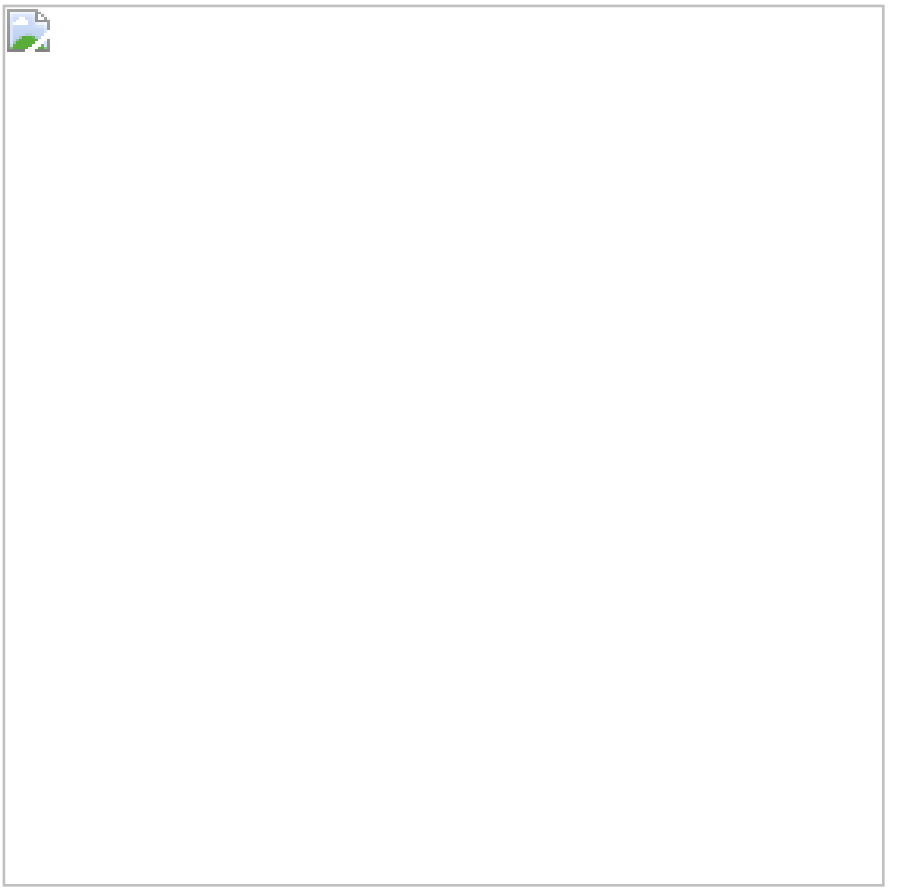

Genus Promalactis (Lepidoptera: Oecophoridae) from Northern Vietnam, Part 1: Descriptions of Five New Species

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GENUS *PROMALACTIS* (LEPIDOPTERA: OECOPHORIDAE) FROM NORTHERN VIETNAM, PART 1: DESCRIPTIONS OF FIVE NEW SPECIES

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ABSTRACT

This paper is the first of a series treating the genus *Promalactis* (Lepidoptera, Oecophoridae) of Northern Vietnam, and 5 new species are described based on material mainly collected in the northern part of Vietnam since 2002. The new species are *Promalactis albisquama* **sp. nov.**, *P. griselocula* **sp. nov.**, *P. heppneri* **sp. nov.**, *P. rectifascia* **sp. nov.**, and *P. vittapenna* **sp. nov.** Adults, heads, wing venations, and the male or female genitalia of the new species are illustrated.

Key words: Taxonomy, Lepidoptera, Oecophoridae, new species, *Promalactis,* Vietnam

