

## New species of Noctuidae (Lepidoptera) from Asia

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**Abstract:** Descriptions of a new genus, *Seibaldia* gen. nov., 11 new species, *Diptherocomme xichangae*, *D. nanlingi*, *D. peregovitsi*, *D. ligula*, *Amphipyra acornuta*, *Seibaldia marion*, *Actinotia bicomuta*, *Auchmis moczarlaszloi*, *Apamea cryptapamea*, *Polymixis (Eremophysa) serratilinea*, *Agrotis divarticulata* spp. n., and a new subspecies, *Chersotis fimbriola peninsularis* subspec. nov., are given. With 24 colour images and 37 genitalia figures.

**Key words:** Noctuidae, new genus, new species, Central and Inner Asia.

### Introduction

The present paper is a continuation of a series of articles on new taxa of Asian Noctuidae (s. l.), particularly from China. The taxonomic treatment of the Central and eastern Asiatic Noctuidae is based principally on the fundamental works of Boursin (1940, 1954, 1963, 1964, 1967, 1969, 1970, etc.) and Draudt (1950), the subsequent milestone publications (e.g. HACKER (1990, 1996, 1998, 2004, etc.), HACKER & PEKS (1990, 1992), HACKER & WEIGERT, 1990, HREBLAY & RONKAY (1997, 1998, etc.), HREBLAY & KONONENKO (1997); HREBLAY, RONKAY & PLANTE (1998); GYULAI, RONKAY & SALDAITIS (2011), GYULAI, RONKAY, RONKAY & SALDAITIS (2013), etc.), and the published seven volumes of the WITT Catalogue. The accumulated information on the eastern Palaearctic and Oriental Noctuoidea provides the opportunity to recognise hitherto unknown or misidentified Noctuidae species. Much better exploration of the Asiatic Noctuoidea Fauna, with its great diversity, are supported by a vast amount of material from this region, collected during the expeditions of private collectors (B. BENEDEK, V. GURKO, B. LEBRET, S. MURZIN, V. NYKL, I. PLIUSH, A. POUGET, V. SINIAEV, etc.) during the last two decades.

### Systematic Part

#### *Diptherocomme xichangae* spec. nov.

(Plate 1, Figs 1-2; gen. figs 1-2)

**Holotype:** ♂, China, S. Sichuan, 20 km S of Xichang, 3000 m, 20-22.VII.2005, leg. S. MURZIN, slide No.: PGY 3710m (coll. P. GYULAI, later deposited in the Hungarian Natural History Museum, Budapest, Hungary).

**Paratypes:** China, Sichuan. 5 ♂♂, with the same data as the holotype, slide No.: PGY 3806m (coll. P. GYULAI and G. RONKAY).

**Diagnosis.** Wingspan 34-37 mm. The closest relative of *Diptherocomme xichangae* is *D. kuni* HREBLAY & RONKAY, 1999, but *D. xichangae* resembles also *D. divarticulata* HREBLAY & KONONENKO, 1999 in both the external and genitalia features. *D. xichangae* can be distinguished from *D. kuni* in the more zigzagged antemedial line and the narrower black costal streak above the black patch between orbicular and reniform stigmata; from *D. divarticulata* in the less basad projecting antemedial line, and less sinuous postmedial line with smaller projection towards the marginal field.

**Male genitalia** (Figs 1-2). The genitalia of *D. xichangae* are similar to those of the two above-mentioned congeners, but there are easily recognisable specific differences between the three related taxa. The new species differs from *D. kuni* in the longer, hooked uncus, ventrally broader, shield-like juxta without slight depression dorsally, slimmer editum, well-separated sclerotised carinal plates and two parallel, much enlarged dorsal

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cornuti fields in the vesica, of which the proximal field is well separated and located ventrally, whereas the subterminal cornuti field is longer and narrower, consisting of more diverse cornuti. *Diptherocome xichangae* is distinguished from *D. diverticulata* in the longer, hooked uncus, higher, evenly broad juxta, terminally acutely pointed and much longer, not furcate cucullus, longer, terminally broadened editum, differently shaped and shorter subterminal diverticulum of the vesica, and much shorter (ca. half-sized) cornuti fields.

Female unknown.

**Biology and distribution.** The species has been found only in the type locality, in a medium-high altitude forest region in Sichuan.

