

A new *Amphipoea* Billberg, 1820 species from West Siberia (Lepidoptera, Noctuidae)

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Abstract – Description and illustrations of a new Siberian *Amphipoea* species, *A. bifurcata* sp. n. and the related taxa are given. With 7 figures.

The recent exploration of the Central Asian and Siberian dry and moderately wet lowland and montane steppes and semi-desert-like territories has revealed the fact that the genus *Amphipoea* BILLBERG, 1820 is represented, besides the well-known, widespread Euro-Siberian taxa (e. g. *A. fucosa* FREYER, 1830, *A. lucens* FREYER, 1845, *A. crinanensis* BURROWS, 1908), also by some stenochorous species (GYULAI 1989, GYULAI & RONKAY 1990) which had been discovered and described in the last decade. These species are restricted, by our knowledge, to relatively small areas and associated with well-defined types of habitats (these are dry, stony steppes on the plateaus of the south-west part of the Mongol Altay Mts for *A. chovdica* GYULAI, 1989; flat, saline, semi-desert around a shallow, saline lake at the northern foothills of the Ih Bogd Mt., north-eastern part of the Govi Altay Mts for *A. szabokyi* GYULAI et RONKAY, 1990, resp.).

As a result of the collectings of a joint expedition of the Biological Institute, Novosibirsk and the Hungarian Natural History Museum, Budapest to the west Siberian steppe territories, a further, previously unknown *Amphipoea* species was discovered in the dry steppe zone at the Karasuk steppe reserve, close to the Karasuk Research Station. Subsequently this species was recognized also in the material of the Zoological Museum of the Biological Institute.

The description of this new species and the short survey of the composition of the Noctuidae fauna of the late summer period of this region, with special regard to the *Amphipoea* species, are given subsequently. It should be noted that a peculiar *Amphipoea* specimen was collected the genitalia of which differ strikingly from any other *Amphipoea* taxa occurring in the western and south-western parts of Siberia, displaying higher similarity with only *A. chovdica* GYULAI. As we had no opportunity to find further specimens in the extensive material collected in various types of habitats of the steppe, forest steppe and southern taiga belts, the specific identity of this specimen is open to doubt. Consequently the specimen is mentioned and illustrated here without description, although it belongs most probably to another, still undescribed species.

Amphipoea bifurcata sp. n. (Figs 1-2, 8)

H o l o t y p e: male, Russia, W Siberia, Prov. Novosibirsk, Karasuk steppe, Krotovaia Lyaga, 13-20.08.1990, leg. DUBATOLOV & RONKAY; deposited in coll. HHNM, Budapest. – **P a r a t y p e s:** 8 specimens from the same locality and data, coll. Biological Institute, Novosibirsk, P. GYULAI (Miskolc) and HHNM, Budapest. Slide Nos 584 GYULAI, 3925 RONKAY (males).

D e s c r i p t i o n. Wingspan 29-32 mm, length of forewing 12-13 mm. Ground colour of head and thorax light, uniform reddish-brown, with a few scattered, darker brown hairs only. Forewings reddish-brown with a fine pinkish shade and a slight ochreous irroration, mostly in apical part. Ante- and postmedial lines fine, sinuous, double, dark

