

## Two new species of *Leucoma* Hübner, 1822 (Lepidoptera: Erebidae, Lymantriinae) from Papua Indonesia

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Suara Serangga Papua (SUGAPA digital) **10**(1): 8-12

urn:lsid:zoobank.org:pub:247C8F9D-1F1D-4A35-BE78-806FE6831088

*Abstract:* Two new species of the genus *Leucoma* Hübner, 1822 are described and the genitalia figured. Both species are from Papua, Indonesia.

*Rangkuman:* Dua spesies baru dari genus *Leucoma* Hübner, 1822 dipertelakan dan gambar genetialianya disajikan. Kedua spesies dari Papua, Indonesia.

*Keywords:* Erebidae, Lymantriinae, *Leucoma*

### Introduction

The genus *Leucoma* Hübner has a widespread distribution from the Palaearctic Region, through the Oriental tropics to New Guinea and Australia. One species has been introduced into North America. Two species are currently recorded from the island of New Guinea: *Leucoma impressa* Snellen, 1877 and *Leucoma sericea* (Moore, 1879). The latter comprises two subspecies: *L. sericea avolaensis* (Bethune-Baker, 1916) and *L. sericea tafa* Collenette, 1951 - both described from Papua New Guinea, but *L. sericea avolaensis* is also recorded from Papua, Indonesia. Whilst working on Lymantriinae from Papua, Indonesia, in the collection of the Naturalis Biodiversity Center, Leiden, several large *Leucoma* similar in fascies to *L. impressa* were found which on further examination proved to belong to two undescribed species. In this paper these two species are described.

### Systematics

*Leucoma* species are white, usually the only colouration being a reddish or orange tinge to the forelegs and parts of the head. Typically vein R2 arises from the cell. Holloway (1999) has produced the most useful definition of the genus, based on the genitalia: "All members of the complex show strong asymmetry in the male genitalia where the uncus is strong and the valves often relatively small, sometimes with distal setae that can become enlarged into spines. In the female, the ovipositor lobes tend to be rather deep. The ductus is unsclerotised, but often basally broadened, thickened, convolute. It broadens distally into a spherical or ovate bursa. When a signum is present, it consists of a transverse flange arising from a sclerotised plate."

### Abbreviation

RMNH - Naturalis Biodiversity Center, Leiden, The Netherlands.

### *Leucoma crista spec. nov.* (Figs. 1-6)

urn:lsid:zoobank.org:act:A133E4D2-80A9-4904-8E14-FC7113A3AB91

**Holotype:** ♂ Ned. Nw. Guinea, Waris District, Ampas, 29.x.1938. Leg. W. Stüber, coll. J.M.A. v. Groenendael [RMNH].

**Paratypes:** 1 ♂ Ned. Nw. Guinea, Res. Hollandia, Ifar, xii.1959. G. den Hoed; 1 ♂ Ned. Nw. Guinea, Waris District, Ampas, 30.viii.1938. Leg. W. Stüber, coll. J.M.A. v. Groenendael; 1 ♀ Prafi 200m., 15 km. west of Andai, 08° 52' 133° 53', 13.ii.1996 at light, secondary forest. Indonesia, Irian Jaya,

Birdshead Peninsula, ZMA-exp. 1996; 1 ♀ Wandammen Peninsula, Rasiei 10 km. south of Wasior, at light 5.xi.1993, A.J. de Boer, A.L.M. Rutten & R. de Vos [all RMNH].

### Diagnosis:

This species is distinguished from *L. sericea avolaensis* and *L. sericea tafa* by the coruscating bands on the forewing, which are absent in *L. sericea*, and from *L. impressa* and *L. univalva* by the crest on the uncus.

*Description.* Male (fig. 1). Antennal shaft white, pectinations pale pinkish buff; head white, palpi porrect, light reddish brown. Thorax white, fore and mid-legs with femur white, tibia and tarsus pale orange, hind-legs white, tarsus pale orange. Abdomen relatively stout, white; tymbals present. Forewing: length 17-18 mm., white with a satin-like sheen and with antemedial, medial and postmedial, reflective, coruscating bands running roughly parallel with the termen. Hindwing: white. The underside of both wings is a smooth milky white.

