

Two new Plusiinae (Lepidoptera: Noctuidae) species from
Mongolia

By

L. RONKAY

(Received January 1, 1987)

Abstract: Two new Plusiinae (Lepidoptera: Noctuidae) species from Mongolia, -
Description of *Abrostola gabori* and *Euchalcia exornata* sp. n. from Mongolia is given.

In 1986 two groups of Hungarian lepidopterists were on zoological expedition in Mongolia, and they collected a very large and interesting Noctuidae material. This material contains numerous taxa of Plusiinae of which two species are new for science. Beside them, there are several specimens of the *Autographa monoramma* (Alphéraky, 1887) - *camptosema* (Hampson, 1913) group belonging to five distinct species. The taxonomic problems of this group seem to be very difficult, therefore, a full revision is needed. This revision is under preparation in co-authorship with Dr. Z. KLYUCHKO (Kiev).

The list of the collected Plusiine species and their data will be published - in agreement with the collectors and the specialists working on the noctuid material - in a comprehensive zoogeographical paper on the Noctuidae fauna of Mongolia.

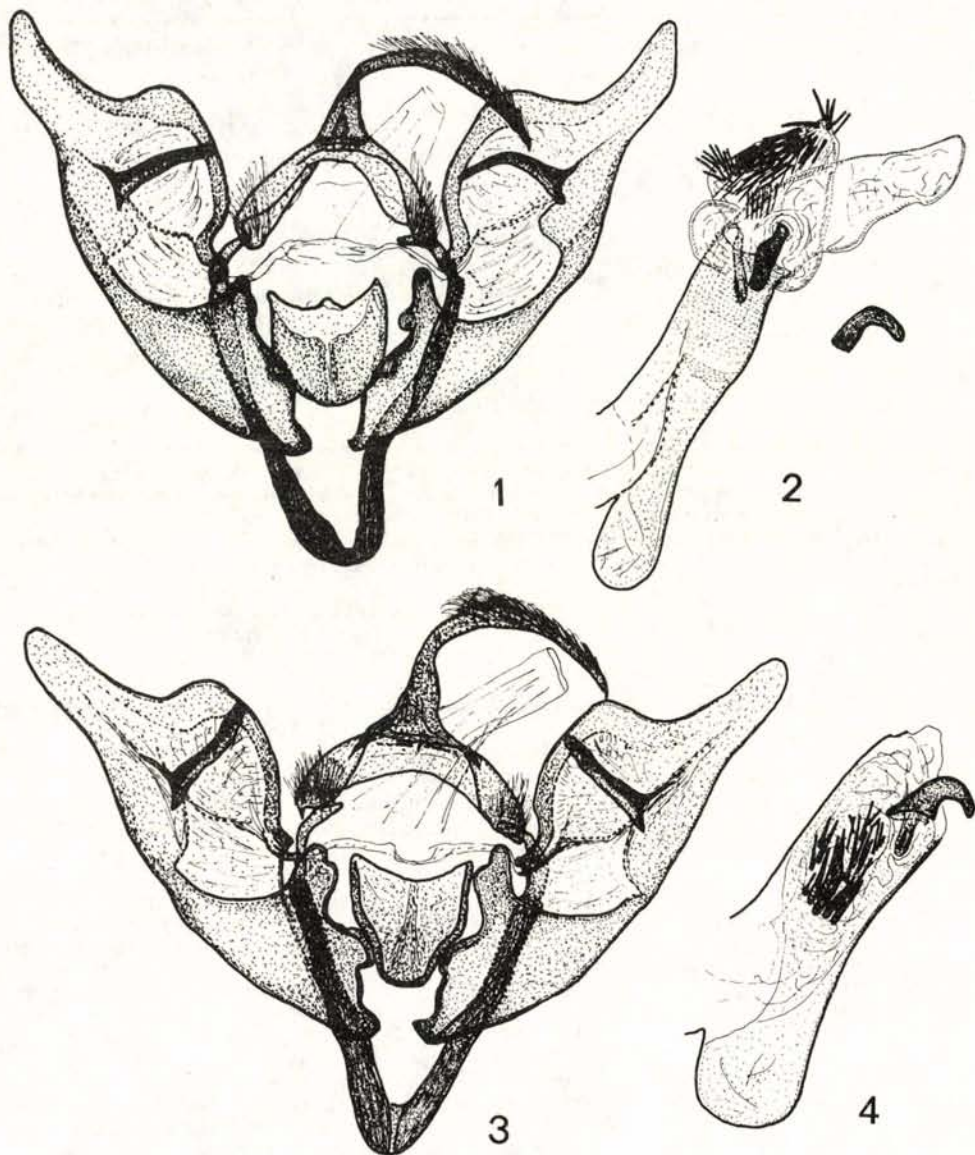
The descriptions of the new taxa with the discussions on their zoogeographical and taxonomic relationships are given below.