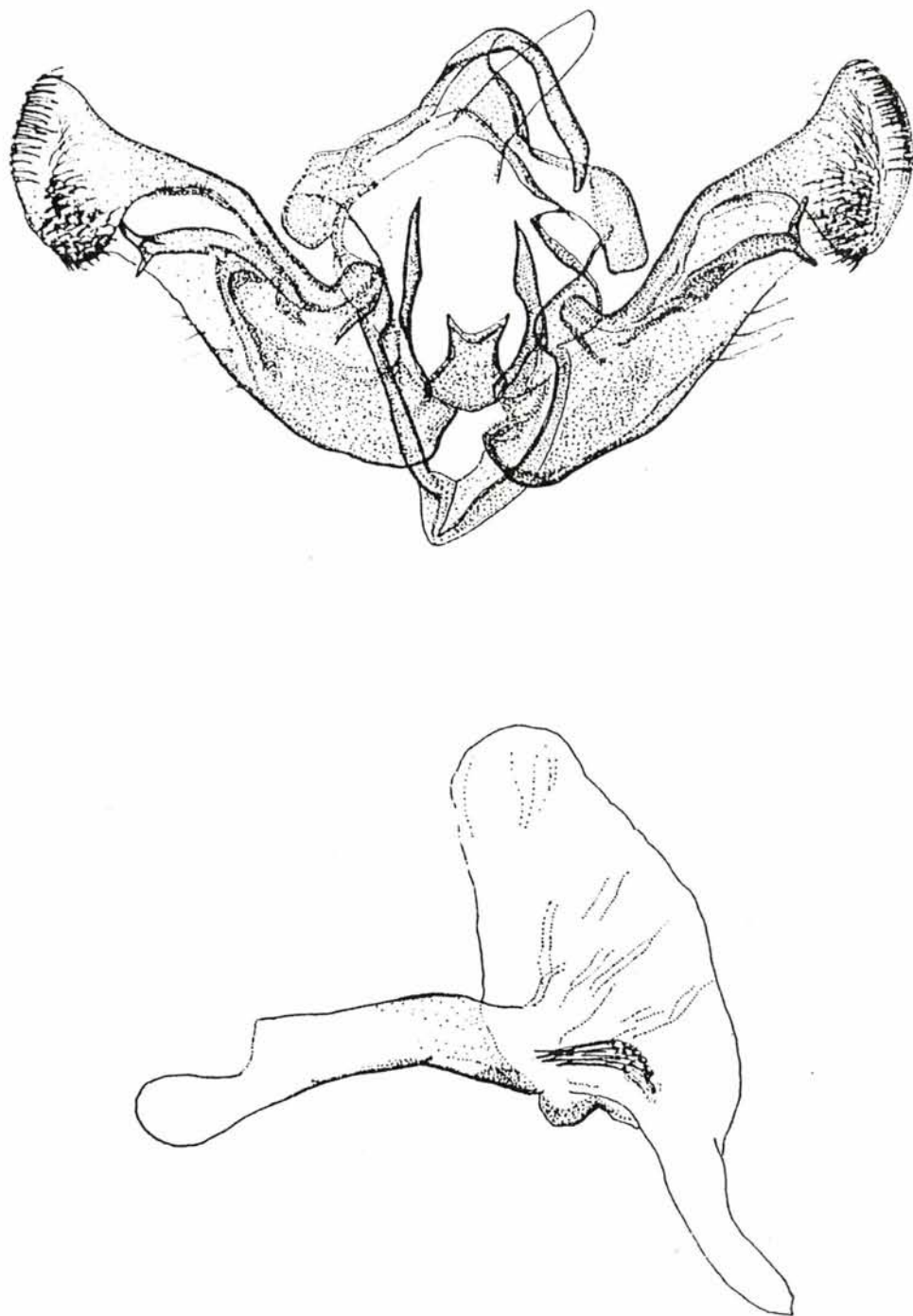


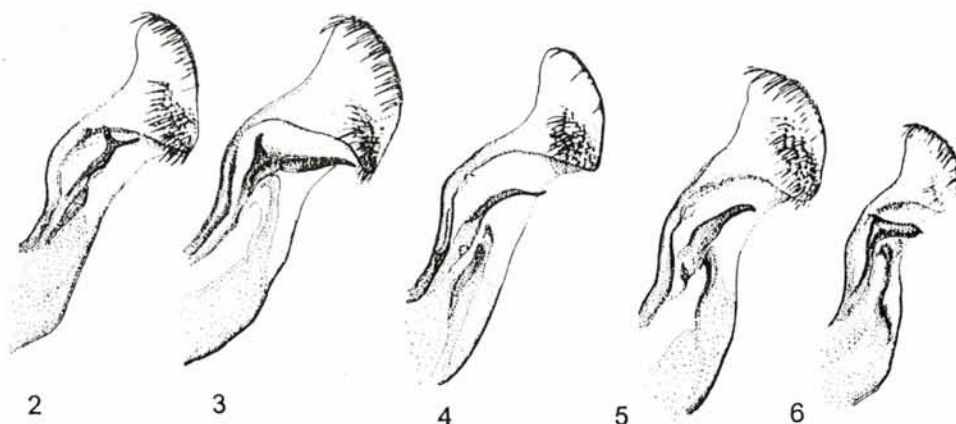
Fig. 1. Male genitalia of *Amphipoea bifurcata* sp. n. Paratype male, Russia, W Siberia, Prov. Novosibirsk, Karasuk steppe, Krotovaia Lyaga, 13-20.08.1990, leg. DUBATOLOV & RONKAY; slide No. 3925 RONKAY

