

## A note on *Dendrophleps lobipennis* (Swinhoe, 1892) (Lepidoptera, Erebidae, Lymantriinae) with a description of the female

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**Abstract:** The previously unknown female of *Dendrophleps lobipennis* (Swinhoe, 1892) is described and the genitalia figured. The male genitalia are described and figured for the first time. The characteristic veinlets from 3A to the anal margin of the hindwing found in other species of *Dendrophleps* are absent in *D. lobipennis*. Nevertheless, features of the male genitalia place this species firmly within the genus. Known previously only from Dorey (Manokwari), Papua Indonesia this species is now recorded from several localities across New Guinea.

**Rangkuman:** Betina dari *Dendrophleps lobipennis* (Swinhoe, 1892), yang sebelumnya belum diketahui, diperlihatkan dan gambar genetaliannya disajikan. Genetalia jantan diletakan dan disajikan untuk pertama kali. Urat-urat nadi yang jalan dari 3A ke batas anal dari sayap belakang, yang adalah ciri khas dari spesies *Dendrophleps* yang lain, tidak kelihatan di *D. lobipennis*. Walaupun begitu, fitur-fitur genetalia jantan menunjukkan dengan jelas bahwa spesies ini anggota dari genus *Dendrophleps*. Spesies ini, yang sebelumnya hanya diketahui dari Dorey (Manokwari), Papua Indonesia, sekarang diketahui dari berbagai tempat di New Guinea.

**Keywords:** *Dendrophleps*, female, description, New Guinea, Lymantriinae

### Introduction

The genus *Dendrophleps* Hampson, [1893] 1892 was erected to contain the male of *D. semihyalina*, an Indian member of the Leucomini. A matt white species with broad wings, black dorsal bars on the abdomen, deeply bipectinate antennae, and in the hindwing, 3-4 accessory veins arising from 3A and running to the anal margin. Hampson did not describe the female. Swinhoe (1895) recorded a female *D. semihyalina* stating that it had more rounded wings than the male, no black banding and no veinlets in the hindwing. Dudgeon (1901) recorded a female from Bhutan and noted that it had a reduced number of veinlets (2) in the hind wing. Swinhoe (1903) recorded a female *D. semihyalina* in his revision of the old world Lymantriidae, but in the same paper recognised that the specimen recorded in Swinhoe (1895) was in fact a female of *Caviria* (= *Leucoma*) *ochripes* (Moore, 1879). Hampson (1904) confirmed the female mentioned by Swinhoe (1895) and Hampson (1896) were females of *C. ochripes* and stated that the female of *D. semihyalina* was similar in structure to the male and was white but with no hyaline areas in the wings, which were more rounded than in the male. He made no comments about the number of veinlets in the hind wing. A specimen in the Natural History Museum, London with these characteristics and black abdominal bands as in the male may be this female *D. semihyalina*. Holloway (1999) in his generic description of *Dendrophleps* states that females resemble large *Leucoma*, but does not figure any females. Historically then, the facies of the females of this genus

has been confused. Since the erection of the genus, *D. lobipennis* (Swinhoe, 1892) (Papua, Indonesia), *D. chionobosca* Collenette, 1955 (Papua, Indonesia) and *D. cretacea* Holloway, 1999 (Borneo), have been added to it. Only males of these species have been recognised and described. This paper describes the female of *D. lobipennis* and illustrates the genitalia of the male for the first time. This is believed to be the first full description of a female member of the genus *Dendrophleps*.

When examining a collection of Lymantriinae made at the Ivimka Research Station, Gulf Province, Papua New Guinea, the author identified 10 male *D. lobipennis* all caught at the same location. Also in the collection and caught contemporaneously, was a series of male and female *Leucoma*. Four of the females had a slightly different appearance from the other females: the forewing was less elongate and the abdomen of set specimens did not extend beyond the anal angle of the hindwing. Examination of the venation showed that these females belonged to *Dendrophleps*, not *Leucoma* and are here associated with *D. lobipennis* (a female *Leucoma* from Papua, Indonesia is illustrated in Mackey (2016)).