Abrostola gabori sp. n. (Plate: 1)

Type material: Holotype: male, Mongolia, 104°03' E, 43°26' N, Ömnögovi aimak, Govi Altay, Mts. Gurvan Sayhan uul, valley Yulin am, 2350 m, 23. VII. 1986., leg. FÁBIÁN, HREBLAY, PEREGOVITS and RONKAY, slide No. 2003 L.RONKAY. The type-specimen is deposited in the Zoological Department, Hungarian Natural History Museum, Budapest.

Description: alar expanse 33 mm, length of fore wing 16 mm. Head dark grey with lighter tuft on frons, palpi dark brownish grey with some light grey scales. Collar grey mixed with brownish, its tip dark brown. Thorax plumbeous grey with blackish prothoracic and brown-grey metathoracic tufts. Abdomen light grey with dark dorsal crest. Ground colour of fore wing shiny plumbeous grey with some darker brownish grey irroration, mostly in median area. Subbasal line absent, antemedial line fine, double and arcuate, outer line black, inner line diffuse, brownish, filling of it brownish grey. Inner part of basal area greyish, outer part with light ochreous patches in submedian fold and at inner margin. Orbicular and reniform spots large, incompletely encircled with fine black lines, with a darker grey shadow between them and in inner part of reniform. Claviform spot represented by only two small tufts of scales erect on the wing surface. Postmedial line double, pale, slightly sinuous at costa, becoming much stronger and oblique from cell with a wide arch at inner margin. Inner line of it grey-brown from costa to cell, below black and distinct, outer line grey-brown, its filling light grey; defined on outer side by light whitish grey spots and a large patch at tornus. Subterminal line originated from costa near to apex, light grey, strongly waved, apical part with strong black spots. Terminal line a continuous row of short and fine black spots, cilia brown-grey with light medial line. Hind wing light cupreous brown, strongly covered with dark brownish-grey scales, cellular lunule and transversal line pale, marginal field wide and dark. Terminal line

brown, cilia whitish with brown inner line. Underside of fore wing dark, glossy grey, costal and inner margins slightly lighter, cellular lunule and transversal line pale but visible. Costa with some whitish spots at apex, cilia light brownish with sinuous, dark grey line. Hind wing ochreous grey,



Figs 1-2: *Abrostola gabori* sp. n., holotype
Figs 3-4: *Abrostola kaszabi* Dufay, holotype

strongly irrorated with dark greyish-brown, cellular lunule a strong, rounded spot, transversal line diffuse, sinuous, marginal field somewhat darker.

Male genitalia (Figs 1-2): uncus long and slender, pointed, tegumen wide and low, vinculum strong. Fultura inferior rounded. Valvae wide with a large extension on costal side at middle, apical part much narrower and short, cucullus with pointed apex, corona absent. Sacculus strong, clavus rounded, saccular processes asymmetrical, larger and more prominent on right valva than on left one. Harpe wide-based, relatively short and slightly arcuate. Aedoeagus strong, thick and moderately long, with a robust hook and a dentate stick on ventral side at distal end, vesica consists of three diverticles, one of them with three bundles of spiniform, sometimes finely curved but not wide-based cornuti.