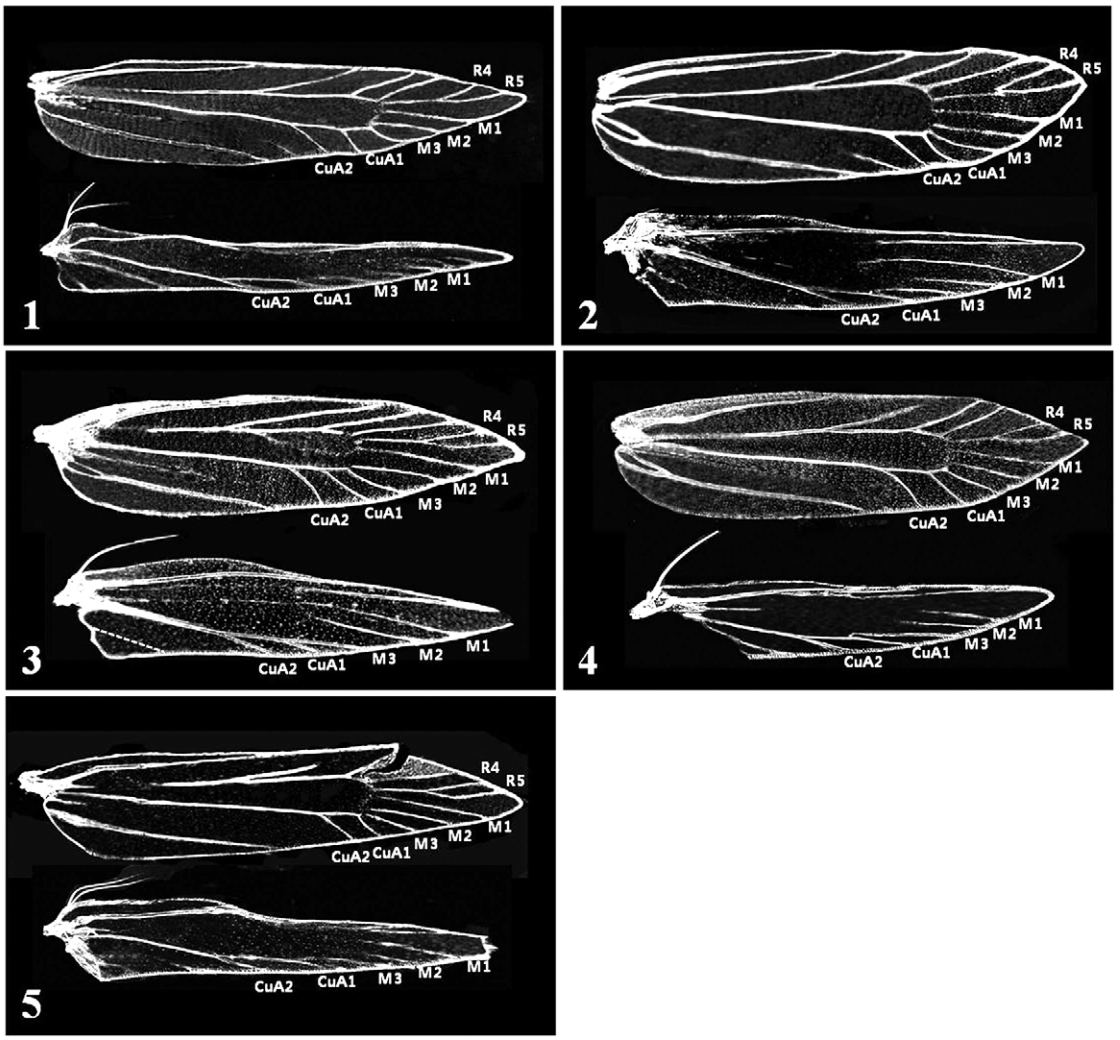
RESUMEN

Este informe es el primero de una serie que trata el género *Promalactis* (Lepidoptera, Oecophoridae) de la parte norte de Vietnam. Se describen 5 nuevas especies basado en material recolectado principalmente en la parte norte de Vietman desde el 2002. Las nuevas especies son *Promalactis albisquama* **sp. nov.**, *P. griselocula* **sp. nov.**, *P. heppneri* **sp. nov.**, *P. rectifascia* **sp. nov.**, **y** *P. vittapenna* **sp. nov.** Se ilustran los adultos, las cabezas, las nervaduras del ala y la genitalia del macho y de la hembra de las nuevas especies.

The genus *Promalactis* Meyrick, 1908 (Lepidoptera, Oecophoridae) is one of the largest genera of the family, encompassing more than 150 described species worldwide (Wang et al. 2009; Du et al. 2009). The genus is mainly distributed in the Palaearctic and Oriental Regions, probably with the highest diversity in South and East Asia. In the Palaearctic Region, 75 species have been reported from China (Wang 2006; Wang et Jin 2007; Du et al. 2009; Wang et al. 2009), 14 species from Korea (Park & Park 1998), 12 species from Japan (Fujisawa 2002), 8 species from Russian Far East (Lvovsky 1976, 1985, 1986), and 3 species from Nepal (Lvovsky 2000a). In the Oriental Region, Meyrick (1908a, 1908b) described 14 species from India and Myanmar, and Lvovsky (2000a, 2000b) described 25 species from the southern Asia, including the southern part of China, Malaysia, Indonesia, and Philippines. In Vietnam, 8 species, *Promalactis albiapicalis* Lvovsky, 1997, *P. atrofasciella* Lvovsky, 1988, *P. buonluoi* Lvovsky, 1997, *P. fansipanella* Lvovsky, 2007, *P. fuscomaculella* Lvovsky, 1988, *P. kuznetzovi* Lvovsky, 1988, *P. suzukiella* (Matsumura, 1931) and *P. tamdaoella* Lvovsky, 1988, have been described (Lvovsky 1988, 1997, 2007).

The genus is characterized by the following characters: labial palpus 3-segmented, 3rd segment usually shorter than 2nd segment (Figs. 6-10); forewing ground color brownish yellow to yellowish brown, shiny, often reddish brown, with oblique, white, median band, with well-developed costal patch or without, or other small white markings edged by blackish scales near apex; forewing venation with R_4 and R_5 stalked, R_5 reaching to costa, M_1 and M_2 separated, often nearly parallel, M_3 arising from anal angle of cell, CuA_1 close or remote to M_3 at base, and CuA_2 usually remote from CuA_1 at base (Figs. 1-5). The male genitalia have variable processes of valva, and the female genitalia have well-developed ostial segment and a single or paired signa in the corpus bursae.

The biology of *Promalactis* is poorly known. Adults appear in spring or early summer to autumn, and are mostly nocturnal and attractive to light sources (Park 1998; Wang 2006; Wang et al. 2009). Most of larvae are leaf-rollers or tiers feeding on leaves, seeds or stems. Some probably live under the dead wood and bark of living trees (Park 1981; Wang 2006).



Figs. 1-5. Wing venation. (1) *Promalactis albisquama* **sp. nov.**; (2) *P. griselocula* **sp. nov.**; (3) *P. heppneri* **sp. nov**.; (4) *P. rectifascia* **sp. nov.**; (5) *P. vittapenna* **sp. nov.**

A total of 52 individuals of 5 new species, *Promalactis albisquama* **sp. nov.**, *P. griselocula* **sp. nov.**, *P. heppneri* **sp. nov**., *P. rectifascia* **sp. nov.**, and *P. vittapenna* **sp. nov.**, were examined and identified in this study. The number of specimens, localities, date and genitalia preparation slide number were provided in the Table 1. All the new species described herein were compared with the male and/or female genitalia of the 3 previously described species by Lvovsky (1988, 1997, 2007), of which *P. albiapicalis* and *P. buonluoi* were from the southern part, and the others from the northern part of Vietnam, however, none of those were identical with the new species described in this paper.

From this result, we predict that further intensive inventories for the Vietnamese fauna throughout the country will reveal many more additional new species of the genus. The aim of this study is to identify species of the genus *Promalactis* collected in the northern part of Vietnam, describing 5 new species.

Materials and Methods

Material for the present study is based on the specimens collected during the survey of the Korea-Vietnam collaborative Insect Research Project since 2002, in the northern part of Vietnam, the Tam Dao National Park. Collections were conducted 1 or 2 times from 6 sites (1160 m, 950 m, 912 m, 750 m, 450 m, and 100 m) on Apr or/and Jun or Jul or/and Aug in 2002 and 2005-2008 (Table 1). The specimens were collected

TABLE 1. RECORD INFORMATION OF NEW SPECIES IN TAM DAO NATIONAL PARK FROM VIETNAM.

New Species of *Promalactis*	No. of species	Localities	Date	Gen. slide No.
P. albisquama **sp. nov.** (*n* = 6)	1 male and 3 females	1160 m	16-19/06/2008	9036 (M), 9005, 9021 (F)
	1 female	950 m	31/07/2006	
	1 female	950 m	14/08/2005	
P. griselocula **sp. nov.** (*n* = 17)	9 females	950 m	13-14/08/2005	9008 (F), 9015 (F)
	6 males and 2 females	100 m	22/08/2002	9028 (M)
P. heppneri **sp. nov.** (*n* = 4)	1 female	950 m	31/07/2006	
	1 female	950 m	14/08/2005	9025 (F)
	1 female	912 m	13/08/2005	9010 (F)
	1 male	750 m	15/08/2005	9012 (M)
P. rectifascia **sp. nov**. (*n* = 8)	2 males and 6 females	950 m	24/08/2007	9018 (M), 9019 (F)
P. vittapenna **sp. nov.** (*n* = 17)	1 female	950 m	31/07/2006	
	2 males and 1 female	950 m	26/04/2006	
	3 females	450 m	30/07/2006	
	3 males and 4 females	100 m	22/08/2002	
	2 males and 1 female	100 m	13-14/08/2005	9007, 9021 (M), 9023 (F)

mainly by light trap from 8 PM to over 12 AM with Mercury vapor lamp 200W (No. 2446, Dongsungelec., Korea) and the wing expanse was measured from the left to right forewing apex. For morphological study, wing patterns, venations, external characteristics of the head and thorax, and the genitalia of both sexes were carefully examined and taken from digital images by the software, Image Lab version 2.2.4.0 by MCM Design (Ltd.). The color standard for the description of adults was based on "Methuen Handbook of Colour" by Kornerup and Wanscher (1978). Types are deposited in the McGuire Center for Lepidoptera and Biodiversity, Florida Museum of Natural History, University of Florida, USA, on an indefinite loan from Vietnam.

