

A New Subgenus of *Lobesia* (Lepidoptera, Tortricidae),
with Redescription of *cunninghamiacola*

LIU et PAI, 1977

Yang Seop BAE

Entomological Laboratory, College of Agriculture, University
of Osaka Prefecture, Sakai, Osaka, 593 Japan

and

You-qiao LIU

Institute of Zoology, Academia Sinica, Haidian,
Beijing, 100080, China

Abstract A new subgenus *Neodasyphora* of the genus *Lobesia* GUENÉE, 1854 is established for *Polychrosis cunninghamiacola* LIU et PAI, 1977 from China.

Key words: Tortricidae; *Lobesia*; *Neodasyphora* **subgen. nov.**; *cunninghamiacola*; China.

Introduction

Japanese species of the genus *Lobesia* GUENÉE were dealt with the following eight subgenera by BAE and KOMAI (1991) on the basis of the male genitalia: *Neolobesia* BAE et KOMAI, 1991, *Harmosma* DIAKONOFF, 1963, *Lomaschiza* LOWER, 1901, *Lomaschizodes* DIAKONOFF, 1954, *Apolobesia* DIAKONOFF, 1954, *Endopiza* CLEMENS, 1860, *Lobesiodes* DIAKONOFF, 1954 and *Lobesia* GUENÉE, 1854.

Recently, we revised the Chinese species of the genus *Lobesia* (LIU and BAE, 1994). At that time, a southern Chinese species, *cunninghamiacola* LIU et PAI, 1977 was not treated because there were some questions regarding its systematic position.

In this study, we decided to establish a distinct subgenus *Neodasyphora* **nov.** for the species, based mainly on the morphology of the male and female genitalia.

The material examined is preserved in the collection of the Entomological Laboratory, University of Osaka Prefecture, Japan (UOP), Institute of Zoology, Academia Sinica, China (ZAS), and in the collection of Mr. K. FUJISAWA, Japan. The abbreviations in parentheses are used for the depositories of the material.

We wish to thank Prof. T. YASUDA and Dr. T. HIROWATARI, Entomological Laboratory, University of Osaka Prefecture, Japan, for their constant help. For the generous gift of material, our cordial thanks are due to Mr. K. FUJISAWA, Matsumoto, Nagano Pref., Japan. We also thank Mr. M. PARSONS, California, U.S.A., for correcting the manuscript.

Subgenus *Neodasyphora* BAE et LIU, nov.

Type species: *Polychrosis cunninghamiacola* LIU et PAI, 1977.

Gender: Feminine.

Head clothed with appressed scales, a dense porrect tuft between antennae. Antenna filiform, about 0.5 times the length of forewing. Labial palpus porrect; second segment ventrally densely clothed with long scales; apical segment short, exposed, pointed and downwardly-directed.

Thorax with a posterior crest. Leg of normal tortricid type.

Abdomen in male with a pair of elongate pouches, covered by many oval scales, on each side of 2nd abdominal sternite, each opening outside through a slit.

Forewing broad, elongate, with very narrow and long pterostigma near costal base to R_4 ; costal fold absent. All veins separate; chorda rather weak, its origin slightly distal of center of R_1 - R_2 , to R_5 ; SC - R_4 not reaching to costa; M -stem to approx. center of M_1 - M_2 ; R_1 arise just before center of discal cell; R_2 arising from $2/3$ distance R_1 - R_3 ; R_3 arising $3/4$ distance R_2 - R_4 ; R_4 from angle, to above apex; R_4 and R_5 originating together and diverging from distal end of discal cell; CuA_1 from angle, curved basal $1/3$; CuA_2 from behind $2/3$ of discal cell.

Hindwing elongate-ovate. Veins R_s and M_1 closely approximated towards base; M_2 and M_3 prominently curved; M_2 - CuA_1 about equidistant; CuA_1 from angle; CuA_2 from behind $2/3$ of discal cell.

Male genitalia. Tegumen broad; pedunculus with a broad process in anterior edge; uncus more or less prominent apically; socius absent; gnathos a delicate, transverse band, densely aciculate. Valva well sclerotized and complicated, E-shaped, with a membranous sack situated in middle of lower margin. Sacculus with well-developed proximal angle, the internal surface of proximal angle beset with seven long plate-like strong spines, the middle lower margin of sacculus bearing a large spatulate process, containing 10-13 stout spines, and the apical margin bearing rough rod-like process, containing 17-20 stout spines. Cucullus bristled, hammer-like, bearing two stout spines group. Aedeagus moderately long, gently curved ventrally, distally tapering upward, sclerotized; cornutus absent; caulis short.

