

Three new Noctuidae taxa (Lepidoptera, Noctuidae) from Iran with taxonomic comment on the *Parabrachionycha*-subgenus of *Polymixis* (plate 27)

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Abstract.

Two new species of Noctuidae, *Polymixis (Parabrachionycha) alborsa* spec. nov. and *Apamea minoc* spec. nov. and a new subspecies, *Antitype jonis* (LEDERER, 1865) *parajonis* subspec. nov. are described from Iran.

Key words.

Noctuidae, *Polymixis*, *Apamea*, *Antitype*, Iran

Introduction

Intensive research on the Iranian macrolepidoptera fauna by Hungarian entomologists began in 1999. Since then, there have been several successful expeditions; usually three or four expeditions have been made each year year, in nearly all seasons from very early spring to late autumn. These collecting trips have resulted in the discovery of numerous new *Noctuidae* taxa, which have been described in different scientific papers, articles or even books, showing the magnificent faunal richness of this mostly arid territory. The present paper contains the description of two newly found species and a subspecies from the Elburz and Zagros mountains following the latest series of Hungarian expeditions made during 2010.

Polymixis alborsa spec. nov.

(pl. 27, figs. 1-2, gen. figs. 1a, 1b, 1c)

Holotype: ♂, Iran, prov. Khorāsān, Kuh-e-Ālādāgh mts., Kuh-e-Kurhud, 4 km W of Chaman Bid, 1277 m, N37° 26,143' E56° 39,174', 13. X. 2010., leg.: J. BABICS, T. CSÖVÁRI, slide No. JB1567 (coll. BABICS)

Paratypes: 4 ♂♂, 1 ♀, Iran, prov. Khorāsān, Kurhud Mt, 4 km W of Chaman Bid, 1277 m, 13. X. 2010., leg. J. BABICS, T. CSÖVÁRI, slide No. JB1573, JB1590 (coll. BENEDEK & CSÖVÁRI); 1 ♂ and 1 ♀, Iran, prov. Māzandarān, Alborz Mts, 5 km SW of Veresk, 1851 m, 10. X. 2010., leg. J. BABICS, T. CSÖVÁRI (coll. BENEDEK & CSÖVÁRI); 1 ♂ and 1 ♀, Iran, prov. Mazandaran, C-Alborz, Nur valley, 2300 m, 17-18. X. 2003, leg. P. GYULAI & A. GARAI, slide No. LR8114, LR8140, (coll. P. GYULAI).

Diagnosis.

Polymixis alborsa spec. nov. differs conspicuously from the related *P. latesco* FIBIGER, 2001 (pl. 27, figs. 3-4, gen. figs. 2a, 2b, 2c) and *P. trisignata* (MÉNÉTRIES, 1847) in the remarkably broader, darker brown forewing with more intense reddish shine, the characteristically coloured reniform stigma, and dark suffused hindwing. The male genitalia of *P. alborsa* spec. nov. differ from those of *P. latesco* in the broader valva, narrower ampulla (harpe), and the very characteristic wide clavus; *P. alborsa* differs from those of *P. trisignata* (gen. figs. 3a, 3b) in the characteristically triangular penicular lobes and more developed medial diverticula on vesica. The female genitalia of *P. alborsa* spec. nov. differ from those of *P. latesco* and *P. trisignata* (gen. fig. 3c) in the straight and elongated ductus bursae, the characteristically shaped ventral part of it, and the positions of the three small signum on the corpus bursae.

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Description.

Male, female (pl. 27, figs. 1-2). Wingspan 41-46 mm, length of forewing 19-21 mm. Head and thorax chocolate brown with fine geryish hairs; collar with sharp blackish median line. Palpi short, densely hairy; antenna of male shortly bipectinate, that of female filiform. Forewing triangular, rather broad and relatively short, apex finely pointed, ground colour similar to that of thorax. Submedial fold straight but clearly discernible, black coloured; basal area with an additional black line at inner margin; subbasal fascia obsolete; antemedial and postmedial fasciae more or less faded, sinuous, connected by a short but strong black stripe. Orbicular and reniform stigma sharply outlined by black scales; orbicular stigma filled with paler brown than ground colour, reniform stigma filled with pale ochreous brown, with fine blackish scales at distal end of cell; marginal area paler brown than ground colour with dark brown outer suffusion; subterminal fascia distinctly ochreous brown; terminal fascia yellowish brown, basad with minute black dots on the veins; cilia concolorous. Hindwing of male frequently covered with brown irroration; on female hindwing brown; veins covered by darker brown scales; discal spot clearly discernible, black; terminal fascia black; fringe bicoloured, proximally yellowish and distally somewhat paler brown than hindwing ground colour.