SYSTEMATIC ACCOUNTS

Promalactis Meyrick, 1908

Promalactis Meyrick, 1908, J. Bombay Nat. His. Soc., 15: 806.

Type species: *Promalactis holozona* Meyrick, 1908. Type locality: Coorg, S. India.

Promalactis albisquama Kim & Park, **sp. nov.** (Figs. 1, 6, 11, 11a, 16, 16a, 16b, 21, 21a, 21b)

Diagnosis

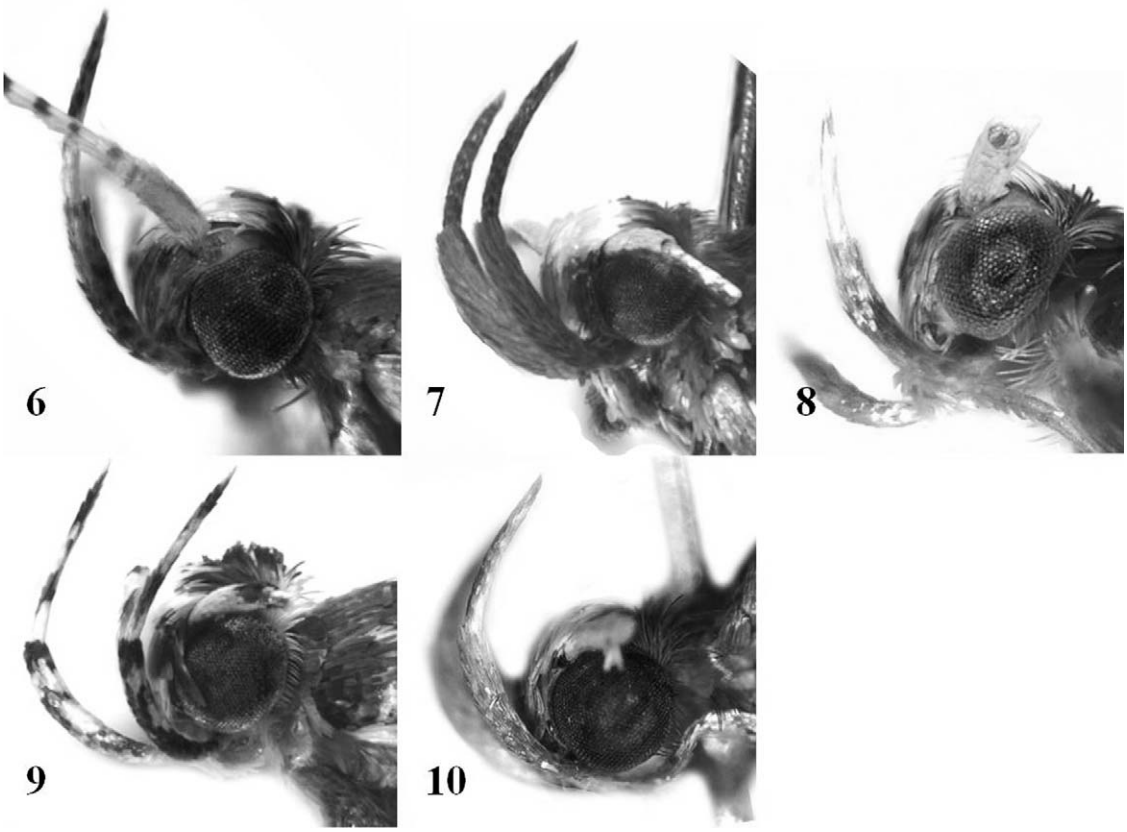
This species is externally similar to *P. suzukiella* Matsumura, but distinguished by the brownish-yellow ground color of the forewing; and the female genitalia with a horseshoe-shaped rim of the ostium, the ductus bursae long, thin with dense spinous, upturned basal part, and the signum with 2 minute spines.

Description

Adults (Figs. 1, 6, 11, 11a). Head: Frons pale grayish shiny brown; vertex shiny white; occiput with dark-brown erect scales. Antenna with scape white entirely, slightly longer than diameter of eye; flagellum shiny white, alternated with dark brown. Labial palpus with 2nd segment brown strongly recurved; 3rd segment whitish in basal half ventrally and dorsally, acute apically, nearly as long as the 2nd segment.

Thorax: Thorax and tegula brownish yellow. Wing expanse 8.5-9.0 mm. Forewing lanceolate, ground color brownish yellow; median white band crossed diagonally from ⅓ of costa to middle of posterior margin, narrower toward posterior margin, with irregular inner margin and outer margin edged by dark-brown scales; costal patch large, white, ovate, beyond ⅔ of costa; dark-brown transverse stripe from middle to tornus along posterior margin; fringes grayish brown, mixed with fuscous scales along outer margin beyond apex, with dense white scales near tornus; apex sharply produced; venation with R_4 and R_5 stalked beyond half, R_5 reaching costa, M_3 close to M_2 at base, distance between M_3 and CuA_1 nearly same as that of CuA_1 and CuA_2. Hindwing lanceolate; fringes grayish brown; venation with M_2, M_3, and CuA_1 nearly same distance at base. Legs dark brown ventrally; mid tibia with a pair of whitish spurs apically; hind tibia with two pairs of pale yellowish-brown spurs at sub-base and near apex; tarsi of mid- and hind legs with white scales at apices of 1st, 3rd, 4th and basal 5th segments.

