

Figs. 2-3. Genitalia of *Pammene crataegicola* n. sp. — 2: Male; 3: female.

crataegicola differs from *P. agnotana* in the male genitalia with the cucullus more slender, and in the female genitalia with the deeper lateral cavities on the seventh sternite and the larger signum. Superficially the species is similar to *Pammene ginkgoicola* Liu, 1992, but the latter has the dorsal and ventral edges of the valva parallel, the sacculus with five spines, the cucullus slender (not expanded), and the aedeagus with numerous cornuti arranged in two parallel lines in the male genitalia.

摘 要

山楂在中國東部廣為種植，是醫用和食用的佳品。近年來，山楂果實遭受一種小蛾的嚴重危害。經研

究為卷蛾科超小卷蛾屬一新種，命名為山楂超小卷蛾 *Pammene crataegicola* Liu et Komai. 它與分布在歐洲的聚超小卷蛾 *P. agnotana* Rebel 相近似，但雄性外生殖器的抱器端狹窄，雌性外生殖器第7腹板有深測陷，囊突大。它與銀杏超小卷蛾 *P. ginkgoicola* Liu 相近似，但后者抱器瓣背腹平行，陽莖有許多陽莖針排列呈兩行。它們彼此都是近緣種。

References

- Chen, Xiuhin, 1992. Studies on hawthorn fruit moth. *China Fruits*, 3: 29-30.
- Danilevsky, A.S., & V.I. Kuznetsov, 1968. Tortricidae, tribe Laspeyresiini. *Fauna USSR*, Lepidoptera, 5(1). 635 pp. Leningrad.
- Liu, Youqiao, 1992. Two new species of Laspeyresiini damaged cones and seeds of Forest (Lepidoptera, Tortricidae). *Sinozoologia*, 9: 249-252.

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A new tortricid moth attacking spruce in China (Lepidoptera)

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Abstract *Neobarbara olivacea* Liu et Nasu, gen. et sp. nov., which injures *Picea crassifolia* Kom., is described from China. This genus is closely related to *Barbara* Heinrich. Adult, wing venation, genitalia, and immature stages are illustrated.

We examined a tortricid moth attacking *Picea crassifolia* Kom., Pinaceae, in China, and concluded that it represents an undescribed genus and species of the tribe Eucosmini. The descriptions of the new genus and species will be given with illustrations of adults, genitalia, and immature stages, in the following lines.

Neobarbara Liu et Nasu, gen. nov.

Type species: *Neobarbara olivacea* Liu et Nasu, sp. nov.

Head rough above. Antenna filiform. Labial palpus short. Thorax smooth. Forewing narrow, triangular; costal fold absent. Forewing (Fig. 1) with 12 veins, all veins separated; R_1 from near middle of discal cell; R_4 to costa; R_5 to termen; M_2 and M_3 parallel; M_3 and CuA_1 bent up; in discal cell, stem of R_{4+5} (chorda) and M-stem distinct. Hindwing (Fig. 1) with 8 veins; M_3 and CuA_1 stalked; 3A distinct.

Male genitalia (Fig. 4). Uncus undeveloped, short, truncate. Socii short, protruded laterally, setose. Gnathos weakly sclerotized. Aedeagus short, cone-shaped, armed with a few deciduous cornuti. Valva shallowly constricted, with a deep ventral concavity which extends from the distal edge of sacculus to cucullus. Cucullus well-defined, oval, armed with many long setae on the inner surface and with some

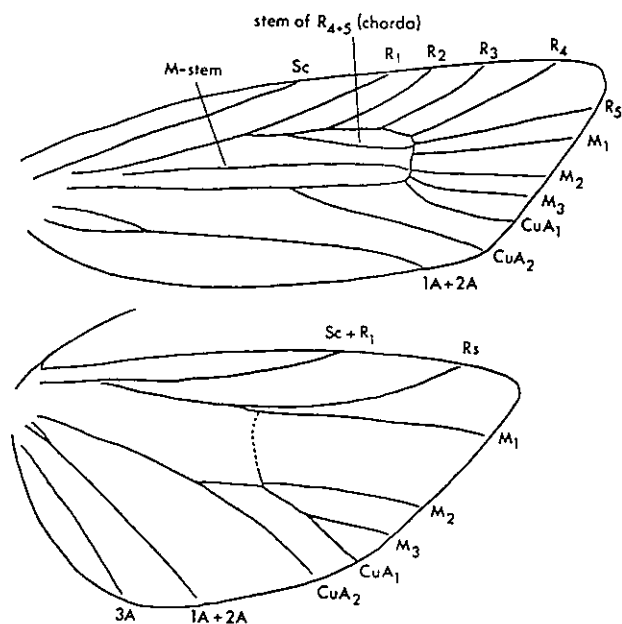


Fig. 1. Wing venation of *Neobarbara olivacea* LIU et NASU, gen. et sp. nov., male.