red-brownish lines; subterminal a pale brownish shadow. Medial line conspicuous, represented by a diffuse, dark grey-brown stripe forming almost an Y-mark, its upper part consists of two streaks bordering reniform on inner and outer sides and fused below cell to a common stripe running to inner margin. Orbicular and reniform stigmata present, former small, rounded, filled with orange-brown, its outline often indistinct, latter large, orange-yellowish, more or less quadrangular; claviform regularly deleted. Terminal line darker brown, cilia light pinkish-brown. Hindwings greyish-brown, cellular lunule fine, well-discernible, marginal field suffused with darker brown; cilia pale pinkish. Underside of wings faded ochreous-pinkish, ghosts of stigmata, a pale transverse line and discal spot(s) usually clearly visible. – **Male genitalia** (Figs 1-2): uncus long, relatively strong, tegumen broad, rather low. Fultura inferior a large, pear-shaped plate, vinculum sclerotized, V-shaped. Valva elongated with more or less parallel margins, angled at distal third. Cucullus relatively narrow with apex slightly pointed, corona and crista well-developed. Sacculus moderately long, clavius sclerotized, long, wedge-shaped. Ampulla minute, basal part of harpe flattened, croissant-shaped, apical part long, sclerotized, terminated in a characteristic furca having almost equal, short arms. Aedeagus long, cylindrical, slightly arcuate, carina with a stronger plate on ventral side. Vesica spacious, ellipsoid, ductus ejaculatorius projected ventro-laterally. Its walls membranous with very fine scobination, basal part with a small, granulosely sclerotized, semiglobular protuberance on ventral side and a bundle of long, spiniform cornuti postero-laterally.

Female: unknown.

Diagnosis. The new species externally resembles the members of the *fucosa*-group and the *asiatica*-group, the variation of the taxa belonging of these groups often has a very wide range with bigger or smaller overlaps of the related species. The typical features of *A. bifurcata* are the well-defined, dark grey-brownish, more or less Y-shaped medial stripe, the red-brownish ground colour with pinkish shining and the less striking, orange-yellowish reniform stigma; this combination of these elements is unusual within the two species-groups and suggests a need to check the genitalia.