Specific differences and taxonomic position: the new species is closely related to *Abrostola kaszabi* Dufay, 1971, but essentially darker and much more unicolorous than the latter. It has dark grey thorax and plumbeous grey fore wing strongly reduced ochreous-yellowish irroration only in outer part of basal field, the filling of maculae is not lighter than the ground colour, the inner half of the hind wing has strong, dark irroration and diffuse pattern. In case of *kaszabi* the thorax and the whole basal field are ochreous, the maculae are filled with light ochreous or whitish grey, the medial field is irrorated with lighter grey and ochreous scales, the claviform spot is strongly marked. The inner half of the hind wing of *kaszabi* is much lighter, similarly to the underside of wings, especially on hind wing; the pattern of the underside is more distinct. The configuration of the male genitalia of the two related species displays also distinctive features as follows: the new species has much rounded futura inferior without strongly sclerotized margins than that of *kaszabi* (Figs 3-4), the apical part of valvae have different shape with more pointed apex, the saccular processes are less robust, the distal ventral hook of the aedoeagus is less curved and has a flattened apex, the cornuti of the vesica are longer, more spiniform, without wide and elliptical base which can be observed in a group of cornuti in case of *kaszabi*.

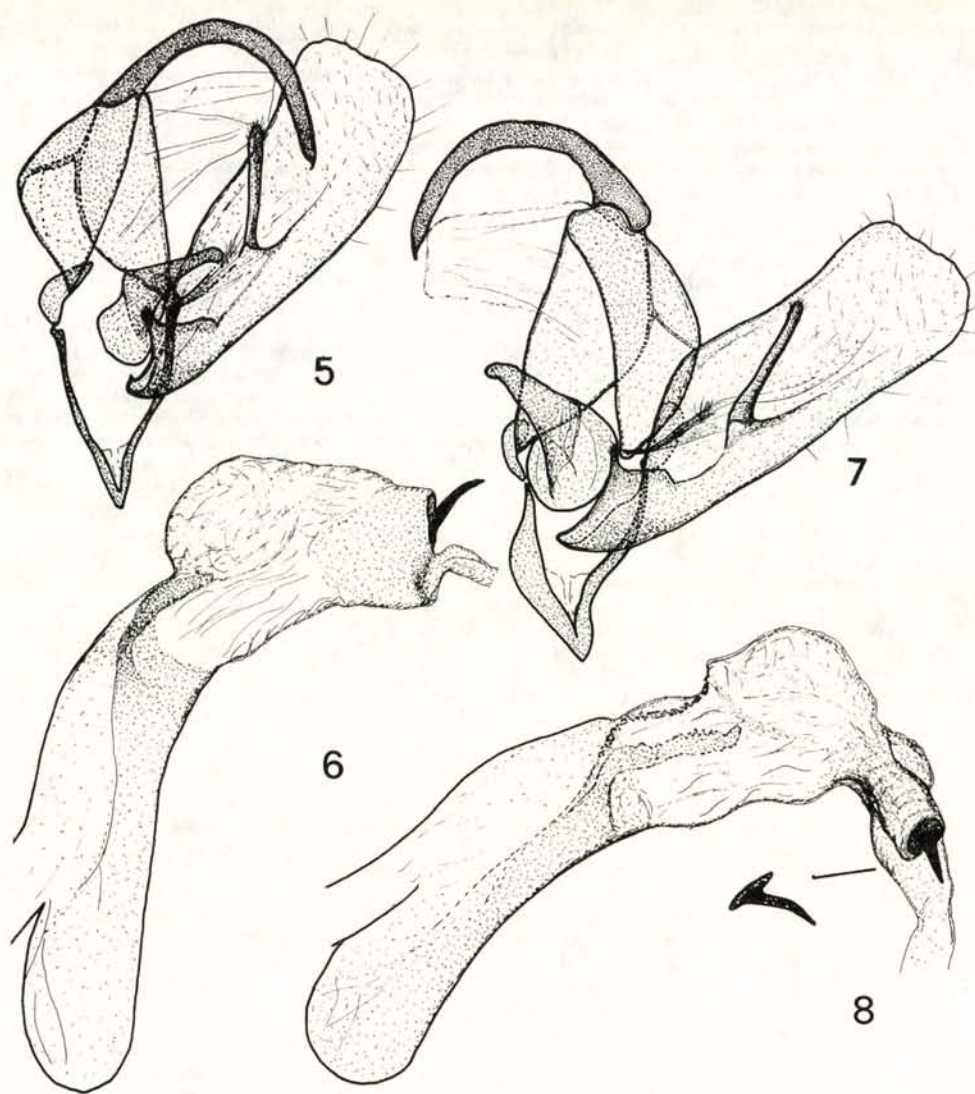
On the basis of the differences of the external and genital features these two taxa should be considered as distinct species with allopatric distribution. The new species occurs in the easternmost member of the Govi Altay chain while *kaszabi* has a SE Siberian range since it occurs in the northern part of Mongolia (it was found again by the collectors of the new species in Ulaanbaatar) and in the SE part of Siberia in USSR (KLYUCHKO, pers. comm.).