Male genitalia (Figs. 16, 16a, 16b): Uncus bifurcate, concave on caudal margin, with digitate lateral lobes. Gnathos sclerotized, concave medially, wider and shorter than uncus. Valva sym-



Figs 6-10. Head (Labial palpus). (6) *Promalactis albisquama* **sp. nov.**; (7) *P. griselocula* **sp. nov.**; (8) *P. heppneri* **sp. nov.**; (9) *P. rectifascia* **sp. nov.**; (10) *P. vittapenna* **sp. nov.**

metrical; sacculus sclerotized with rounded apex, longer than cucullus, with dense short hairs preapically, sparsely setose on posterior half of ventral margin; cucullus with long dense hairs apically, more or less truncate apex. Juxta with heavily sclerotized, horn-shaped caudo-lateral processes; caudal margin convex, serrate. Succus extremely long, as long as uncus plus tegumen. Aedeagus slender, elongate, as long as saccus plus juxta.

Female genitalia (Figs. 21, 21a, 21b): Apophysis posterioris almost twice as long as apophysis anterioris. Ostium deeply emarginated, heavily sclerotized, forming a horseshoe-like lateral rims. Ductus bursae very long, narrow, as long as 1.5 times of corpus bursae. Corpus bursae strongly bent; posterior half narrow, wrinkled; anterior half pear-shaped, up turned. Signa consist of two round, sclerotized plates with tiny spines respectively.

Holotype

Male, Tam Dao Nat. Park, Vietnam, 1160 m, 16~19-VI-2008 (JB Heppner), gen. slide no. 9036. Paratypes: 3 females, same data as the holotype, gen. slide. no. 9005, 9021; 1 female, same locality, 950 m, 14-VIII-2005 (KT Park, MY Kim & MY Chae); 1 female, 950 m, same locality, 31-VII-2006 (Park, Chae, Cuong).

Distribution Vietnam (North).

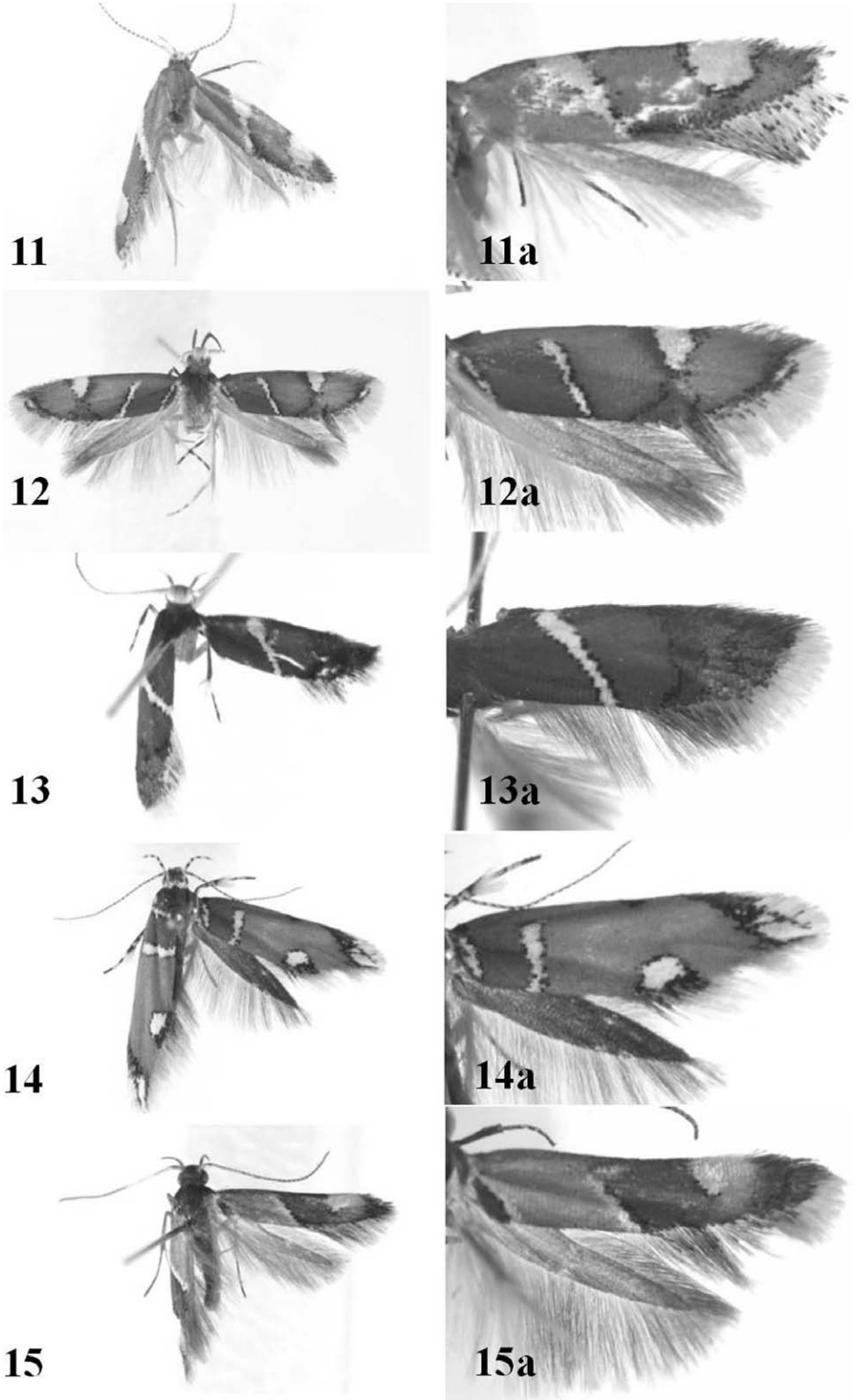
Etymology

The specific name is derived from the Latin, '*albi*' (= white) and '*squama*' (= scale), referring to white scales at anal angle of forewing.