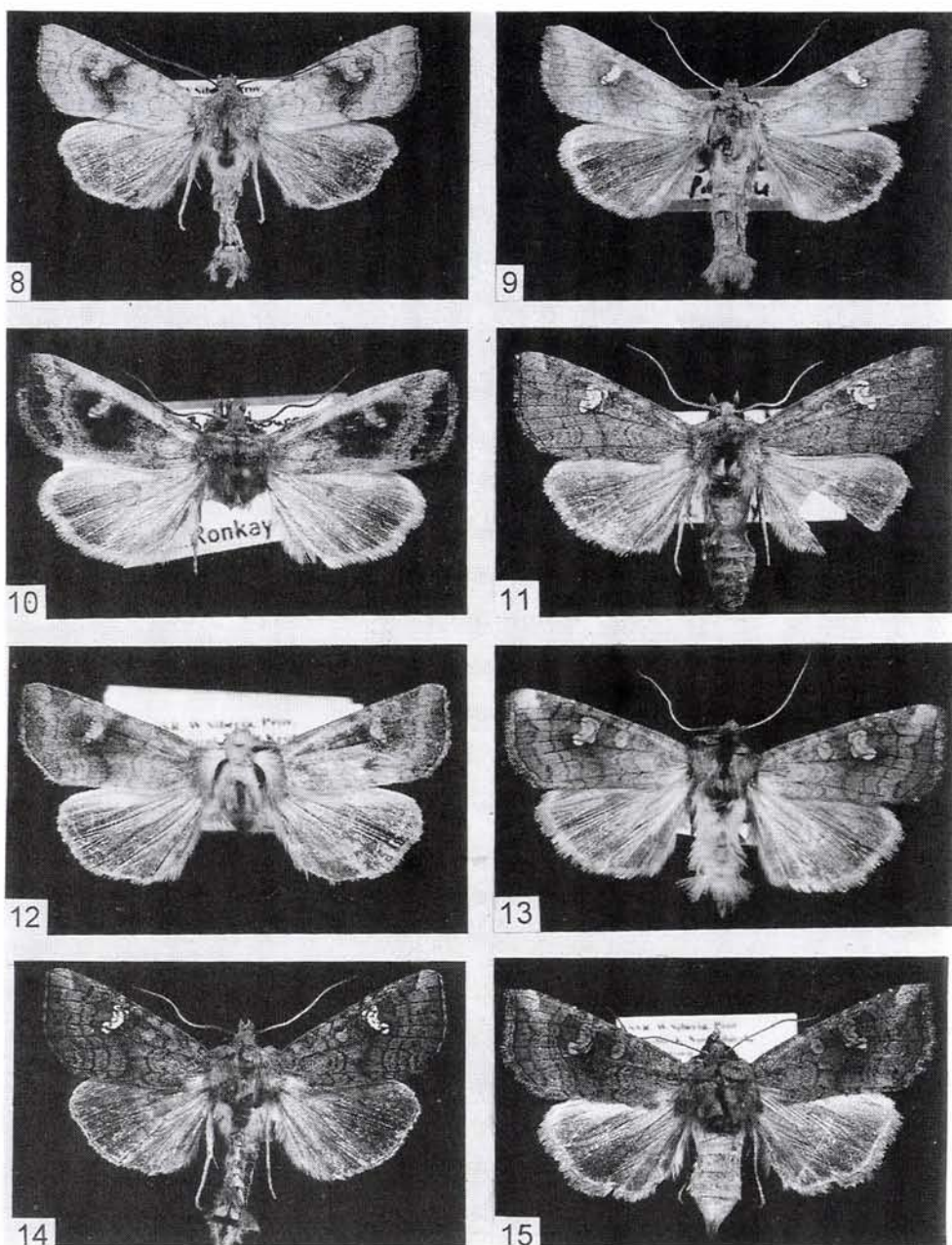
The distinctive features of the species are easily recognizable in the male genitalia. The configuration of the harpe – bifurcate with short, almost equal, straight arms – is unique within the genus, with the exceptions of *A. oculate* (LINNAEUS, 1761) which has the harpe forming also a short furca but the arms of which are much thicker, stronger and apically acute and its base is significantly shorter and broader. The other members of the species-groups under discussion have the harpe either simple, long, wedge- or spine-like (*A. chovdica* GYULAI,



Figs 2-6. Right valvae of *Amphipoea* species: 2 = *Amphipoea bifurcata* sp. n. Paratype male, Russia, W Siberia, Prov. Novosibirsk, Karasuk steppe, Krotovaia Lyaga, 13-20.08.1990, leg. DUBATOLOV & RONKAY; slide No. Gy 584 GYULAI, 3 = *Amphipoea fucosa* FREYER, Mongolia, Chovd aimak, coll. P. GYULAI, slide No. Gy. 203 GYULAI, 4 = *Amphipoea* sp., Russia, W Siberia, Prov. Novosibirsk, Karasuk steppe, Krotovaia Lyaga, 13-20.08.1990, leg. DUBATOLOV & RONKAY; slide No. 3130 RONKAY, 5 = *Amphipoea chovdica* GYULAI, Paratype, Mongolia, Chovd aimak, coll. P. GYULAI, slide No. Gy. 202 GYULAI, 6 = *Amphipoea oculata* LINNAEUS, Hungary, Jósvald, coll. P. GYULAI, slide No. Gy. H-16 GYULAI



Fig. 7. Male genitalia of *Amphipoea* sp., Russia, W Siberia, Prov. Novosibirsk, Karasuk steppe, Krotovaia Lyaga, 13-20.08.1990, leg. DUBATOLOV & RONKAY; slide No. 3130 RONKAY



Figs 8-15. 8 = *Amphipoea bifurcata* sp. n., holotype, W Siberia, 9 = *A. chovdica* GYULAI, paratype, Mongolia, 10 = *A. szabokyi* GYULAI & RONKAY, paratype, Mongolia, 11 = *A. asiatica* BURROWS, W Siberia, 12 = *A. sp.*, W Siberia, 13 = *A. fucosa* FREYER, W Siberia, 14-15 = *A. lucens* FREYER, W. Siberia

1989), or bifid (e.g. *A. fucosa* (FREYER, 1830), *A. lucens* (FREYER, 1845), *A. szabokyi* GYULAI & RONKAY, 1991, *A. burrowsi* (CHAPMAN, 1912), *A. ussuriensis* (PETERSEN, 1914) with short or very short, often curved costal extension and much longer and stronger ventral arms.