### Abbreviations

ANIC	Australian National Insect Collection
APM	Research Collection of A.P. Mackey
BM(NH)	Natural History Museum, London
OU	Oxford University Museum
UCD	University of California at Davis

### Systematics

Two species of *Dendrophleps* occur in New Guinea: *D. chionobosca* from Hollandia (Jayapura) and Mt. Goliath (Gn. Yamin) (both Papua) and *D. lobipennis* from Dorey (Manokwari, Papua). Unlike, the other two species in the genus, the two from New Guinea have neither black antennae nor black markings on the thorax and abdomen. *Dendrophleps chionobosca* has hyaline areas in the forewing and hindwing of the male (Collenette, 1955) as do *D. semihyalina* (Hampson, 1892) and *D. cretacea* (Holloway, 1999). Material examined in this study shows that hyaline areas are absent in *D. lobipennis*. The venation of *Dendrophleps* has been illustrated by Hampson (1892). In the forewing R1 and R2 are usually well separated at the base and R2 arises before the upper angle of the cell, R3-5 and M1 are stalked, M2 and M3 are stalked, CuA1 arises before the lower angle of the cell. In the hindwing Rs and M1 are on a long stalk from the upper angle of the cell, M2 and M3 on a long stalk from the lower angle and connate with CuA1, there are 3 or 4 accessory veins from 2A+3A to the anal margin. These accessory veins are diagnostic for the genus (Holloway, 1999) but are absent in *D. lobipennis* where 2A+3A runs very close to the margin. Venation in *D. lobipennis* shows individual variation, for example in the forewing R1 and R2 may be connate with R1 not reaching the costa. R3-5 may be separate from M1, the stalk of M2 and M3 may be long or short and the distance CuA1 arises from the lower angle may be long or short. In the hindwing Rs and M1 may be connate or on a short or long stalk and M2 and M3 may not divide until very close to the margin, or occasionally, not at all. The degree of stalking in both wings may vary in right and left sides of the same individual. It is likely that this variation is also present in the other species. The venation of female *D. lobipennis* is like that of the male which enables them to be distinguished from the similarly looking *Leucoma* females where M2 and M3 in the hindwing are not stalked.

### ***Dendrophleps lobipennis* (Swinhoe, 1892)**

*Leucoma lobipennis* Swinhoe (1892: 203); Strand (1914: 309)

*Redoa lobipennis*: Swinhoe (1922: 467)

*Dendrophleps lobipennis*: Holloway (1999: 111)

**Holotype:** ♂ OUM: [Indonesia, Papua Barat], Dor[ey] [=Manokwari], Wallace. Photograph examined.

**Material examined** (13 ♂♂, 3 ♀♀): 3 ♂♂ UCD: Papua New Guinea, Gulf P., Ivimka Res. St., Lakedamu Basin, 120 m, 7° 44' S 146° 30' E, 3-15.xi.1999, T. Sears; 7 ♂♂ UCD: Papua New Guinea, Gulf P., Ivimka Res. St., Lakedamu Basin, 120 m, 7° 44' S 146° 30' E, 16-25.xi.1999, T. Sears; 1 ♂ APM: vii-viii.1974, Kiunga, 50 m, Western P., Papua New Guinea, A.P. Mackey; 1 ♂ ANIC: New Guinea, Telefomin (Eliptamin), 4500'-5500', 19.vi-12.ix.1959, W.W. Brandt]; 1 ♂ BMNH: Ron Is. vii.1897, W. Doherty; 1 ♀ UCD: Papua New Guinea, Gulf P., Ivimka Res. St., Lakedamu Basin, 120 m, 7° 44' S 146° 30' E, 3-15.xi.1999, T. Sears; 3 ♀♀ UCD: Papua New Guinea, Gulf P., Ivimka Res. St., Lakedamu Basin, 120 m, 7° 44' S 146° 30' E, 16-25.xi.1999, T. Sears.

**Diagnosis:** The male of this species is separated from the non-Papuan *Dendrophleps* by the lack of black abdominal banding and from *D. chionobosca* by the lobe on the hind wing. Lack of female material of other species means that female diagnosis is not possible.