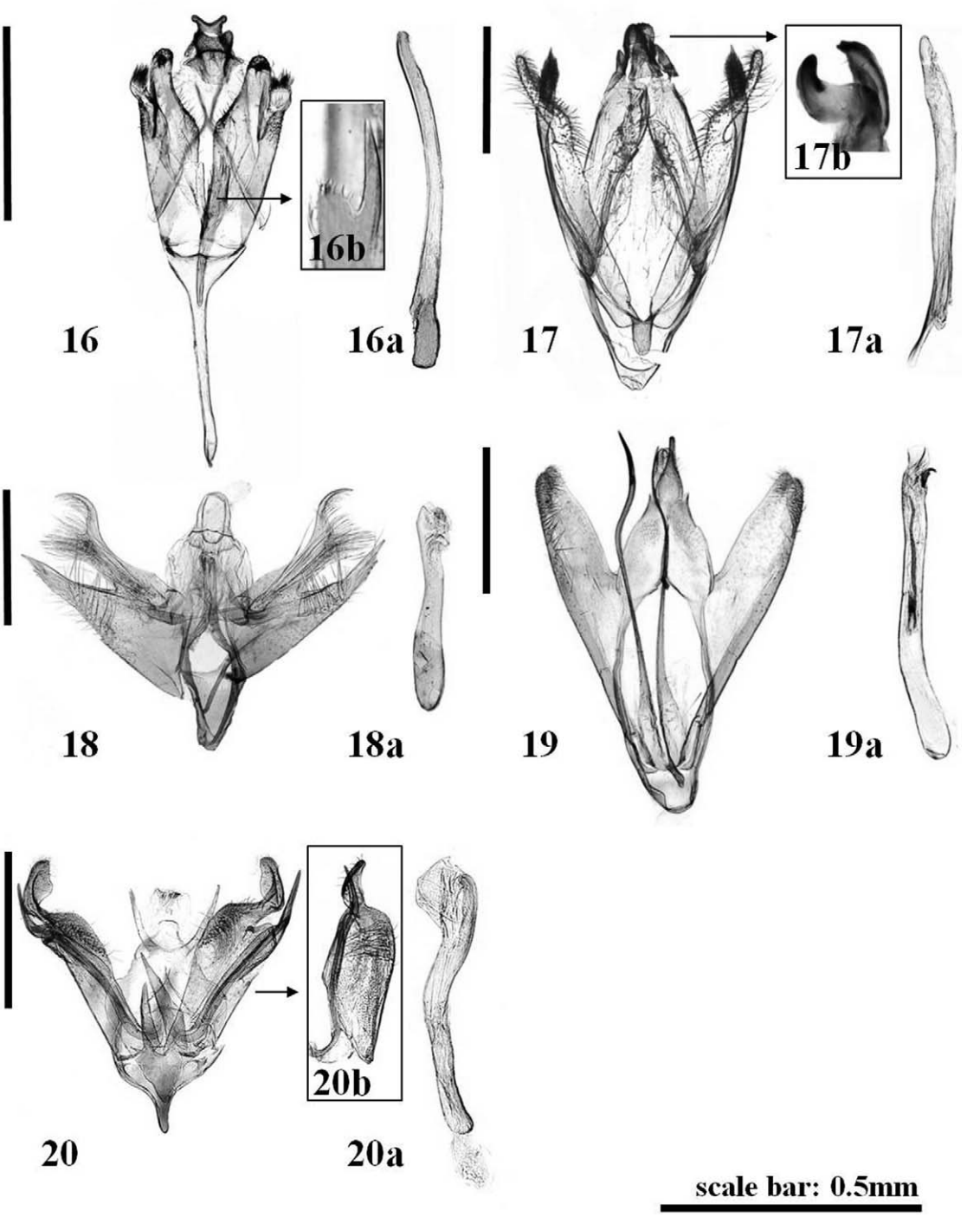
Promalactis griselocula Kim & Park, **sp. nov.** (Figs. 2, 7, 12, 12a, 17, 17a, 17b, 22, 22a)

Diagnosis

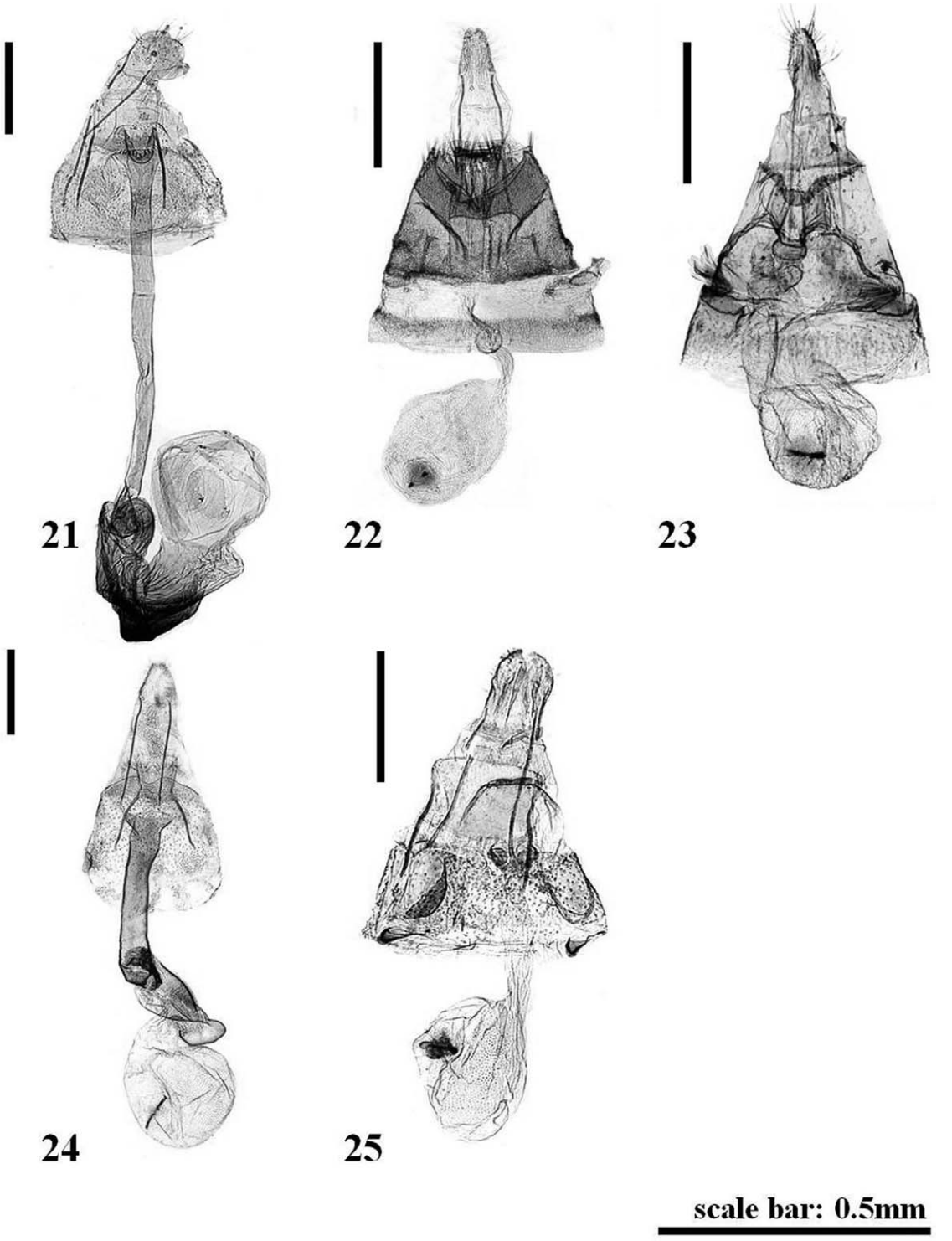
This species is externally close to Chinese species, *P. bifurca* Wang, but distinguished from the latter by followings: 3rd segment of labial palpus lacking white scales apically; uncus straight with saw-like apex and gnathos strongly upturned in the male genitalia; ductus bursae coiled once at 4/5. Sev-