Male genitalia (gen. figs. 1a-1b). Uncus short, slender with more or less parallel margins, apically hooked. Tegumen wide, slightly sclerotised, characteristically bell-shaped; penicular lobes elongated with wide basal plate, apically rounded. Fultura inferior more or less quadrangular, with fine triangular ventral end; vinculum short and wide, sclerotised. Valvae symmetrical, elongated, with almost parallel margins. Cucullus well developed, densely setose, apex rounded with a short, triangular process; costal margin sclerotised, with a short but strong, acute costal extension. Ampulla (harpe) slender, digitiform, apically tapered. Sacculus wide, strongly sclerotised, clavus wide, rounded, trapezoidal in shape. Aedeagus short, cylindrical, curved ventrally in second third; posterior end sclerotised ventrally. Carina short, membranous. Vesica everted dorsally, with three variably shaped and developed medial diverticula and one terminal diverticulum; medial diverticula covered by fine spiculi fields, terminal diverticulum covered by cornuti field.

Female genitalia (gen. fig. 1c). Ovipositor short, more or less trapezoidal. Papillae anales hairy, apophyses medium-long, straight. Ostium bursae trapezoidal; ductus bursae long, flattened; posterior part short and membranous, anterior part elongated and sclerotised; ventral part of ductus bursae heavily sclerotised with a bell-mouth anterior part; corpus bursae elliptical, membranous, with four short, finely sclerotised signum-stripes; cervix (appendix) bursae large, rounded, covered by sclerotised wrinkles.

Bionomics and distribution.

P. alborsa is probably endemic to the Eastern Elburs mountains, from the heights above Tehran towards to the Golestanian mountains. It favours mixed but open forest biotopes at medium altitude; adults are on the wing in mid-autumn. *P. alborsa* occurs sympatrically in several localities with its closest relatives *P. trisignata* and *P. latesco*.

Etymology. The name refers to the distribution of the new species.

Taxonomic content.

Subgenus *Parabrachionycha* HACKER, 1990

Species-group: *atossa*

atossa (WILTSHIRE, 1941)

ssp. *derrai* (HACKER, 1990)

ssp. *limula* (SULHAREVA, 1978)

syn. *centralasiae* (HACKER & BEHOUNEK, 1990)

Species-group: *leuconota*

leuconota (FRIVALDSZKY, 1841)

syn. *stigmatica* (GUENÉE, 1852)

syn. *malickyi* HACKER & FIBIGER, 1992

aphroditae FIBIGER, 1997

trisignata (MENÉTRIÉS, 1847)

alborza spec. nov.

latesco FIBIGER, 2001

nasamonius (TURATI, 1924)

***Apamea minoc* spec. nov.**

(pl. 27, figs. 5-6, gen. figs. 4a, 4b, 4c, 4d)

Holotype: ♂, Iran, Prov. Mazandaran, Elburz Mts., Minac, 2450 m, N36°13' E51°36', 9. VI. 2010, leg. B. BENEDEK & T. HÁ CZ, slide No. JB1577 (coll. BENEDEK).

Paratypes: 2 ♂♂ and 2 ♀♀, Iran, Prov. Mazandaran, Elburz Mts., Minac, 2450 m, N36°13' E51°36', 9. VI. 2010, leg. B. BENEDEK & T. HÁ CZ, slide No. JB1578, JB1593 (coll. BENEDEK).

Diagnosis.

Apamea minoc spec. nov. is a member of the *A. monoglypha* species-line; its closest relatives are *A. maraschi* (DRAUDT, 1934) and *A. damascena* (ZILLI, VARGA, RONKAY & RONKAY, 2009), and it can be placed between these species following comparison of their genital features.

A. minoc differs from the related *A. damascena* in the smaller size and more elongated forewing with paler greyish-brown ground colour. It differs from *A. maraschi* in the paler greyish-brown ground colour and more elongated orbicular stigma. In the male genitalia, *A. minoc* is separable from the related *A. damascena* and *A. maraschi*, considering the lower tegument and broadened cucullus of *A. damascena* and *A. maraschi*, compared to the higher tegument of *A. minoc*, which reached the apex of the valva, and a one-fourth size smaller cucullus of *A. minoc*. The main differences in female genitalia are the medium sized ostium bursae with fine excision on anterior margin and medium sized, apically medium opened papillae anales in *A. minoc*, compared to the wider ostium bursae in *A. damascena* with deeper excision on its anterior margin; ostium bursae in *A. maraschi* is somewhat narrower than that of *A. minoc*, and the excision on the anterior margin is deeper.