Euchalcia exornata sp. n. (Plate: 3-4)

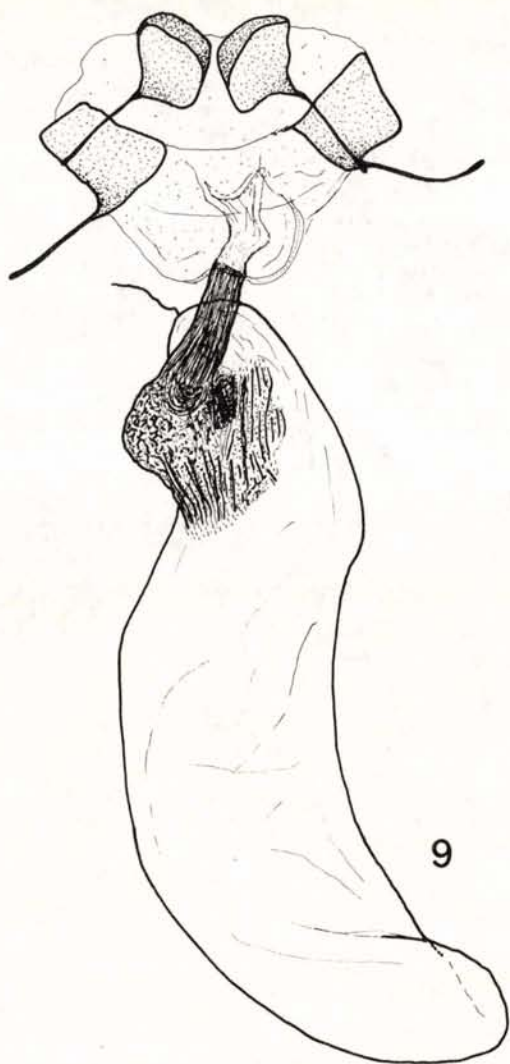
Type material: holotype: male, Mongolia, Bajan Ölgij aimak, Mongol Altay Mts., Caast uul, 3000 m, 08-09. VIII. 1986., leg. P. GYULAI, slide No. 2159 L. RONKAY. The type is deposited in coll. P. GYULAI (Miskolc). Paratypes: 2 ♀♀, from the same locality and data, leg. Z. VARGA, in coll. Z. VARGA. Slides Nos 2052, 2198 L. RONKAY.