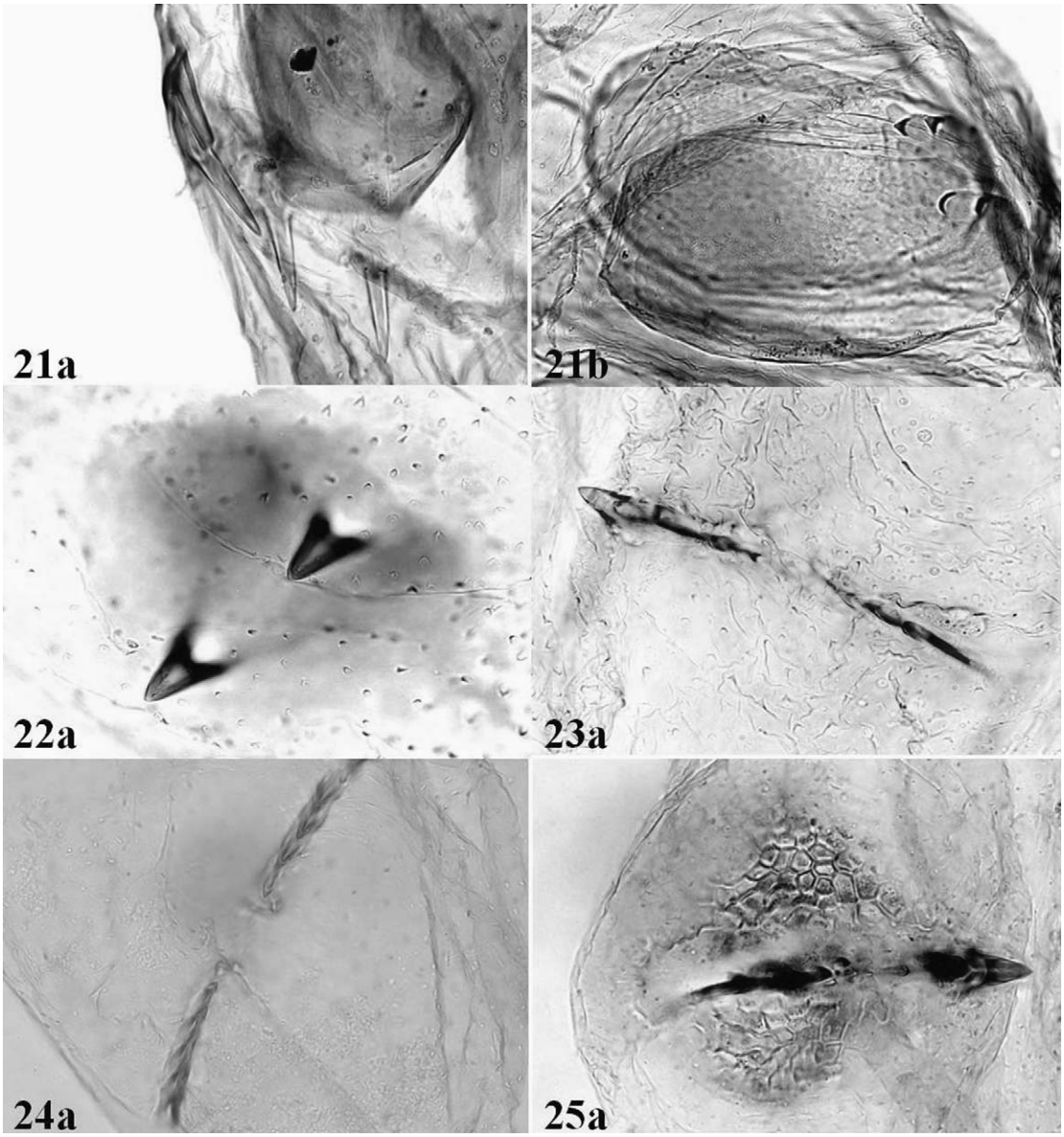
Figs. 11-15. Adult. (11) *Promalactis albisquama* **sp. nov.**; (11a) wing pattern of same species; (12) *P. griselocula* **sp. nov.**; (12a) wing pattern of same species; (13) *P. heppneri* **sp. nov.**; (13a) wing pattern of same species; (14) *P. rectifascia* **sp. nov.**; (14a) wing pattern of same species; (15) *P. vittapenna* **sp. nov.**; (15a) wing pattern of same species.



Figs. 16-20. Male genitalia. (16) *Promalactis albisquama* **sp. nov.**; (16a) aedeagus of same species; (16b) juxta of same species; (17) *Promalactis griselocula* **sp. nov.**; (17a) aedeagus of same species; (17b) gnathos of same species; (18) *P. heppneri* **sp. nov.**; (18a) aedeagus same species; (19) *P. rectifascia* **sp. nov**.; (19a) aedeagus of same species; (20) *P. vittapenna* **sp. nov.**; (20a) aedeagus of same species; (20b) left valva of same species; scale bar 0.5mm**.**



Figs. 21-25 Female genitalia. (21) *Promalactis albisquama* **sp. nov.**; (22) *P. griselocula* **sp. nov.**; (23) *P. heppneri* **sp. nov**.; (24) *P. rectifascia* **sp. nov.**; (25) *P. vittapenna* **sp. nov**; scale bar 0.5mm.



Figs. 21a,b - 25a. Female genitalia. (21a) *Promalactis albisquama* **sp. nov.,** spines in ductus bursae; (21b) signa of same species; (22a) signa of *P. griselocula* **sp. nov.**; (23a) signa of *P. heppneri* **sp. nov**.; (24a) signa of *P. rectifascia* **sp. nov.;** (25a) signa of *P. vittapenna* **sp. nov,** signa; scale bar 0.5mm.

enth sternum with small processes at lateral sides anteriorly in the female genitalia.

Description

Adult (Figs. 2, 7, 12, 12a). Head: Frons deep gray; vertex shiny white; occiput with dark brown scales. Antenna with scape white entirely, shorter than diameter of eye; flagellum white at basal ⅓, gradually alternated with white and brown. Labial palpus brown all around; 3rd segment more tinged with dark-brown scales, as long as the 2nd segment, acute apically.