Males are easily separable from *A. polyglypha* on the structure of the brush organs and their pockets: *A. minoc* has fully developed brush organs (gen. fig. 4d) and pockets, but in *A. polyglypha* they are reduced. *A. minoc* differs from *A. polyglypha* in the elongated and narrow valva, finely curved aedeagus and ventrally everted vesica. compared to the wide but short valva of *A. polyglypha*, and its straight aedeagus with dorsally everted vesica.

Description. (pl. 27, figs. 5-6) Sexes similar. Wingspan 39-40 mm, length of forewing 19-20 mm. Head and thorax greyish brown, mixed with blackish and whitish hairs; collar with sharp blackish median line. Palpi short, dark grey; antennae filiform. Abdomen pale ochreous brown, with fine blackish hairs; on the male with well developed ventral coremata. Forewing elongated, triangular, apex finely rounded, ground colour darker greyish-brown than thorax; basal and medial area with pale brown irroration, marginal area with dark, coffee-brown suffusion; submedial fold straight but distinct, black coloured; subbasal and antemedial fasciae obsolete; postmedial fascia more or less faded, sinuous, ochreous brown. Orbicular and reniform stigma more or less faded; orbicular stigma slightly filled with ochreous brown colouration, reniform stigma filled with pale brown. Subterminal fascia distinct whitish brown with two or three well defined shark-tooth shaped spots; terminal fascia yellow; fringe concolorous, with yellow scales at the end of the veins. Hindwing covered by brown irroration and with dark brown marginal suffusion; veins covered by darker brown scales; discal spot more or less obscured with brown scales; terminal fascia black; cilia yellowish ochre.

Male genitalia (gen. figs. 4a, 4b). Uncus long, slender, apically finely hooked. Tegumen wide, slightly sclerotised, extending beyond the apex of valva; penicular lobes wide, trapezoidal, apically rounded. Fultura inferior arrowhead-shaped, with elongated dorsal end; vinculum medium sized, sclerotised. Valvae symmetrical, relatively elongated. Cucullus relatively small, densely setose, apex rounded; ampulla (harpe) medium sized, slender, apically tapered with medium sized basal plate. Sacculus wide, sclerotised, clavus well developed, quadrangular. Aedeagus short, cylindrical, finely curved ventrally; posterior end sclerotised. Carina medium sized, membranous with fine spinula fields on the dorsal part. Vesica everted dorsally, inflated postero-ventrally; basal part with one or two fine, short cornuti with small basal plates.

Female genitalia (gen. fig. 4c). Ovipositor relatively long but strong, conical. Papillae anales more or less triangular, moderately opened apically, weakly hairy; apophyses relatively long and narrow. Ostium bursae wide, quadrangular with medium sized anterior margin with fine excision; ductus bursae medium sized, funnel shaped; posterior part membranous, anterior part sclerotised, tapering anteriorly; corpus bursae elliptical-ovoid, membranous, with four long, fine signum stripes; cervix bursae relatively long and narrow, ovoid, covered by sclerotised wrinkles.

Bionomics and distribution.

A. minoc was collected with the use of portable light traps in a rocky gorge at high altitude in the Central Elburz, with rocky grassland vegetation.

Etymology. The name refers to the type locality of the new species.

***Antitype jonis jonis* (LEDERER, 1865)**

(gen. figs. 5a, 5b, 5c)

Polia jonis LEDERER, 1865, *Ann. soc. ent. Belg.* 1865: pg. 78, pl. 73, fig. 9.

Antitype jonis has a fairly wide distribution from the Balkan Peninsula towards the Anatolian mountains and to North-East Iran. The Western-Anatolian population of nominotypical *A. jonis jonis* was described by STAUDINGER, 1901 as *amasina*, the taxonomic status of *amasina* clarified by HACKER (1989)

***Antitype jonis parajonis* subsp. nov.**

(pl. 27, fig. 7, gen. figs. 6a, 6b)

Holotype: male, Iran, prov. Chahārmahāl, Zagros mts., 10 km W of Vanak, 1902 m, 5. X. 2010., leg.: J. Babics, T. Csóvári, slide No. JB1575 (coll. BENEDEK).