**Etymology.** The new species is named after the type locality.

***Diptherocome nanlingi* spec. nov.**

(Plate 1, Figs 3-4; gen. figs 3-5)

**Holotype:** ♂, China, Hunan, Nanling Mts, Shikengkong Mt., 24°54'N, 112°57'E, 10-15.XI.2003, 1500 m, leg. V. SINIAEV & Team, slide No.: PGY 3829m (coll. P. GYULAI, later deposited in the Hungarian Natural History Museum, Budapest, Hungary).

**Paratypes:** China, Hunan. 4 ♂♂, 1 ♀, with the same data as the holotype, slide Nos: PGY 3551m, PGY 3828f (coll. P. GYULAI, one male in coll. G. RONKAY); 2 ♂♂, 1 ♀, same data as of the HT, but 25. X. -7. XI. 2003.; 2 ♂♂, same data as of the HT, but 1-30. XI. 2006. coll. P. GYULAI

**Diagnosis.** Wingspan 30-33 mm. *Diptherocome nanlingi* belongs to the *D. chrysochlora* species-group; the closest relatives are *D. chrysochlora* (HAMPSON, 1898) and *D. thainympha* HREBLAY & RONKAY, 1999. The main diagnostic feature distinguishing *D. nanlingi* from both related taxa is the generally more contrasting wing pattern, with more strongly marked, more sinuous and serrate, black and white defined antemedial and post-medial crosslines, and the more conspicuous orbicular and reniform stigmata, both more distinctly encircled with black lines than in the two closely allied species.

**Male genitalia** (Figs 3-4). The male genitalia of *D. nanlingi* differ from those of *D. chrysochlora* and *D. thainympha* in the ventrally much broader, subpentagonal juxta with two longer dorsal processes, the different shaped editum with rounded extension towards the proximal part of the valva, the simple, acutely pointed and somewhat arcuate (not asymmetrically furcate) cucullus, the narrow subbasal cornuti field in the vesica and the more diverse cornuti of the subterminal-terminal cornuti field, with partly separated, stick-like extension, which is densely covered with fine cornuti.

**Female genitalia** (Fig 5). The female genitalia of the new species are most like those of *D. thainympha*, but the sclerotised plate of the antrum is much shorter, rather shield-like and not calyculate, the ductus bursae is very distinctive, being almost straight and evenly broad, distally with asymmetrical sclerotisation, and the corpus bursae is much longer, sacculiform (not globular as in *D. thainympha*). The female genitalia of *D. nanlingi* are strikingly different from those of *D. chrysochlora*, due to the much broader, rather shield-like and not calyculate sclerotised plate of the antrum, the much stronger distal sclerotisation of ductus bursae, the less prominent appendix bursae, and the much more ample, more sacculiform corpus bursae.

**Biology and distribution.** The new species was found in a relatively low altitude forested area in the Nanling Mts in the Hunan Province in China.

**Etymology.** The new species is named after the type locality.

***Diptherocome peregovitsi* spec. nov.**

(Plate 1, Fig. 5; gen. fig.6)

**Holotype:** ♀, Vietnam, Prov. Lao Cai, Fansipan Mts, 3 km NW Cat Cat, 2000 m, 1.XII.1997, leg. G. KÓSA, L. PEREGOVITS & L. RONKAY; slide No.: RL6096f (coll. HNHM Budapest).

**Taxonomic note.** The unique specimen of *Diptherocome peregovitsi* was incorrectly associated with the

male holotype of *D. daliangi* HREBLAY & RONKAY, 1998. The conspecificity of the two specimens has already been disputed during the description of *D. daliangi* (see the Remarks, HREBLAY & RONKAY 1998: page 112) and the subsequent study on the members of the *D. chrysochlora* species-group revealed the correct position of the unnamed species, which had been represented by the female paratype of *D. daliangi*.

**Diagnosis.** The new species is an allopatric sister species of the Taiwanese *D. autumnalis* B.S. CHANG, 1991. The two species are rather similar externally, the main differences between them are as follows: *D. peregovitsi* has smaller, more oblique and at lower third less dilated orbicular and reniform stigmata, deeper, more angled arches of postmedial line, and less distinctly marked hindwing underside with weaker, less sharply defined discal spot and transverse line. The members of the *D. chrysochlora* species-complex (*D. chrysochlora*, *D. thainympha*, *D. nepalichlora* HREBLAY & RONKAY, 1999, and *D. impectinata* HREBLAY, PEREGOVITS & RONKAY, 1999) are easily separable from the above-mentioned two species by the differently shaped, medially more angulate forewing outer margin, the more 8-shaped reniform stigma, the less sinuous postmedial line and the uniformly darkened marginal area with conspicuous, whitish-ochreous, zigzagged subterminal line which extends from forewing apex to tornus. Wingspan 33 mm, length of forewing 15 mm.