Genitalia (figs. 3, 5-6): Heavily sclerotised; tegumen and vinculum broad and firmly fused, tegumen hood-like, vinculum a broad flat bottomed U-shape with the antero-ventral angles produced into rounded lobes, the whole forming a sturdy deep ring, saccus may be present as a medial bulge in the postero-ventral margin of this ring; uncus in the form of a well sclerotised, sturdy, narrow beak with a down turned point, dorsally the anterior part of the uncus bears an asymmetric, inflated crest the dorsal surface of which has several deep folds, dorsally and laterally, the uncus and lateral parts of the crest are sparsely covered with long, fine setae; socii and gnathos absent; anellus lightly sclerotised and juxta a transverse rectangular plate; valves asymmetric, right valve shorter than the left, stout, triangular, with two sharp points at the tip, left valve with costa excavated basally and then projecting dorsally as a long slender process, with a swelling dorsally at two thirds the length, apex of valve swollen into an anvil shape tapering into a sharp outward point, sacculi absent; aedeagus large, robust, long, slender, swollen in the middle posterior to the entrance of the ductus ejaculatorius, then tapering to a bluntly rounded point and having a complex groove or fold along its distal two thirds.

Female (fig. 2): Head and palpi as male; antennae as male but pectinations shorter. Thorax and abdomen as male. Forewing: length 21-23 mm., colour and pattern as in the male. Hindwing: white but with marginal area faintly glistening. Underside of wings as in male.

Genitalia (fig. 4) : Papillae anales weakly sclerotised, short, wide and bluntly tapering, giving the appearance of a wide band, densely covered with fine setae, medio-ventral margin excavated and slightly expanded, bearing many long, outwardly curving orange spathulate setae; apophyses posteriores short, broad, barely extending into segment VIII; segment VIII reduced to a narrow, well sclerotised band dorsally, but expanding ventrally into a pair of weakly sclerotised subtriangular arms separated by a membranous area in the mid-line, the postero-ventral margin with long stout setae, apophyses anteriores short, barely entering into VII; sinus vaginalis a broad and deep pocket caudad of sternite VII, walls thickened, asymmetrically folded and partly and lightly sclerotised; ductus bursae short, broad, corpus bursae ovoid, signum absent; posterior margin of sternite VII deeply emarginate in the mid-line to accommodate the sinus vaginalis and with the marginal region with roughly transverse folds, a second broadly crescentic marginal fold

occurs at about half the length of the emargination.

**Etymology:** *crista* (Latin), crest referring to the conspicuous dorsal process of the uncus.

*Comments.* The females described are only tentatively identified as belonging to this species. The association is made on the basis that they do not belong to the *L. sericea* subspecies recorded from New Guinea and that they are unlikely to belong to *L. impressa* (see below). The two new species are the only other large *Leucoma* species known from New Guinea and features of the venation suggest the females are best associated with *L. crista* rather than *L. univalva*. In the forewing of *L. crista* males, CuA1 arises approximately halfway between the origins of CuA2 and M3 whereas in *L. univalva* males it arises much closer to the origin of M3. The females under discussion have CuA1 arising approximately halfway between CuA2 and M3 as in *L. crista*.

***Leucoma univalva* spec. nov.** (Figs. 7-10)

urn:lsid:zoobank.org:act:A847732D-CC41-4C78-830B-73B7F3F7F8DC

**Holotype:** ♂ Ned. Nw. Guinea, Waris District, Ampas, 11.i.1937. Leg. W. Stüber, coll. J.M.A. v. Groenendael [RMNH].

**Paratype:** 1 ♂ Ned. Nw. Guinea, Arso District, Uskwar, 14.i.1937. Leg. W. Stüber, coll. J.M.A. v. Groenendael [RMNH].

**Diagnosis.**

This species is distinguished from *L. sericea avolaensis* and *L. sericea tafa* by the coruscating bands on the forewing, which are absent in *L. sericea*, and from *L. impressa* and *L. crista* by the fused valvae.

