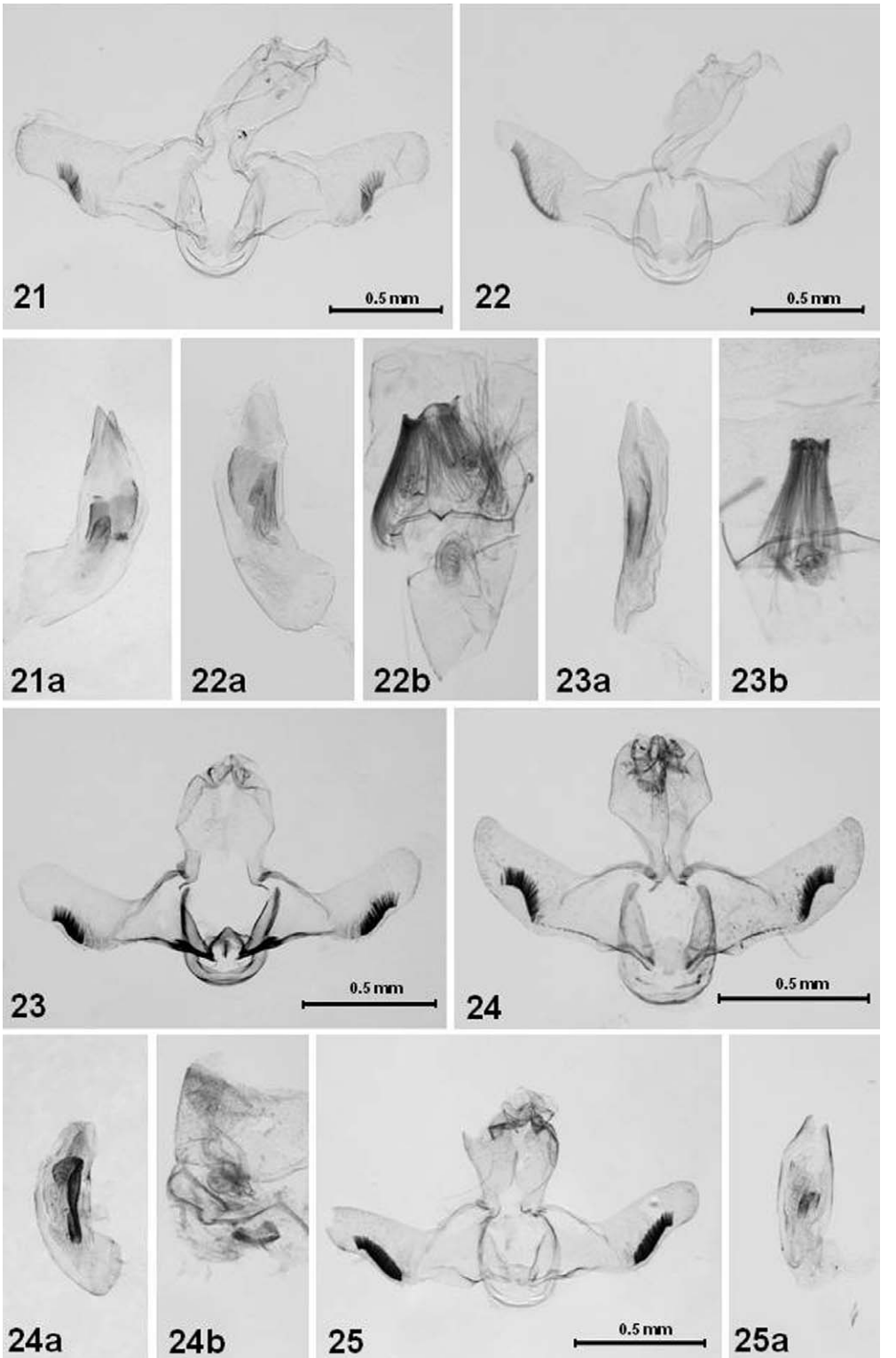
Neopectinimura morobeensis Park and Byun, **new species**

(Figs. 5, 12, 18, 20, 25, 25a)

Diagnosis. This new species is externally similar to the preceding new species, *N. setiola* sp. nov., but it can be easily distinguished by the following: third segment of labial palpus much shorter, about 1/2 as long as second; forewing with paler ground color; hindwing without long, specialized bristles along costa and on lower surface of the cell. In the male genitalia, basal lobes of uncus more slender, valve with larger median expansion on ventral margin, followed by the concave part before the lower corner; comb-like plate on valva longer, nearly straight to preapex; aedeagus without heavily sclerotized plates.