Paratypes: 2 males, Iran, prov. Kordestān, Kuhhā-ye-Zagros mts., Kuh-e-Shāhn mt., 25 km S of Sanandaj, Āskaran, 1378 m, N35°05,064' E46°54,072', 30. XI. 2010., leg.: J. Babics, T. Csóvári (coll. BENEDEK)

Diagnosis.

The population of *A. jonis* ssp. *parajonis* occurs in the central mountains of Zagros. The new subspecies is easily distinguished from the nominotypical subspecies by the slightly oblong forewing shape, with whitish ground colour, more prominent orbicular and reniform stigma, shiny white hindwing and paler body colouration.

Male genitalia *A. jonis parajonis* (gen. figs. 6a, 6b) differ from those of *A. jonis jonis* (LEDERER, 1865) (gen. figs. 5a, 5b, 5c) in the slightly shorter and stronger valva, less prominent sacculus, somewhat lower tegumen and longer caecum penis.

Bionomics and distribution.

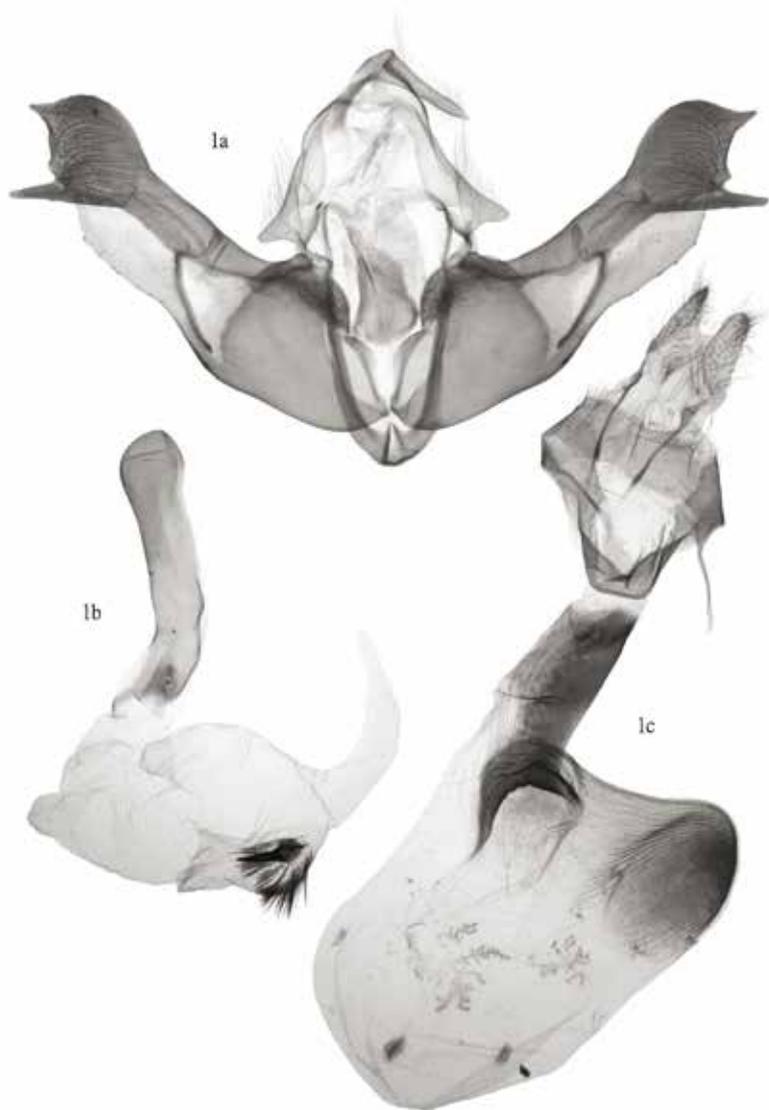
Specimens of the new subspecies were collected in two localities. In both places, the habitat is a warm and dry river valley at medium high altitude with dominance of shrubby deciduous forest among rocky slopes.