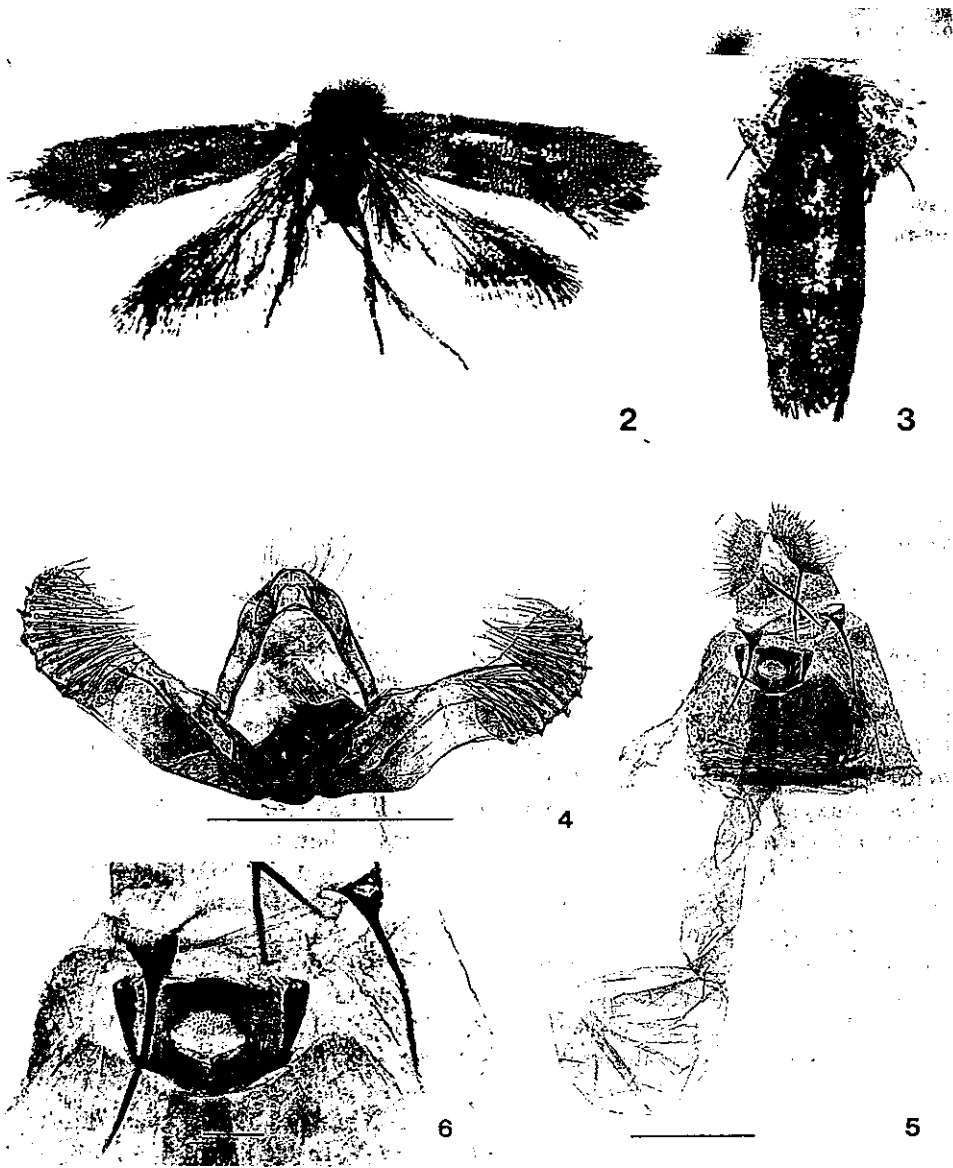
spine-like setae on the posterior edge.

Female genitalia (Figs. 5, 6). Papillae anales flat, widened posteriorly. Apophysis posterioris as long as apophysis anterioris. Seventh sternite broadly sclerotized. Sterigma trapezoid, spinulose on the posterior half, not fused with 7th sternite. Ductus bursae long, sclerotized posteriorly; ductus seminalis originating from the anterior end of the sclerotization. Corpus bursae globular, without signum and spinules on the inner surface.