**Description:**

Male (fig. 7). Antennal shaft white, pectinations pale pinkish buff; head white, palpi porrect, pale orange. Thorax white, forelegs femur pale orange, tibia pale orange with inner surface white, tarsus pale orange, mid-legs white with tarsus pale orange, hind-legs white, tibia faintly pale orange around distal margin, tarsus pale orange. Abdomen relatively stout, white; tymbals present. Forewing: length 16 mm., white with a satin-like sheen and with antemedial, medial and postmedial, reflective, coruscating bands running roughly parallel with the termen. Hindwing: white. The underside of both wings is a smooth milky white.

Genitalia (figs. 8-10): Heavily sclerotised, asymmetrical and highly modified; tegumen and vinculum narrow and firmly fused to form a narrow but robust ring, tegumen hood-like, vinculum broadening slightly ventrally, saccus absent; uncus a long, narrow, straight, sharply pointed beak arising asymmetrically from a shouldered base, the right shoulder being much longer than the left, shoulders and basal half of beak with long fine setae; socii and gnathos absent; juxta a lightly sclerotised transverse bluntly ovoid plate; valves apparently fused in the mid-line into a stout, narrow, dorsally curved hook slightly twisted to the right, the inner surface of which is lightly covered in long fine setae; aedeagus large, robust, long, slender, with ductus ejaculatorius entering about one third along its length, aedeagus extending laterally as two arms – a longer, narrow, fixed arm and a short, broad apparently articulated arm.

Female: Not known.