Acknowledgements

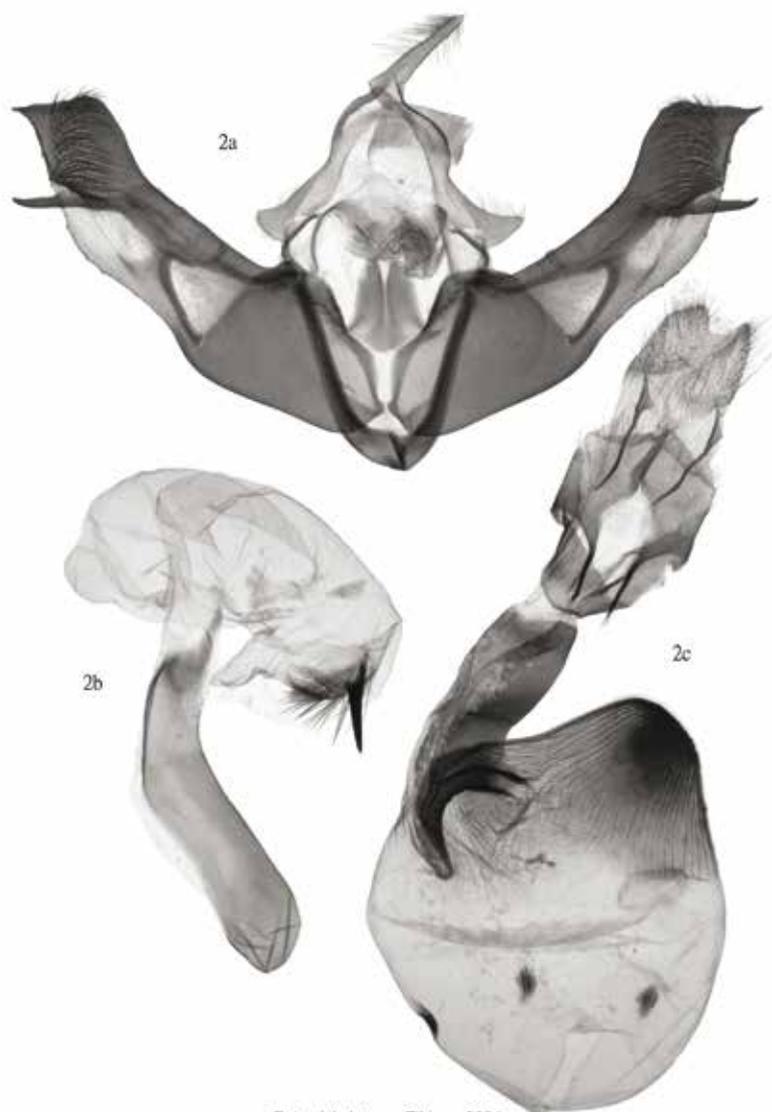
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Polymixis alborsa sp. n.
BJ1567m BJ1590f



Polymixis latesco Fibiger, 2001
BJ1584m BJ1585f



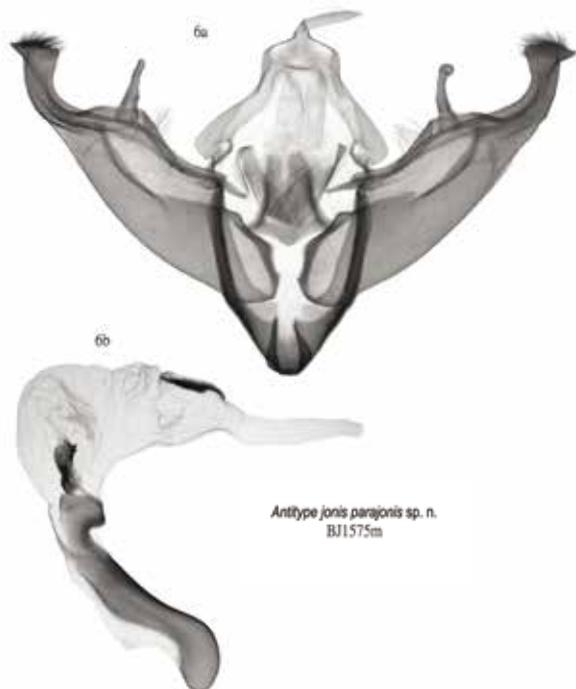
Polymixis trisignata (Menétriés, 1847)
BJ1588m BJ1589f



Apamea minoc sp. n.
BJ1578m (with brush organs) BJ1593f



Antitype jonis jonis (Lederer, 1865)
BJ1682m BJ1683f



Antitype jonis parajonis sp. n.
BJ1575m