Female genitalia. Seventh sternite simple, weakly sclerotized. Sterigma

simple, rounded, weakly sclerotized; ostium situated near middle of sterigma; colliculum membranous; ductus seminalis originating before colliculum. Signum a pair of linear-shaped sclerites.

Distribution. Southern China.

Remarks. Judging from the pterostigma and the second abdominal pouch, we placed *cunninghamiacola* LIU et PAI in the genus *Lobesia* despite its characteristic genitalia. The new subgenus *Neodasyphora* is established to contain the single southern Chinese species which was originally described under the genus *Polychrosis*. However the latter is currently considered as a synonym of *Lobesia* GIENÉE, 1854 (OBRAZTSOV, 1953; DIAKONOFF, 1954; RAZOWSKI, 1989), therefore *botrana* DENIS & SCHIFFERMÜLLER, the type species of *Polychrosis*, was placed in the subgenus *Lobesia* (BAE and KOMAI, 1991).

Neodasyphora is distinct subgenus which is probably related to the subgenus *Endopiza* CLEMENS in the shape of the valva of the male genitalia. *Neodasyphora* is characterized by the following key characters: i) presence of the two long spined ventral processes at the lower margin of sacculus; ii) presence of long (as long as valva) and strong spines at the internal surface of proximal angle of sacculus. The shape of uncus is also specialized, and the socius is reduced.

Lobesia (Neodasyphora) cunninghamiacola (LIU et PAI)

(Figs. 1-7)

Polychrosis cunninghamiacola LIU et PAI, 1977, 217-220, pl. 1, figs. 1-4, figs. 1-13.

Lobesia cunninghamiacola: KAWABE, KOMAI and RAZOWSKI, 1992, 105.

Wing-expanse ♂ 12-13 mm, ♀ 13-14 mm.

Head grayish-ocherous; tuft on vertex suffused with dark grayish-brown. Antenna pale brown, maculate with blackish brown on each segment of dorsal part. Labial palpus ocherous; median segment slightly expanded apically, mixed with dark grayish brown on outer surface; terminal segment shortly exposed and downwardly-directed.

Thorax with posterior crest dark grayish-brown, mixed with yellowish-ocher. Fore and middle legs pale grayish-ocherous; outside of tibiae with two dark grayish-brown markings. Hind leg grayish-ocherous, outside of tibia suffused with gray, the tibial hair pencil absent. All tarsi with five dark brown rings.

Abdomen grayish-brown on dorsal side, pale ocherous on ventral side; anal tufts brownish-gray, mixed with ocher.

Forewing broad, elongate; costa gently curved outwards. Ground color ocherous, overlaid with purple. Markings dark grayish-brown, surrounded