**Female genitalia** (Fig. 6). The female genitalia of the new species are most similar to those of *D. autumnalis* (Fig.7); these two species easily distinguished from *D. nepalichlora* and *D. impectinata* by their much longer ductus bursae, the smaller, more conical appendix bursae, the stronger, more dense sclerotisation of the posterior part of bursa and the shorter, more elliptical-ovoid corpus bursae. The differential features of *D. peregovitsi* and *D. autumnalis* are as follows: the new species has, in comparison with *D. autumnalis*, shorter and more quadrangular ostium bursae (antrum), significantly shorter, proximally dilated ductus bursae with weaker sclerotised ventro-lateral and hyaline dorso-lateral walls, more laterally positioned junction of ductus bursae with corpus bursae, which is situated opposite the otherwise smaller and more conical appendix bursae, and the more strongly sclerotised, more quadrangular sclerotised patch of corpus bursae which is less extended towards the medial third of the bursae than in *D. autumnalis*.

**Biology and distribution.** *D. peregovitsi* is a member of the winter fauna of the Fansipan Mts in Northern Vietnam. The unique female specimen was collected at light in a high montane primary forest, together with specimens of a number of typical winter noctuid species of genera such as *Nyctycia* HAMPSON, 1906, *Meganyctycia* HREBLAY & RONKAY, 1998, *Isolasia* WARREN, 1911, *Daseutype* HREBLAY, PEREGOVITS & RONKAY, 1999, *Potnyctycia* HREBLAY & RONKAY, 1998, *Rhynchaglaea* HAMPSON, 1906, *Elwesia* HAMPSON, 1894 and *Tiliacea* TUTT, 1896,

**Etymology.** The new species is dedicated to our colleague and friend, László PEREGOVITS, who was one of the collectors of the type specimen.

### *Diphterocome ligula* spec. nov.

(Plate 1, Figs 7-8; gen. figs 8-9 and 12)

**Holotype:** ♂, China, Sichuan, Volong Nature Reserve, Siguliang Mt., 31°09'N, 103°20'E, 1.-30. VI. 2006, leg. V. SINJAEV & team, slide No.: PGY 3841m (coll. GYULAI, later deposited in the Hungarian Natural History Museum, Budapest, Hungary);

**Paratypes.** **China, Sichuan.** 7 ♂♂, 2 ♀♀, with the same data as the holotype. **Shaanxi.** 1 ♂, Taibaishan NP, 1300-1500 m, 20.VIII.-4.IX.1998, 33°35'N, 107°43'E, leg. V. MURZIN & V. SINJAEV; 6 ♂♂, 9 ♀♀, Tsinling Mts, South Taibaishan, Houzhenzi, 1900 m, 33°53'N, 107°49'E, June-October 1999, leg. local collector; 2 ♂♂, 2 ♀♀, from the same locality, 15.VIII.-15.X.1999, leg. local collector; 2 ♂♂, from the same locality, 12-16.VIII.1999, leg. V. SINJAEV & A. PLUTENKO; 1 ♂, 2 ♀♀, Tsinling Mts, South Taibaishan, Houzhenzi, 2200 m, 33°53'N, 107°49'E, 12-16.V.2000, leg. V. SINJAEV & A. PLUTENKO; 3 ♀♀, Tsinling Mts, South Taibaishan, Houzhenzi, 1600 m, 33°53'N, 107°49'E, 12-16.V.2000, leg. V. SINJAEV & A. PLUTENKO; 3 ♂♂, 1 ♀, Dabashan, 15 km S of Shou Man, 1800 m, 25.V.14.VI.2000, leg. V. SINJAEV & A. PLUTENKO (in coll. P. GYULAI and G. RONKAY); slide Nos: PGY 3803m, PGY 3857f. 1 ♂, 1 ♀, same data as of the HT; 2 ♂♂, 3 ♀♀, same data as of the HT, but 1-31. VII. 2005; 4 ♂♂, 3 ♀, China, Prov. Shaanxi, Tsinling Mts, Fopin Mt., 33°45'N, 107°38'E, 1900 m, 1-30. X. 2005, leg. V. SINJAEV, coll. P. GYULAI.