Etymology. The generic name is derived from the Greek *neos* (new) added to the generic name *Barbara* Heinrich, in reference to the close relationship of this genus. It is feminine in gender.

Remarks. This monotypic genus is allied to the four genera of the tribe Eucosmini, *Retinia* Guenée, 1845, *Blastesthia* Obraztsov, 1960, *Barbara* Heinrich, 1923, and *Gravitarmata* Obraztsov, 1946, all associated with the Pinaceae, by the shared possession of deep ventral concavity of valva and larval spinneret widened at the distal end. The present genus is most closely related to *Barbara* by the common possession of trapezoid sterigma, but differs from it in having shorter socius, oval cucullus, and lacking signum and spinules on the inner surface of corpus bursae.

The type species is characterized by the absence of costal strigulae of forewing and cubital pecten of hindwing. These characteristics are quite unusual within the Olethreutinae. Since both the costal strigulae and cubital pecten are present in *Barbara* and the other allied genera, the absence of these two characters may be autapomorphies for the present genus.



Figs. 2-6. *Neobarbara olivacea* Liu et Nasu, gen. et sp. nov. 2, Adult, holotype, male; 3, adult, paratype, female; 4, male genitalia, holotype (0.5 mm); 5, female genitalia, paratype (0.5 mm); 6, ditto, detail of sterigma (0.1 mm). (Scale lengths in parentheses.)

Neobarbara olivacea Liu et Nasu, sp. nov.

Adult (Figs. 2, 3). ♂, ♀. Wing expanse 10 mm. Head and labial palpus olive-green, tips of scales cream-white. Antenna olive-green, with cream-white annulations. Thorax olive-green, tips of scales cream-white. Forewing very narrow; ground color olive-green, tips of scales cream-white; costal strigulae and costal fold absent; a transverse dark brown fascia located at basal 1/3 and at basal 2/3 respectively, the latter protruded outwardly in the middle of wing, margined with large metallic light grayish scales; on pretornal area lying a small metallic light grayish patch consisting of large scales. Cilia olive-green, tips of scales cream-white. Hindwing light grayish brown, without cubital pecten; cilia long, light grayish brown, whitish on tornus.

Male and female genitalia. See the descriptions in the genus.

Material examined. 22♂, 5♀. Holotype: ♂, China, Qinghai Province, Xining (2,300 m), em. 25. IV. 1991 (Q. Wang & Y. Li leg.), ex *Picea crassifolia*. Paratypes: 21♂, 5♀, same data as holotype. Types are deposited in the Institute of Zoology, Academia Sinica, Beijing, of these one pair of paratypes in the Entomological Laboratory of the University of Osaka Prefecture, Sakai.

Mature larva. Length 7-9 mm. Head longer than broad, dark brown, with large black pigmentation on galea (Fig. 8). Labrum as shown in Fig. 9. Mandible (Fig. 10) with five teeth. Spinneret widened at distal end (Fig. 11). Prothoracic shield and thoracic legs dark brown. Body cream-yellow. Pinacula small, concolorous with body. Setae short, pale. Spinulation of integument dense. Anal shield pale brown, irrorated with dark brown (Fig. 15). Anal fork absent. Chrochets uniordinal; 21-27 on ventral legs, 11-13 on anal prolegs.