Description: alar expanse 34-34.5 mm, length of fore wing 16.5-17 mm. Head and palpi pale olive-grey, thorax olive grey mixed with ochreous-brown hairs, metathoracic tuft large, upper part of it greenish, lower part brownish. Fore wing high and elongate, strongly pointed: ground colour of it pale olive-grey, basal and other parts of wing strongly covered with brownish olive-green, bronze sheen of wing slight. Basal line short, nearly straight, antemedial line double, slightly sinuous, whitish, its upper part obsolescent, lower part - below cell - defined by a dark brown or blackish line on outer side. Orbicular spot large, more or less rounded, finely encircled with silvery-white, reniform narrow, elliptical, inner part of its outline whitish. Stigma large and conspicuous, silvery-white, medial line a diffuse, less visible stripe. Postmedial line slightly sinuous, double, inner side of it dark, outer part lighter, its filling grey of rosy-grey. Marginal area light, olive-greyish with more or less intensive rosaceous tinge, subterminal line whitish, finely serrate, defined by a diffuse dark stripe on inner side. Terminal field with bronze-brownish patches at apex and between veins m_3-cu_1 ; terminal line whitish. Hind wing whitish grey suffused with brown, inner area, transversal line and marginal area darker. Underside of wings pale ochreous grey, inner part of fore wing strongly suffused with dark grey-brown, outer third lighter; stigma and transversal lines well visible. Hind wing lighter, only transversal line and partly marginal field somewhat darker.

Male genitalia (Figs 7-8): uncus strong and long, curved, its apex pointed. Tegumen wide and weakly sclerotized, moderately high. Fultura inferior a rounded lamina with a long, rostrum-like medial appendage. Vinculum V-shaped, less sclerotized. Valvae wide, relatively short, apex rounded, cucullus wide. Ampulla straight, long, slightly oblique. Sacculus short, clavus finger-like, narrow. Aedoeagus thick and moderately long, not longer than valva. Vesica consists of a large, globular basal sac and a laterally curved, narrower tube with a wide-based, long and pointed cornutus



Figs 5-6: *Euchalcia renardi* (Eversmann)
Figs 7-8: *Euchalcia exornata* sp. n., holotype



9



10

Fig. 9: *Eualcalcia exornata* sp. n., paratype
Fig. 10: *Eualcalcia renardi* (Eversmann)

situated laterally from the axis of the basal sac of vesica.

Female genitalia (Fig. 9): Ovipositor short and wide, gonapophyses moderately long. Ostium bursae membranous, protected by a rounded membrane; ductus bursae relatively short, caudal part of it with a short membranous tube, proximally continued in a heavily sclerotized tube which is strongly dilated to a large and semiglobular extension and connected to bursa copulatrix with a wide, sclerotized field with strong crests and a nearly quadrangular sclerotized lamina. Apex bursae membranous and rounded, corpus bursae long, more or less elliptical.

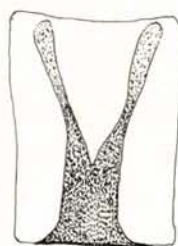
Specific differences and taxonomic position: the species belonging to this group are very similar to each other by their external and genital characteristics, too. The new species is closely related to *Euchalcia renardi* (Eversmann, 1844) but differs from it by a series of distinctive features. The size of *exornata* is essentially bigger, the shape of fore wing is wider with more pointed apex. The median area of the new species is broader and conspicuously darker as compared with the basal and marginal areas than in the case of *renardi*. In the configuration of the male genitalia the range of variation of the main features of *exornata* and *renardi* is partly overlapping, except the characteristic structure of the vesica by which the two species can be separated relatively easily. In case of *exornata* the distal tube of vesica is narrower than that of *renardi* (Figs 5-6) and twisted from the basal sac much more laterally, therefore, the cornutus situated laterally from the medial axis of the organ (the granulation of the distal tube is also stronger than that of *renardi*). In case of *renardi* the distal tube is not or only very slightly twisted so the cornutus is situated in the medial axis of the copulatory organ. (Several slides of *renardi* display that this character is not only an artificial phenomenon.) In the configuration of the female genitalia the ostium bursae of *exornata* is wider, the ductus bursae is longer and its anterior part is much more dilated than in the case of *renardi*. The sclerotization of the last tergite is also characteristic, because *exornata* has a very strong and wide, quadrangular medial lamina and wide, short arms on the tergite VIII (Fig. 11) and *renardi* has a narrow, elongate medial lamina and slender arms (Fig. 12).