**Description.** Male (Fig. 1). White, wings broadly triangular, termen only slightly bowed, lightly scaled, the veins showing faintly ochreous through the light scaling, fore wing length 17-18 mm, hind wing lengthened somewhat along the anal margin, with a small but noticeable lobe on apex of anal margin. Head white, smoothly scaled, palpi small, correct, eyes globular, large, antennae with shaft white, pectinations very long, ochreous, darkening towards tip. Thorax white, lightly covered with long piliform scales, fore leg bright ochreous, epiphysis obovate, slightly longer than the tibia; middle leg femur and tibia white, tarsal segments 1-4 pale ochreous, segment 5 with tuft of white scales; hind leg white; tarsal spurs 0-2-2. Abdomen white, lightly scaled, relatively stout, tymbals present.

Genitalia (Figs. 2-4): Slightly asymmetrical, tegumen and vinculum united and slightly twisted towards the left, tegumen hood-like, with a broad, transverse, median ridge and bulbous shoulders, anterior margin deeply and broadly emarginate; vinculum a moderately broad U-shaped band; saccus moderately developed, short, broad, bluntly pointed; uncus well developed, beak-like, narrow, slightly broadened just before the downturned, acutely pointed tip, base densely covered dorsally and laterally with long fine setae; valvae asymmetric, left valva long, digitiform, middle third and sub-apical short section of dorsal margin with a dense field of stout spines, a small dorsal lobe arises from the base of the dorsal margin and carries a single very large, stout spine and several smaller stout spines, right valva long, longer than left, very broad at the base, tapering from about a third to a rather broad, blunt process, dorsal margin with basal half with a field of stout spines along the dorsal margin of the basal half and also on the valve tip and adjacent ventral margin, a large thumb-like lobe arising from the base of the dorsal valve margin bearing a single stout and very large spine and several smaller spines; juxta weakly sclerotised, poorly defined, tightly adhering to aedeagus, narrow, elongate, broadening at base, distal margin with rounded corners and slightly emarginate; aedeagus moderate, slightly bowed upwards from middle, coecum bulbous, tapering to an oblique orifice, vesica an unadorned, simple sac.

Female (Fig. 5). White, fore wing length 19-20 mm slightly longer, broader and apex more rounded

than male and much less acute than in *Leucoma* females, termen bowed; colouration similar to male, mid legs may have the front of the tibia light ochreous. Antennal pectinations not so deep as in the male. Abdomen robust, lightly scaled with terminal tuft of longer white scales; ventrally, the orange, spatulate setae on the papillae anales often clearly visible.

Genitalia (Figs. 6, 7): Papillae anales large, rectangular, very weakly sclerotised, densely covered with long fine setae, anterior half of ventral margin bearing many long, outwardly curving, orange, spatulate setae, apophyses posteriores base broadly triangular, tapering quickly, short, barely extending into segment VIII; pseudopapillae absent; segment VIII poorly sclerotised, almost membranous dorsally, laterally and ventrally slightly sclerotised, a narrow band, expanding slightly and becoming membranous ventrally in the mid line, posterior margin with a sparse scattering of long, stout setae, apophyses anteriores short, obovate, barely entering segment VII; lamella antevaginalis lightly sclerotised, a shallow cup-shape; ductus bursae short, broad, merging imperceptibly into the broad, elongate corpus bursae, signum absent.

**Distribution:** Restricted to New Guinea, in Papua New Guinea known from the Gulf Province, Sandaun Province and Western Province, from the Indonesian part known from Papua Barat.

### Comments

Although the holotype of *D. lobipennis* was not examined, the material under discussion here has been compared with a photograph of the holotype and clearly represents the same species as they share the characteristically lobed hind wing. Previously only recorded from Dorey (Manokwari), this species is now known from several locations across New Guinea (Fig. 8). A diagnostic feature for the genus *Dendrophleps* is the presence of veinlets between vein 3A and the anal margin of the hind wing (Hampson, 1892; Holloway, 1999). These are absent in both male and female *D. lobipennis* casting some doubt on their membership of the genus. However, males show strong genitalic features in common with both *D. semihyalina* and *D. cretacea*: the shape of the uncus, the shape and unequal lengths of the valves and the positioning and form of their sub-apical spine fields, and the shape of the aedeagus (cf. Holloway, 1999, Figs 292-293); there is little doubt that *D. lobipennis* is correctly placed within *Dendrophleps*. Holloway (1999) has argued cogently that genera within the Lymantriinae should be based on male genitalic features and those mentioned above currently appear adequate for this purpose. The female of *D. lobipennis* is *Leucoma*-like as was suspected and like other Papuan Leucomini females has very poorly sclerotised genitalia with a poorly or non-differentiated sterigma, large papillae anales with a dense field of orange, spatulate setae, short apophyses, a collar-like sternite VIII and no signum.