**Etymology:** *univalva* (Latin), referring to the apparently single valve in the male genitalia.

**Comments:**

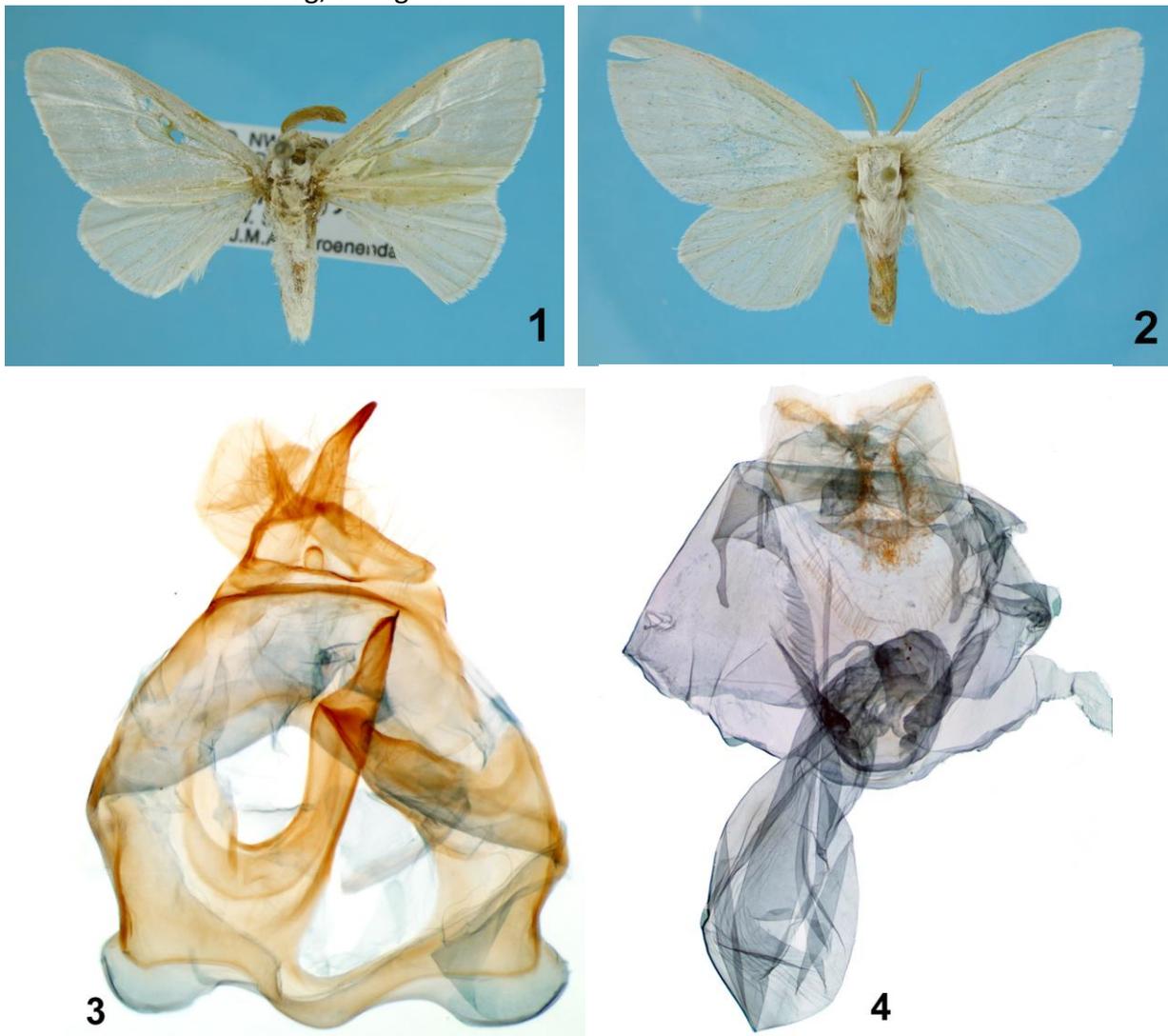
Strand (1914-1929) recorded *L. impressa* (as *Caragola impressa*) as occurring in New Guinea but no such specimens have been located. Since this species is so similar in fascies to the two species described above, especially in size and the oblique scale reflection patterns of the forewings, it is likely that Strand's record refers to one or other of these species and that *L. impressa* does not occur in New Guinea.

**Acknowledgements**

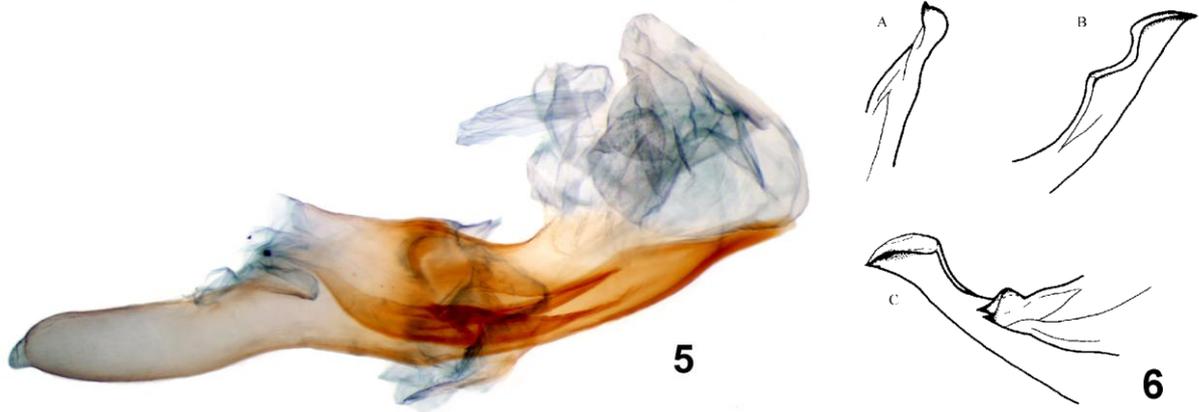
I sincerely thank Drs. R. de Vos for allowing me to examine specimens from the Naturalis Biodiversity Center, Leiden. I also thank staff at the Australian National Insect Collection for allowing access to their equipment.