Description. Wingspan 10.0 mm. Head yellowish-white dorsally; face paler. Scape of antenna dark brown dorsally, yellowish-white ventro-anteriorly, with white apex, without pecten; flagellum with long hair-like scales on its basal half: extremely long, yellowish-white hair-pencils at basal half and then shorter beyond; beyond part of basal half missed (Fig. 12). Second segment of labial palpus thickened with rough scale-tuft apically, pale yellowish brown on outer surface and yellowish-white on inner surface; third segment slender, about 1/2 as long as second segment, with acute apex (Fig. 18). Forewing ground color paler than that of *N. setiola* **sp. nov**. and no other characters differentiated from the latter; venation similar to those of *N. setiola* **sp. nov**. Hindwing orange gray,

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Figs. 21-25. Male genitalia of *Neopectinimura* spp.: (a) Aedeagus and (b) Hair pencil in seventh segment, 21. *N. beckeri* **sp. nov.**; 22, *N. calligina* **sp. nov.**; 23, *N. madangensis* **sp. nov.** 24, *N. setiola* **sp. nov.**; 25, *N. morobeensis* **sp. nov.** Scale bar: 0.5 mm.

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as wide as forewing, nearly trapezoidal, without long bristles on costa and on lower surface of cell; cubital pectin absent; apex more or less acute; Rs and M_1 long stalked; M_2 absent. Hind tibia with yellowish-white, long hairs above (Fig. 20).

Male genitalia (Figs. 25, 25a). Basal lobes of uncus more or less slender, deeply concave on caudal margin medially. Gnathos small, strongly bent preapically. Tegumen relatively broad. Band-like bar connecting tegumen and valva gently curved downward, not angled medially. Valva slightly wider at base; costa concave before 1/3, then slightly convex anteriorly; apex round; ventral margin with broad expansion medially, then concave before lower corner of distal part; outer margin round, with dense setae along margin; comb-like plate arising before middle of median expansion and exceeding to lower corner of valva, longer than valva width, bent preapically; sacculus sclerotized, extending to base of comb-like plate. Vinculum weakly sclerotized, broadly developed, narrowed toward apex. Juxta smaller than that of *N. setiola*. Aedeagus stout, bent at basal 1/3, slightly shorter than valva, bifurcate apically; cornutus without heavily sclerotized plate. Seventh segment with a bundle of long hair-pencils.

Female. Unknown.

Holotype: 1 male, PNG, Morobe, Wau 1000 m, 17-30 IX 1992, V.O. Becker Col.; Col. Becker, PNG 861, gen. prep. No. CIS-5864/Park.

Distribution. Papua New Guinea (Morobe).

Etymology. The species name is derived from the type locality.

Discussion

Neopectinimura **gen. nov.** is similar to *Pectinimura* Park, 2008 which was established for 4 species from the Philippines and Thailand, and unique to Lecithocerinae in having a comb-like pectinate on the valva of the male genitalia. The venation of *Neopectinimura* is similar to that of *Lecithocera* Herrich-Schäffer, except for the lack of R_5 on the forewing. It also has well developed hair-pencils on the seventh abdominal segment as seen in *Lecithocera* (Gozmány 1978, Figs. 52, 58, 64; Park, 1999, Figs. 38b, 39b). Generally, for genus-level taxonomy in the family Lecithoceridae, wing venation has been treated as the most important character distinguishing genera (Meyrick 1925; Gozmány 1978). However, the combination of venation and other morphological characters including genital characters should be considered in defining genera of the family (Park & Byun 2008). This new genus differs from *Lecithocera* by having a comb-like plate on valva as seen in *Pectinimura*, but it is distinguished from *Pectinimura* by the smaller size, the forewing with round apex, and the unique shape of the antenna with specialized long hairs on the basal part of the flagellum. With these unique characters, this new genus is clearly distinct from any other known genera of the family. Although 3 of the 5 new species described here have their third segment of labial palpus unusually longer or the similar length as the second segment and normally slender hind tibia, whereas the last 2 species have a shorter third segment and long hair-tuft on the hind tibia, they are assigned to this new genus in consideration of the whole suite of unique characters.

Lecithocerid fauna in Papua New Guinea is poorly known, with only 2 known genera, *Lecithocera* and *Crocanthes* Meyrick. For the known *Lecithocera* species as an allied genus of *Neopectinimura*, **gen. nov.** in Papua New Guinea, a total of 31 species including 19 species described by Diakonoff (1954) have been recorded. According to descriptions or the key provided by Diakonoff (1954) for these species, no species has the unique antennal character with the long, hair-tuft on the basal part of flagellum. Only *L. squamifera* Meyrick, 1929 has the antenna with thickened tuft of gray scales at the basal 1/5, but it has no hair-like scales and the species is much larger than any new species described here.

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