Thorax. Thorax and tegula dark brown dorsally, more or less reddish brown. Wing expanse 9.0-10.0 mm. Forewing brownish yellow; subbasal white band narrow, strongly oblique; median white band oblique, narrow, not reaching costa, edged by dark brown scales; costal patch more or less triangular, white; large, more or less triangular brownish gray

zone connected to costal patch well-developed before tornus; one white, conspicuous small spot beyond apex on outer margin; fringes golden yellow at termen, grayish brown before apex and tornus; venation with R_4 and R_5 stalked at middle, R_5 reaching costa, M_1 and M_2 nearly parallel, M3 closer toward base, CuA_1 close to M_3 at base. Hindwing lanceolate; fringes grayish brown throughout; venation with M_1 and M_2 nearly parallel, M_3 approximate to CuA_1 at base, CuA_2 remote from CuA_1. Legs dark brown ventrally; tarsi of legs with white scales at base of 3rd, 4th and 5th segments; fore tibia scattered with white dots dorsally; mid tibia white at base, with a pair of dark brown spurs preapically; hind tibia with two pairs of dark-brown spurs at sub-base and near apex.

Male genitalia (Figs. 17, 17a, 17b). Uncus broad, heavily sclerotized, with dentate on caudal margin. Gnathos sclerotized, upturned beyond 2/3, as long as uncus. Valva symmetrical; sacculus as long as cucullus, with elongate, slender terminal process bearing long setae; terminal process of cucullus with dense hairs. Succus short, wide at base. Aedeagus slender, as long as valva; cornutus absent.

Female genitalia (Figs. 22 and 22a). Apophysis anterioris very short, about 1/6 length of apophysis posterioris. Lamella postvaginalis weakly sclerotized, slightly incised on caudal margin; lamella antevaginalis heavily sclerotized, as wide as 7th sternum, with medially sinuate posterior margin. Ostium slightly concave, widely opened. Antrum long, as long as 7th sterunm, cylindrical, sclerotized. Ductus bursae membranous, slender, as long as corpus bursae, once coiled medially. Corpus bursae ovate; signum round plate with two tiny spines at upper and lower corner. Seventh sternum with two sclerotized, concavities at lateral sides on anterior margin.

Holotype

Male, Tam Dao Nat. Park, Vietnam, 100 m, 22-VIII-2002, (KT Park), gen. slide. no. 9028. Paratypes: 5 males, 2 females, same data as the holotype; 9 females, same locality, 950 m, 3~14-VIII-2005, (KT Park), gen. slide no. 9008, 9015.

Distribution Vietnam (North).

Etymology

The specific name is derived from the Latin, '*grise*' (= gray) and '*locula*' (= spot), referring to gray patch before tornus of the forewing.

Promalactis heppneri Kim & Park, **sp. nov.** (Figs. 3, 8, 13, 13a, 18, 18a, 23, 23a)

Diagnosis

This species is distinguished from congeners by the lack of the white costal patch and with the dark grayish brown zone beyond 2/3 on the forewing; valva of the male genitalia with a hook-like process apically; sixth sternum of the female genitalia with dense hairs on anterolaterally.

Description

Adult (Figs. 3, 8, 13, 13a). Head. Frons shiny brown, tinged with deep gray; vertex white; occiput with dark brown erect scales. Antenna with scape white dorsally, nearly as long as diameter of eye; flagellum white in basal half, and alternated with white and brown annulations dorsally. Labial palpus with 1st and 2nd segments yellowish brown, 3rd segment yellowish white, except dark-brown apex, shorter than the 2nd segment.

Thorax. Wing expanse 7.0-8.0 mm. Thorax and tegula dark brown dorsally. Forewing dark brown, with well-developed white median band, edged by black scales, oblique, extending from 1/4 of costa to middle of posterior margin; entirely dark grayish brown beyond 2/3 of wing; fringes golden yellow on termen, deep gray before tornus on posterior margin; venation with R_4 and R_5 stalked at near middle, R_5 reaching to costa, M_1 and M_2 parallel, M_3 approximate to M_2; distance between M_3 and CuA_1 nearly same as that of CuA_1 and CuA_2. Hindwing more or less lanceolate; fringes grayish brown; venation with M_1 and M_2 nearly parallel, M_3 and CuA_1 connate, CuA_2 remote to CuA_1 at base. Legs dark brown ventrally; mid tibia with a pair of whitish spurs near apex and white tuft at apex; hind tibia with two pairs of pale yellowish-brown spurs at sub-base and near apex; fore tarsi with white scales at 1st, 4th, and basal 5th segments; mid- and hind tibia with white scales at apical 1st, 3rd, 4th and basal 5th segments.

Male genitalia (Figs. 18 and 18a). Uncus bifurcate, with fork-like processes; apex pointed. Valva narrow; costal margin slightly concave; cucullus hook-like, sharply acute, densely setose; sacculus broad at base, narrower toward apex, with acute apex. Saccus moderate. Aedeagus simple, as long as valve plus cucullus; cornutus absent.

Female genitalia (Figs. 23 and 23a). Apophysis posterioris extremely long. Apophysis anterioris very short. Lamella antevaginalis characteristically shaped, sclerotized as figured. Antrum short, bowl-like. Ductus bursae short, wide, irregular shaped, coiled medially. Corpus bursae large, pear-like; signum round, with several spines in a line at middle, like a dark transverse linear plate. Sixth sternum with specialized concavities bearing long scale-tuft at lateral sides anteriorly.

Holotype

Female, Tam Dao Nat. Park, Vietnam, 950 m, 14-VIII-2005 (KT Park, MY Kim & MY Chae), gen. slide no. 9025. Paratypes: One female, Tam

Dao Nat. Park, Vietnam, 912 m, 13-VIII-2005 (KT Park), gen. slide no. 9010; one male, same locality, 750 m, 15-VIII-2005 (KT Park), gen. slide no. 9012; one female, same locality, 950 m, 31-VII-2006 (Park, Chae, Cuong).

Distribution. Vietnam (North).

Etymology

The species is named after Dr. J. B. Heppner who is a microlepidopterist in USA and took part in the collecting survey in Vietnam.

Promalactis rectifascia Kim & Park, **sp. nov.** (Figs. 4, 9, 14, 14a, 19, 19a, 24, 24a)

Diagnosis

This species is distinguished from its congeners by the lack of a white costal patch, the presence of a white anal patch on the forewing. In the male genitalia, this species is very similar to *chishuiensis* Wang & Li with extremely long processes of juxta, but it has longer juxta.

Description

Adult (Figs. 4, 9, 14, 14a). Head: Frons and vertex white; occiput with dark brown under vertex, white at neck line. Antenna with scape white entirely, shorter than a diameter of eye; flagellum white alternated with dark brown scales. Labial palpus white, dark brown alternately; 3rd segment shorter than the 2nd.