**Diagnosis.** Wingspan 32-34 mm. *Diphterocome ligula* is the sister species of *D. marmorea* (LEECH, 1900) (Plate 1, Fig. 6). The most easily recognizable difference between the two taxa is in the broad, brown subterminal stripe which is largely obsolescent in *D. ligula* and clearly visible only in the tornus; the triangular, rather tongue-shaped dark brown patch on the basal side is smaller and more pointed. The subterminal stripe is much stronger, crenellate-continuous in *D. marmorea*, and the dark tornal patch is larger, with rounded tip. The

hindwing colouration of the two species is also dissimilar, that of the the new species with more conspicuous, darker marginal suffusion. On the underside of the wings, *D. ligula* has more contrasting pattern, with darker, continuous forewing subterminal field and stronger hindwing discal spot, transverse line and dark marginal suffusion than in the sister species.

*D. ligula* is easily distinguished from the externally similar *D. discibrunnea* (MOORE, 1867) and *D. pulchra* (WILEMAN, 1912) in the more slender body (particularly the slimmer thorax), obsolescent–conjunctural brown forewing subterminal field and the more conspicuous, evenly darker suffused marginal field of the hindwing.

**Male genitalia** (Figs 8-9). The male genitalia of *D. ligula* have, in comparison with *D. marmorea* (gen. figs. 10-11), longer uncus, basally broader, terminally less elongated valva, larger harpe and broader diverticulum of the vesica; in comparison with *D. discibrunnea* and *D. pulchra*, in the conspicuously longer and much more slender harpe, although the shape of the valva is more like that of these species than that of *D. marmorea*.

**Female genitalia** (Fig 12). The distinctive feature separating the two closely related species is the shape and size of corpus bursae, which is much more ample in *D. ligula*, being proximally ca. twice as broad as in *D. marmorea* (gen. fig. 13). In addition, the sclerotised plate of the antrum of *D. ligula* is broader, anteriorly somewhat more depressed, the ductus bursae is longer, and the appendix bursae is somewhat larger than in *D. marmorea*.

**Biology and distribution.** The new species was found in the Provinces Sichuan and Shaanxi in China.

**Etymology.** The specific name refers to the liguliform dark brown tornal patch.

### ***Amphipyra acornuta* spec. nov.**

(Plate 2, Figs 1-2; gen. figs 14-15)

**Holotype:** ♂, China, Gansu, 2350 m, Min Shan, 50 km W of Wudu, Dayao Shan, Jingxiu, 100 km SE of Liuzhou, 33°30'N, 104°35'E, 27.VII.-14.VIII.2000, leg. PLUTENKO & SINIAEV, slide No.: PGY 1517m (coll. P. GYULAI, later deposited in the Hungarian Natural History Museum, Budapest, Hungary).

**Paratype:** China, Gansu. 1 male, with the same data as the holotype, slide No.: PGY 3866m (coll. G. RONKAY).

**Diagnosis.** *Amphipyra acornuta* is a rather small species, with wingspan 33-34 mm. An unmistakable species, it can be easily distinguished from all but one of the known more or less uniformly brownish *Amphipyra* OCHSENHEIMER, 1816 species by the lack of the white or whitish defined crosslines, and the absence of the white apical patch or the whitish suffusion from the subterminal area of the forewing and the reddish colouration (or tint) from the hindwing. In addition, it is much smaller than most of the externally somewhat similar species, although *A. subrigua* BREMER & GREY, 1853 is only slightly larger on average. The wings of the new species are uniformly shining light brown, with somewhat darker broad hindwing marginal field. The forewing pattern is simple, only the sinuous antemedial and the tortuous-crenellate postmedial crosslines are conspicuous, while the orbicular and reniform stigmata are obsolete, defined by minute dots only. The underside of the wings is shining pale ochreous-brown, while the traces of the forewing postmedial line and the hindwing transverse line and discal spot are conspicuous, remarkably darker brown.

**Male genitalia** (Figs 14-15). The huge, robust uncus and the elongated spatulate valva without distinctly developed processes are shared features of the new species and the taxa of the *A. charon* DRAUDT, 1950, and the *A. schrenkii* MÉNÉTRIÉS, 1859, species-groups. The specific autapomorphy of the male genitalia of *A. acornuta* is the complete absence of the armature of the vesica penis, as the only remarkable sclerotised part of the aedeagus is the wedge-shaped, long, sclerotised carinal plate, no cornuti field or even a single cornutus is visible on the tube of the vesica.

**Biology and distribution.** *Amphipyra acornuta* is known from the type-locality (China, Gansu) only.

**Etymology.** The new species is named after the most characteristic feature of the male genitalia, the lack of cornuti in the vesica.