The new species belongs to the *fucosa*-group, representing an ancient stage in the line of evolution of *Amphipoea* which shows the trend of dyssymmetrization of the bifid harpe.

Distribution. The species is known from only the type locality, the southern, dry zone of the West Siberian steppe belt. The habitats are closed or less open, dry short-grass steppes and dry *Artemisia* steppes appearing in an irregular, mosaic-like pattern together with the higher, more dense vegetation of the deeper depressions and the lake-shores and some smaller groves of *Betula* and *Populus tremula*; the soil substrate of the area is saline variegated by sandy patches.

Remarks. The southern steppe region is surprisingly rich in *Amphipoea* taxa: the new species was found sympatrically and syntopically with *A. fucosa*, *A. lucens*, *A. asiatica* (BURROWS, 1911), *A. ochreola* (STAUDINGER, 1882) and a single, unidentified *Amphipoea* specimen (see Figs 11-15). The majority of the Noctuidae fauna of this late summer period consists of species typical of the steppe belt and the Central Asian semi-arid territories, the rate of the more hygrophilous (and more or less widespread, euryoecic) noctuids is relatively low, connecting mostly to the littoral and riparian vegetation. The characteristic, faunistically interesting species, found in mid-August 1990, are as follows: *Agrotis trifurca* EVERSOMANN, 1837, *Euxoa basigramma* (STAUDINGER, 1870), *E. deserta* (STAUDINGER, 1870), *Nyssocnemis eversmanni* (LEDERER, 1853), *Hadena picturata* (ALPHERAKY, 1882), *Discestra stigmata* (CHRISTOPH, 1887), *Chortodes brevilinea* (FENN, 1864), *Luperina zollikoferi* (FREYER, 1836), *Oncocnemis nigricula* (EVERSMANN, 1847), *O. senica senica* (EVERSMANN, 1857), *Cucullia splendida* (STOLL, 1782), *C. xeranthemi* BOISDUVAL, 1840, *C. biomata* FISCHER DE WALDHEIM, 1840, (larvae of *C. scopariae* DORFMEISTER, 1853 and *C. absinthii* (LINNAEUS, 1761)), *Euchalcia consona* (FABRICIUS, 1787), *Catocala puerpera* (GIORNA, 1791), *C. neonympha* (ESPER, 1805), etc.

In spite of this richness, the more humid northern steppe and forest steppe belts lose most of the species listed above and only a few of them were seldom observed about 100-150 km northwards from the Karasuk steppe (*E. basigramma*, *N. eversmanni*, *C. brevilinea*, *C. puerpera*). They were substituted by more widespread Siberian and Euro-Siberian taxa, inhabiting the closed, tall-grass steppes and forest steppes in Siberia and often penetrating into the rather moist lowland and hilly northern ranges of Central and East Europe, southern Scandinavia and some parts of the Atlantic Coast along the birch-pine belt at the southern edge of the taiga (e.g. *Euxoa lidia adumbrata* (EVERSMANN, 1842), *E. cursoria* (HUFNAGEL, 1766), *Cryptocala chardinyi* (BOISDUVAL, 1829), *Mythimna velutina* (EVERSMANN, 1846), *Staurophora celsia* (LINNAEUS, 1758), *Celaena haworthii* (CURTIS, 1829), *Apamea oblonga* (HAWORTH, 1809), *Hydraecia amurensis* STAUDINGER, 1892, *Polychrysia esmeralda* (OBERTHÜR, 1880), *Autographa mandarina* (FREYER, 1845), *Catocala pacta* (LINNAEUS, 1758), *C. adultera* MENETRIES, 1856, etc.).

The "*Amphipoea* fauna" of the ranges north of the dry steppe belt was found as really poor, only the two Transpalearctic species, *A. fucosa* and *A. lucens* were observed crossing the tall-grass steppe, forest-steppe and broad-leaved taiga belts. The individual numbers of *A. fucosa* were more or less constant in all the collecting sites of these zones while *A. lucens* was abundant at the transitional zone of the forest steppe and the closed *Betula-Pinus* forests.

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