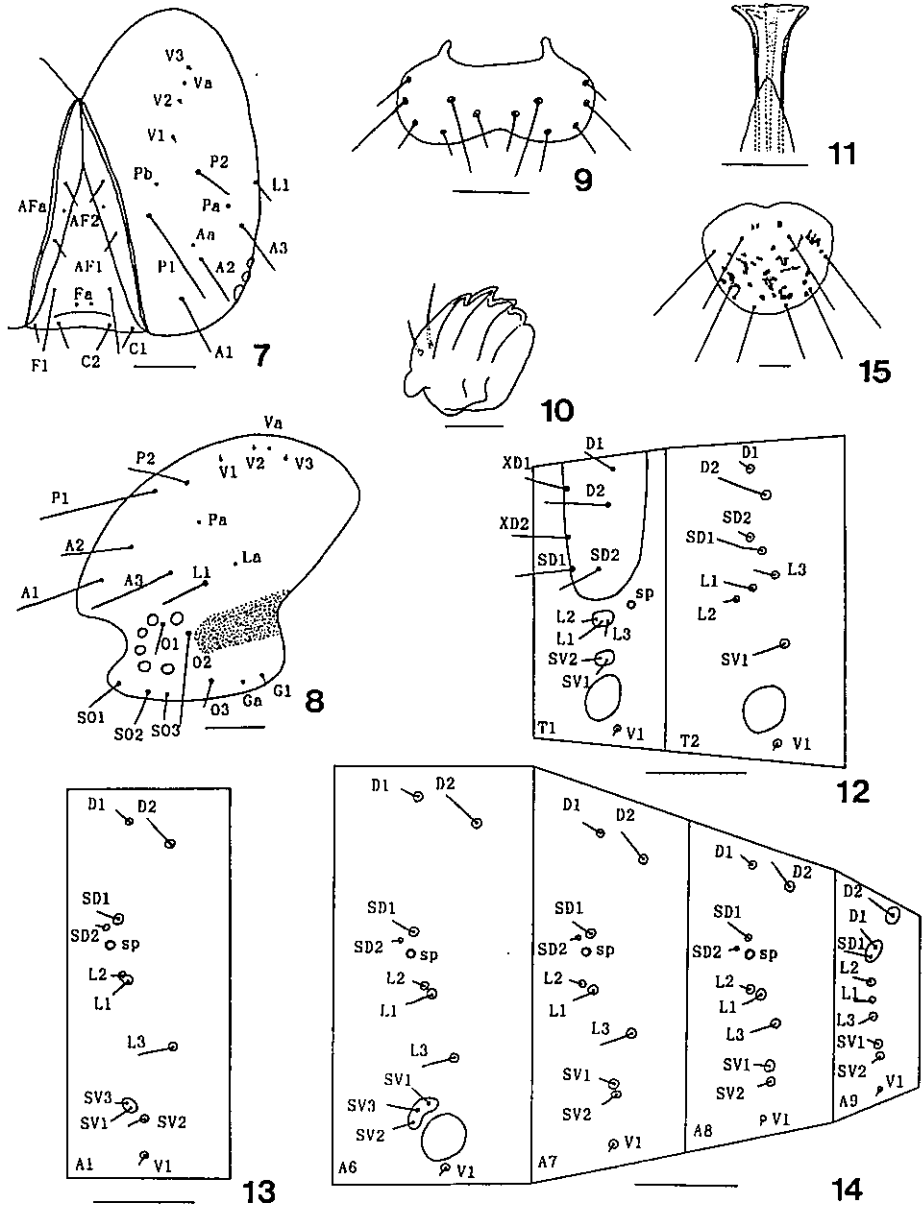
Chaetotaxy (Figs. 7, 8, 12-14): P1 closer to AF1 than to AF2. A2 almost equidistant from A1 and A3. O1 closer to ocellus I than to ocellus II. O2 ventro-caudal to ocellus I. On meso- and metathoraces, D1 and D2, SD1 and SD2, L1 and L2 on separated pinacula. On abdominal segments 1-8, SD1 and SD2 on separated pinacula. On abdominal segments 3-8, L1 and L2 on separated pinacula. On abdominal segment 9, D2's on separated pinacula, D1 and SD1 on same one, L1, L2, and L3 on separated ones. SV group on abdominal segments 1, 2, 3, 7, 8, and 9 numbering 3:3:3:2:2:2, respectively. On abdominal segments 1-2, SV1 and SV3 on same pinaculum. On abdominal segments 7-9, SV1 and SV2 on separated pinacula.

Material examined: China, Qinghai Province, Xining (2,300 m), 2 exs. feeding on *Picea crassifolia*, fixed on 20. VI. 1990 (Q. Wang & Y. Li leg.).

Pupa (Figs. 16, 17). Length about 5 mm. Color reddish brown. Frons pointed. Clypeus with two pairs of setae. Abdominal segments 2-7 with two transverse rows of spines dorsally, the spines of the anterior row larger than those of posterior one. Abdominal segments 8-9 with one transverse row of spines dorsally. Abdominal segment 10 with four pairs of hooked setae.

Material examined: China, Qinghai Province, Xining (2,300 m), 1♂, 1♀, fixed on 25. VII. 1990 (Q. Wang & Y. Li leg.).

Distribution. China (Qinghai Province).



Figs. 7-15. Larva of *Neobarbara olivacea* LIU et NASU, gen. et sp. nov. 7, head, frontal view (0.1 mm); 8, ditto, lateral view (0.1 mm); 9, labrum (0.1 mm); 10, mandible (0.1 mm); 11, spinneret, ventral view (0.05 mm); 12, pro- and mesothoraces (0.5 mm); 13, abdominal segment I (0.5 mm); 14, abdominal segments 6-9 (0.5 mm); 15, anal shield (0.1 mm). (Scale lengths in parentheses.)