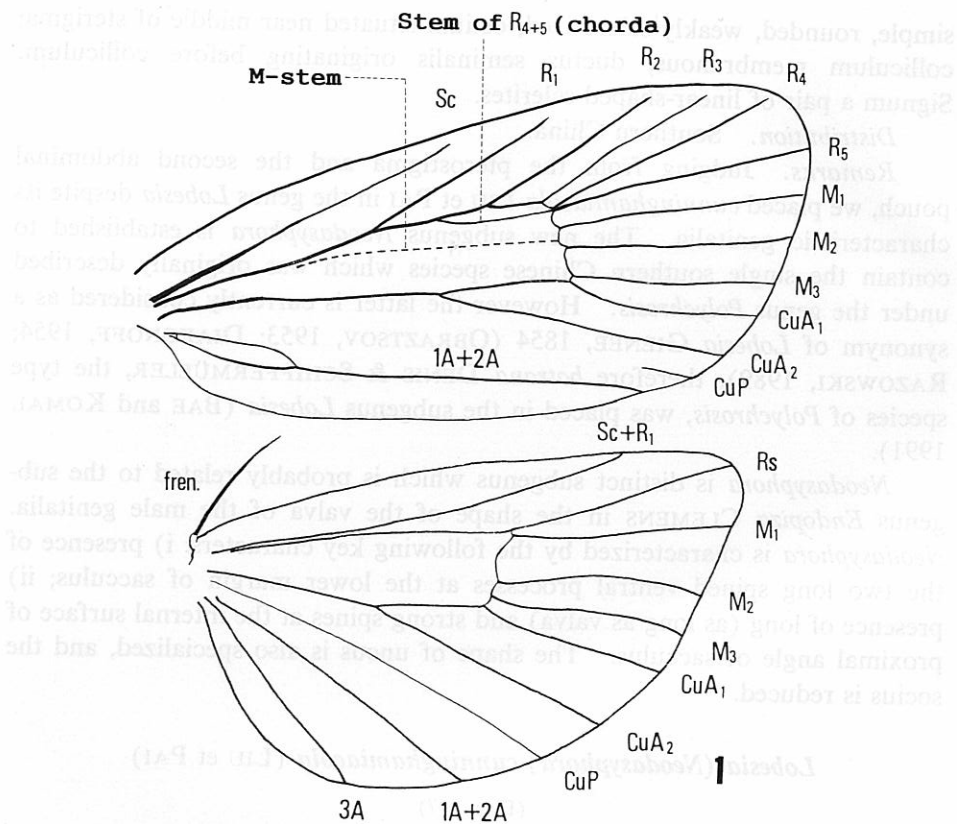


Fig. 1. Wing venation of *Lobesia (Neodasyphora) cunninghamiacola* (LIU et PAI), male.

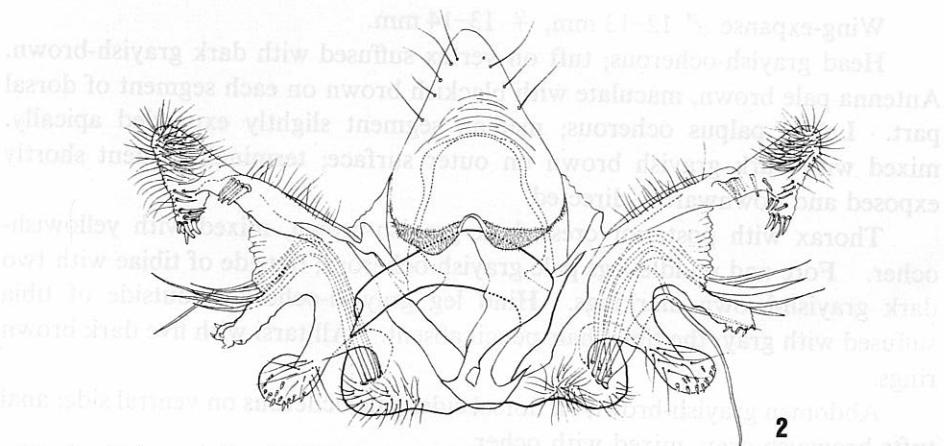


Fig. 2. Male genitalia of *Lobesia (Neodasyphora) cunninghamiacola* (LIU et PAI), ventral view.



Fig. 3. Female genitalia of *Lobesia* (*Neodasyphora*) *cunninghamiacola* (LIU et PAI), ventral view.

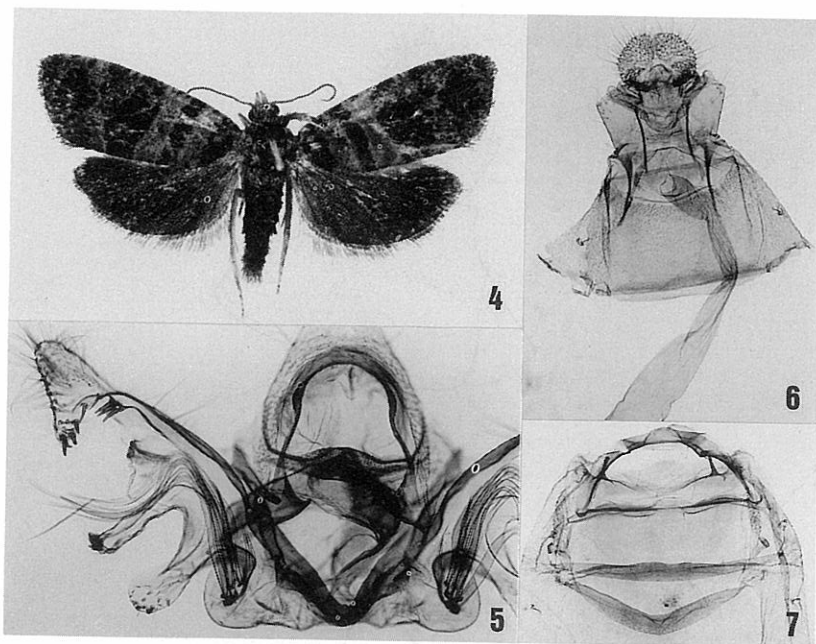
with pale orange; costa obscurely strigulate; basal fascia and subbasal fascia completely separated, spotted with light pale orange; central fascia rather narrow, the inner edge straight, the outer edge angulated in middle; a subtriangular marking pronounced on costal part of space between central fascia and terminal patch; pretornal patch subquadrate or semicircular; terminal patch subquadrate; apical spot small. Cilia brownish-gray, with a ochreous subbasal line.