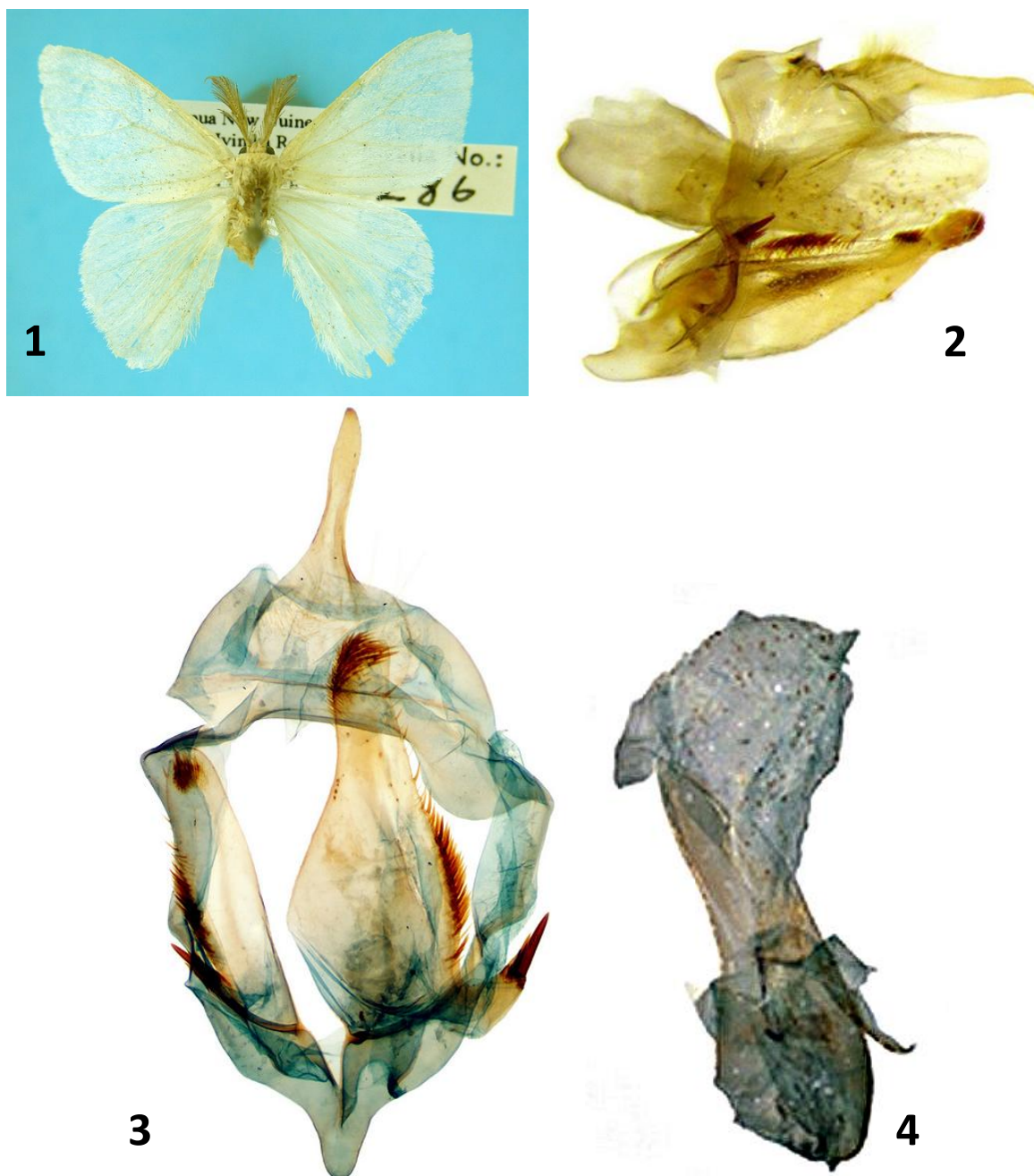
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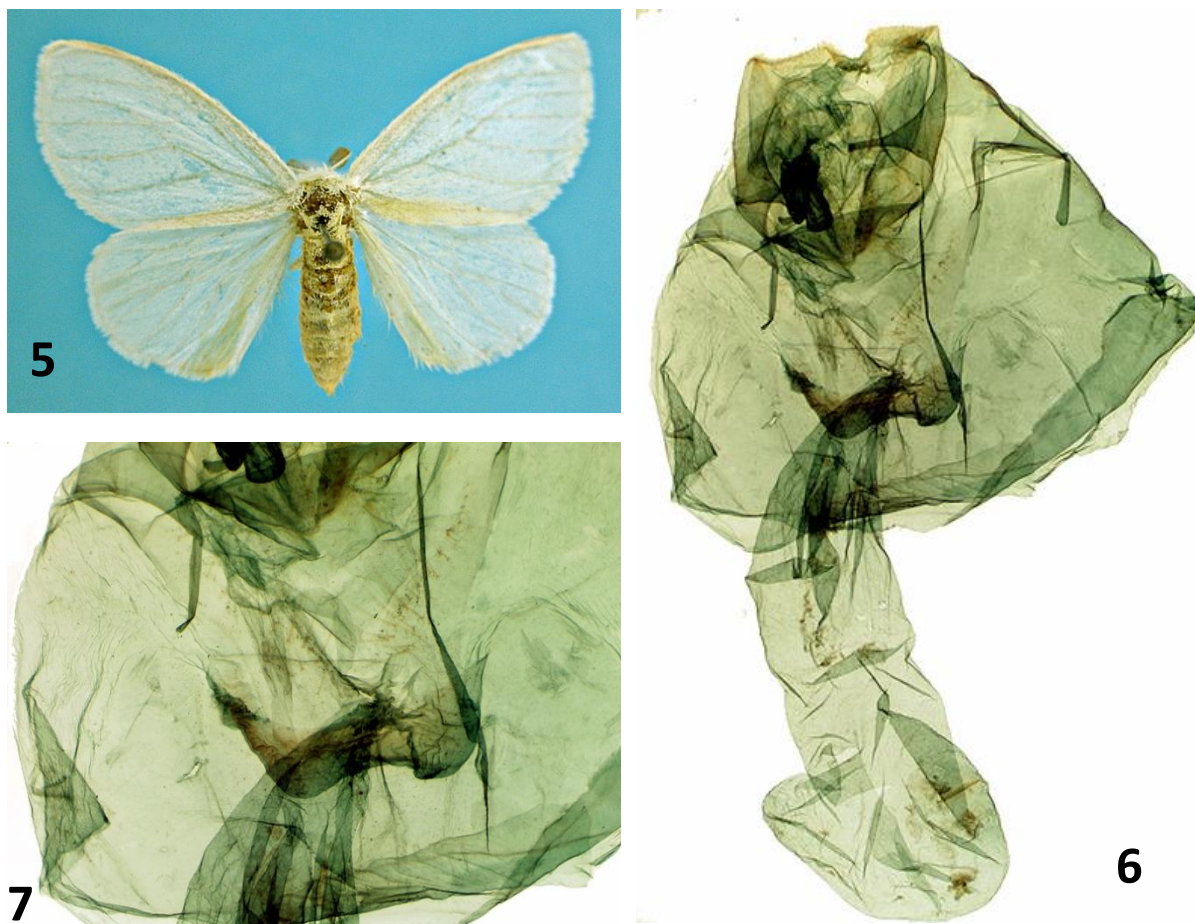
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**Figs. 1-4.** *Dendrophleps lobipennis* ♂: **1.** Male upper side; **2.** Male genitalia, lateral view, aedeagus *in situ*; **3.** Male genitalia, ventral view, aedeagus removed; **4.** Aedeagus.



Figs. 5-7. *Dendrophleps lobipennis* ♀: 5. Female upper side; 6. Female genitalia, ventral view; 7. Detail of sterigma.