The other similar species, *E. altaica* Dufay, 1968 has nearly the same size and wing shape, the main difference in the wing pattern is that the shape of the orbicular spot is strongly flattened and elongate in the case of *altaica*, while the same is large and more or less rounded in the case of *exornata*. The male genitalia of *exornata* is essentially smaller than that of *altaica*, principally of the aedoeagus, which is significantly longer than the valva in the case of *altaica*, while it is a little bit shorter than the valva in *exornata*. The sclerotization of the last tergite is also very different (see DUFAY, 1968). In the configuration of the female genitalia the apex bursae of *altaica* is rugulose and constricted (see KLYUCHKO, 1983) while in the case of *exornata* it is membranous and rounded.

The species of this group - *altaica*, *renardi* and *exornata* - have a nearly sympatric occurrence in the Altay Mts., but the new species was found at a very high altitude in the alpine region. On the other hand, the closely related *renardi* inhabits mainly the subalpine, dense grassland habitats (up to 2400 m in this region).



11



12

Fig. 11: *Euchalcia exornata* sp. n., holotype; sclerotization of tergite VIII

Fig. 12: *Euchalcia renardi* (Eversmann); sclerotization of tergite VIII

ACKNOWLEDGEMENT

I would like to express my thanks to the collectors of the material and to Dr. Z. F. KLYUCHKO (Kiev) for her kind help.

REFERENCES

- DUFAY, C. (1957): Les especes asiatiques du genre *Abrostola* O. (*Unca* auct.) (Lepidoptera, Agrotidae). - *Bonner zool. Beitr.*, 8: 307-321.
- DUFAY, C. (1968): Revision des Plusiinae Paléarctiques I. Monographie du Genre *Euchalcia* Hübner. - *Veröff. Zool. Stsamml. München*, 12: 21-154.
- DUFAY, C. (1971): Description d' *Abrostola kaszabi* n. sp. de Mongolie, et note synonymique sur des *Abrostola* asiatiques. *Ergebnisse der zoologischen Forschungen von Dr. Z. Kaszab in der Mongolei* (Lepidoptera, Noctuidae, Plusiinae). - *Reichenbachia*, 13: 269-273.
- ICHINOSE, T. (1962): Studies on the Noctuid Subfamily Plusiinae of Japan. - *Bull. Fac. Agric., Tokyo Univ. Agr. Techn.*, 6: 1-127.
- KLYUCHKO, Z. F. (1983): New and little known species of the Noctuid Moths of the genus *Euchalcia* Hbn. (Lepidoptera, Noctuidae). - *Ent. Obozr.*, 62 (1): 123-130.
- RONKAY, L. (1983): Noctuidae (Lepidoptera) from Mongolia. Noctuidae Quadrifinae. - *Annls hist.-nat. Mus. natn. hung.*, 75: 229-246.

Author's address: A Dr. L. RONKAY

Zoological Department
Hungarian Natural History Museum
Baross u. 13.
H-1088 Budapest
Hungary

Explanation of Plate

1. *Abrostola gabori* sp. n. Holotype, Mongolia -
2. *Abrostola kaszabi* Dufay, Holotype, Mongolia
3. *Euchalcia exornata* sp. n. Holotype, Mongolia -
4. *Euchalcia exornata* sp. n. Paratype, Mongolia