Hindwing elongate-ovate, dark gray; apex rather projected. Cilia gray, with a dark grayish subbasal line.

Male secondary sexual character. Abdominal pouch small, elongate, scarcely with ochreous oval scales.

Male and female genitalia. As described in the subgenus.

Material examined. China: 2 ♂, 1 ♀, Nanjing, Jiangsu, 12. IV. 1974, ZAS; 3 ♀, Yichun, Jiangxi, 8. VI. 1975, ZAS; 1 ♂, Changsha, Hunan, 23. V. 1974, ZAS; 1 ♂, 1 ♀, Nanping, Fujian, 3. V. 1974, ZAS; 1 ♂, Chipen Spa,



Figs. 4-7. *Lobesia (Neodasyphora) cunninghamiacola* (LIU et PAI). — 4, adult, male; 5, male genitalia; 6, female genitalia; 7, 1st and 2nd abdomen in dorsal view.

Taitong, Taiwan, 27-30. V. 1982 (T. TANABE), UOP; 1 ♂, Fenchihu, Chiayi, Taiwan, 22-25. V. 1982 (T. TANABE), UOP; 2 ♂, 2 ♀, Wesbe, Nantou, Taiwan, 5-6. VI. 1988 (K. FUJISAWA).

Distribution. China.

Biology. The moths fly from April to June in China and May to June in Taiwan. May be univoltine. The larvae feed in needles of *Cunninghamia lanceolata* (LAMB.) HOOK (Taxodiaceae) and is an important insect pest for the food plant in China (LIU and PAI, 1977).

The early stages are well described with the chaetotaxy of the mature larva by LIU et PAI (1977).

Remarks. This species may be easily distinguished from the known species of the genus *Lobesia* by broad and dark grayish-brown forewing.

Reference

- BAE, Y. S. and F. KOMAI, 1991. A revision of the Japanese species of the genus *Lobesia* GUENÉE (Lepidoptera, Tortricidae), with description of a new subgenus. *Tyô to Ga*, 42: 115-141.
- DIAKONOFF, A. 1954. Records and descriptions of Microlepidoptera (7). *Zool. Verh., Leiden*, (22): 1-58, pls. 1-3.
- KAWABE, A, F. KOMAI & J. RAZOWSKI, 1992, Tortricidae. In INOUE, H. and HEPPNER, J. B.

- (ed.), *Lepidoptera of Taiwan, Part, 2: Checklist*. Association for Tropical Lepidoptera: 103-109.
- LIU, Y. and K. PAI, 1977. A new tortricid moth on *Cunninghamia lanceolata* (LAMB.) HOOK (Lepidoptera: Tortricidae). *Acta Ent. Sinica*, **20**: 217-218.
- and Y. S. BAE, 1994. A study of Chinese *Lobesia* GUENÉE, 1845 (Lepidoptera, Tortricidae). *Jpn. J. Ent.*, **62**: 845-859.
- OBRAZTSOV, N. 1953. Classification of Holarctic species of the *Lobesia* GUENÉE, with description of *Paralobesia* gen. nov. (Lepidoptera, Tortricidae). *Tijdschr. Ent.*, **96**: 85-94.
- RAZOWSKI, J. 1989. The Genera of Tortricidae (Lepidoptera). Part II: Palaeartic Olethreutinae. *Acta zool. cracov.*, **32**: 107-328.

(Received July 15, 1994; Accepted September 3, 1994)