**References**

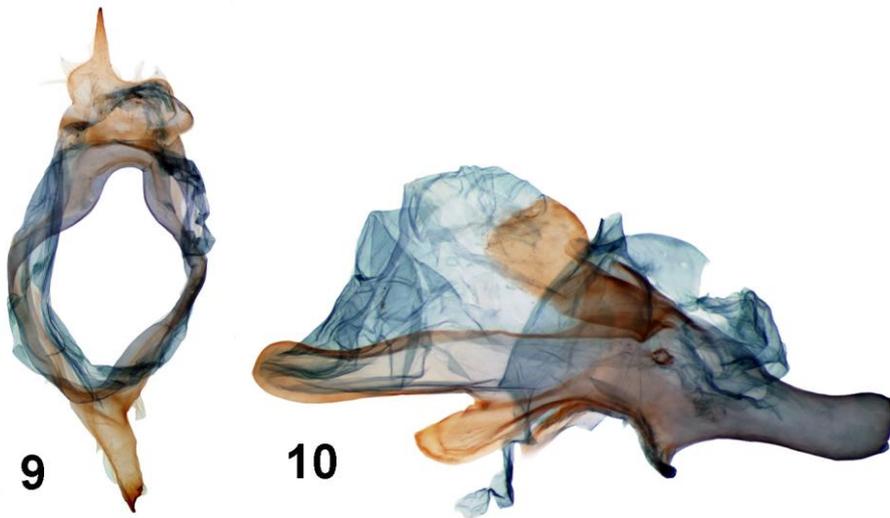
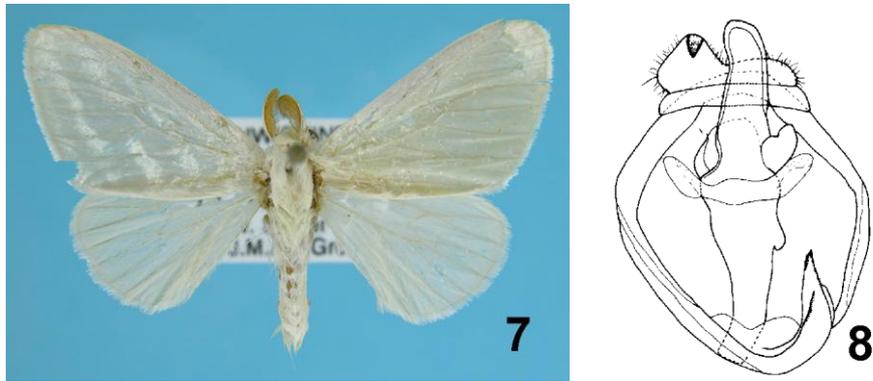
Holloway, J. D., 1999 . The Moths of Borneo. Part 5. Family Lymantriidae. *Malay. Nat. J.* **53**: 1-188.  
 Strand, E. 1914-1929. Lymantriidae. Pp. 291-387. In Seitz, A. (ed.). *The Macrolepidoptera of the World. 10 Bombyces and Sphinges of the Indo-Australian Region.* 2 vols., 909 pp., 100 pls. - Alfred Kern Verlag, Stuttgart.



**Figs. 1-4.** *Leucoma crista* spec. nov.: 1. Upperside HT ♂; 2. Upperside ♀; 3. Male genitalia HT; 4. Female genitalia.



**Figs. 5-6.** Genitalia *Leucoma crista*: **5.** Aedeagus; **6A.** Distal part of left valve in ventral view; **6B.** Distal outer part of left valve in lateral view; **6C.** Distal parts, in correct lateral relative position of left valve inner surface and right valve outer surface.



**Figs. 7-10.** *Leucoma univalva* spec. nov.: **7.** Upperside HT ♂; **8.** Unmounted male genitalia caudal view showing aedeagus *in situ*; **9.** Male genitalia HT; **10.** Aedeagus.