Thorax. Wing expanse 10.0-11.0 mm. Tegula dark brown, tinged with reddish brown; mesothorax white dorsally. Forewing brownish yellow, mixed with reddish-brown scales; costa nearly straight with small, blackish dot at middle, and with dark fuscous fascia beyond 3/4, extending to apical white patch; costal patch absent; subbasal white band well-developed, narrow, edged by fuscous scales; median white band from anterior ¼ near costa to 2/5 of posterior margin, edged by fuscous scales; a large, quadrate white patch at near tornus, edged by fuscous scales; another white, diamond-shaped patch at apex; fringes pale yellow before apex, golden yellow beyond apex to near tornus; venation with R_4 and R_5 stalked near at meddle, R_5 reaching costa, M_3 close to M_2 at base, distance between M_3 and CuA_1 shorter than that of CuA_1 and CuA_2. Hindwing more or less lanceolate; fringes grayish brown; venation with M_1 and M_2 nearly parallel, M_3 and CuA_1 connate, CuA_2 remote to CuA_1 at base. Legs dark brown ventrally, with white scales at basal 3rd, 4th and apical 5th segments of fore, mid- and hind tarsi; fore tibia with two tufts, one dark brown at middle and the other white at apex, with a pair of pale grayish brown spurs preapically; hind tibia with two pairs of pale grayrish brown spurs at subbase and near apex.

Male genitalia (Figs. 19 and 19a). Uncus bell-shaped, wide at base, slightly narrowed to about middle then narrower to apex; gnathos bifurcate, shorter than uncus. Valva moderately broad, elongate, split apically, with dense hairs; sacculus narrow, heavily sclerotized, extended to near apex. Succus short, wide at base, shorter than uncus. Juxta with asymmetrical, extremely long caudal processes: right one longer, longer than uncus plus valva, globular basally; left one slightly shorter. Aedeagus slender, nearly as long as valva, with a small, heavily sclerotized, hook-like subapical spine with dense setae at apex; cornutus linear, slightly longer than ½ length of aedeagus.

Female genitalia (Figs. 24 and 24a). Apophysis posterioris almost 2 times longer than apophysis anterioris. Lamella postvaginalis small, trapezoidal, setose caudally. Lamella antevaginalis slightly incised medially. Ostium widely opened in caudal margin. Ductus bursae sclerotized, nearly straight beyond distal half, with patch of numerous spines at 3/5 length, then twisted at anterior 2/5. Corpus bursae small, ovate; Signum with 4-5 tiny spines compose to a pair of linear band laterally.

Holotype

Female, Tam Dao Nat. Park, Vietnam, 950 m, 24-V-2007 (KT Park). Paratypes: Two males and 5 females, same data as the holotype, gen. slide. no. 9018(♂), 9019(♀).

Distribution. Vietnam (North).

Etymology

The specific name of the new species is derived from the Latin, *'recti'* (= straight) and *'fascia'* (= band), referring to two straight white streak-like bands of forewing.

Promalactis vittapenna Kim & Park **sp. nov.** (Figs. 5, 10, 15, 15a, 20, 20a, 20b, 25, 25a)

Diagnosis

This species is close to Vietnamese species, *P. fansipanella* Lvovsky, but distinguished by the presence of costal patch of the forewing, the male genitalia with uncus deeply incised at middle and the asymmetric juxta, the female genitalia with rhomboid signum.

Description

Adult (Figs. 5, 10, 15, 15a). Head. Frons dark brown, partly shiny; vertex shiny white; occiput

with dark brown scales. Antenna with scape white entirely, shorter than a diameter of eye; flagellum white in basal half, gradually alternated with brown annulations. Labial palpus brown; 3rd segment darker than 2nd segment on outer surface, paler on inner surface, acute apically, nearly as long as the 2nd.

Thorax. Wing expanse 9.0 mm. Thorax and tegula dark brown. Forewing ground color brownish yellow; reddish dark brown at base; subbasal white line arising from middle of base, strongly oblique; median white band oblique, nearly straight, edged with blackish scale along outer margin, followed by reddish dark-brown zone; white costal patch ovate, at ⅔ of costa; densely covered with dark brown scales in apical 1/5; fringes golden yellow along termen, grayish brown near to tornus; venation with R_4 and R_5 stalked at middle, R_5 reaching costa, M_1 and M_2 parallel, M_3 closer to base, CuA_1 close to M_3 at base, CuA_2 remote to CuA_1. Hindwing more or less lanceolate; fringes grayish brown; venation with M_1 and M_2 parallel, M_3 approximate to CuA_1 at base, CuA_2 remote from CuA_1. Hind tibia with two pairs of pale brownish yellow spurs; fore tarsi with white scales at apex of 4th, at base and apex of 5th segment; mid tarsi with white scales at base of 3rd, 4th segments and at apex of 5th segment; hind tarsi with white scales at apices of 1st, 2nd, 3rd, 4th and at base of 5th segment.

Male genitalia (Figs. 20, 20a, 20b). Uncus bifurcate with 2 fork-like slender processes, acute apically. Gnathos broad basally, conic, weakly sclerotized with blunt caudal margin. Valva marginated roundly; cucullus pointed developed, longer than the valva; sacculus gradually broadened to distal ⅚ and narrow to apex, dense long setose at distal ⅚ and near apex, longer than the cucullus. Succus wide at base, narrow to rounded apex. Juxta with asymmetrical caudal processes: right one shorter, truncate at apex, left one longer with acute apex, about ½ times as long as valva. Aedeagus simple, slender, slightly bent at middle; cornutus absent.

Female genitalia (Figs. 25 and 25a). Apophysis posterioris about 1.5 longer than apophysis anterioris. Lamella antevaginalis wide with setose, slightly concave at middle. Ostium well modified. Ductus bursae membraneous, as long as corpus bursae. Corpus bursae moderate; signum heavily sclerotized, irregular rhomboid with 5-6 tiny spines at middle. Six sternum with 2 large, lateral tongue-like pouches and with 2 sclerotized, triangular processes on anterior margin laterally.

Holotype

Male, Tam Dao Nat. Park, Vietnam, 100 m, 22-VIII-2002 (KT Park). Paratypes: Two males and four females, Tam Dao Nat. Park, Vietnam, 100 m, 22-VIII-2002 (KT Park); one male, same locality, 13-VIII-2005 (KT Park), gen slide no. 9021; one male and one female, same locality, 14-VIII-2005 (KT Park), gen. slide no. 9007(♂), 9023(♀); two males and one female, same locality, 950 m, 26-VI-2006 (Park, Kim & Kang); three females, same locality, 450 m, 30-VII-2006 (Park, Chae & Cuong); one females, same locality, 950 m, 31-VII-2006 (Park, Chae & Cuong).

Distribution Vietnam (North).

Etymology

The specific name of the new species is derived from the Latin, *'vittat'* (= striped) plus *'penna'* (= wing), referring to striped color of forewing.

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