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New Noctuidae (Lepidoptera) species from West and Central Asia

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New Noctuidae (Lepidoptera) species from West and Central Asia – Two new species, Conisania verhulsti sp. n. (China, India) and Dasypolia (Dasythorax) monotona sp. n. (China) and a new subspecies, Leucochlaena fallax reticularis ssp. n. (Central Turkey) are described. With 19 figures.

INTRODUCTION

The intensive collectings of the last some years in various parts of West and Central Asia resulted in a large amount of distribution data of poorly known Noctuidae species as well as discovery of undescribed species. Present paper contains the descriptions of three new noctuid taxa from Central Turkey and from the Himalayan region, respectively.

In 1992, Josef Verhulst collected an interesting Noctuidae species in NW China, the male genitalia of which show an unusual, extremely simplified structure of the genital capsula while the configuration of the vesica is being typical for some Central Asian groups of *Conisania* Hampson, 1905. The comparative study of the genitalia proved that the two specimens represent an undescribed *Conisania* species.

Surprisingly, the extensive Noctuidae material collected by P. Kautt and V. Weisz in Himachal Pradesh in India contained the third specimen of this curious hadenine species, inhabiting the higher altitudes of the Tibetan and Himalayan regions. The description of the new species is given below.

Conisania verhulsti sp. n. (Figs 1-5, 16-18)

Holotype: male, NW China, Gansu, Xiahe, 3000 m, 8.07.1992, leg.: J. Verhulst, gen. prep. No. 576 Gyulai, deposited in coll. P. Gyulai (Miskolc, Hungary).

Paratypes: China: 1 female, Tibet, N. Lhasa, Nyainquentangla, Yangbaying, 4300 m, 3.07.1994, leg. J. Verhulst (coll. Gyulai). India: 1 male, Himachal Pradesh, Spiti, Spiti valley, 6 km SE Kaza, 4100 m, 17.7.1994, No. 41, leg. P. Kautt & V. Weisz (coll. H. Hacker, Staffelstein, Germany).

Slide Nos 4956 Ronkay (male), 664 Gyulai (female).

Description: wingspan 32–33 mm, lenght of forewing 15 mm. Ground colour of thorax and forewings pale, almost unicolorous khaki-brown or ochreous brown, thorax with a few, scattered brownish hairs. Ante– and postmedial lines fine, rather conspicuous, dark brownish, very sinuous; subterminal obsolescent, an interrupted, waved, pale ochreous shadow. Orbicular and reniform stigmata present, encircled with pale ochreous annuli and some darker brown spots. Orbicular rounded, reniform more or less quadrangular; claviform deleted. Cilia darker brownish. Hindwing pale ochreous, suffused with darker brownish, veins somewhat darker; cilia yellowish. Underside of wings shining ochreous or ochreous-grey, crosslines and discal spots pale, fine.

Male genitalia (Figs 1–4): uncus long, weak, tegumen broad, fultura inferior big, elliptical. Valva elongated, costa strongly sclerotized, cucullus relatively narrow, apex without processes but with one very little crista; corona absent. Sacculus broad, harpe flattened, sclerotized, terminated in a characteristic peak. Aedeagus moderately long, cylindrical, partly granulosely sclerotized. Carina sclerotized, its dorsal extension long, ribbon-like, its ventral extension much shorter, weaker, terminated in a strong, large, spine– like cornutus. Vesica broadly tubular, recurved ventrally. Subbasal diverticulum large, semiglobular, armed with numerous strong spinules, distal end of vesica bearing with a narrow field of fine, spiculiform cornuti.

Female genitalia (Fig. 5): ovipositor relatively short, weak, gonapophyses short. Ostium bursae sclerotized, broadly triangular, tapering proximally. Ductus bursae moderately long, strongly sclerotized, caudally tapering. Corpus bursae large, sacculiform, membranous, with numerous small signa, cervix bursae more or less conical, rugose, apically granulosely sclerotized.

Specific differences. The new species resembles to some *Conisania* or *Sideridis* Hübner, [1821] 1816 species, e.g. *C. capsivora* (Draudt, 1933), *C. xanthothrix* Boursin, 1960, *S. egenoides* Boursin, 1966, *S. egena* (Lederer, 1853), and even to pale, small specimens of *Cornutifera simplex* (Staudinger, 1889) differing from them by its relatively sharp, continuous, strongly waved ante– and postmedial crosslines and the almost completely encircled orbicular and reniform stigmata. The supposedly closest known relative of *C. verhulsti, C. agrotoides* Hacker & Speidel, 1992, is rather dissimilar, resembling to the light forms of *S. satanella* (Alphéraky, 1892).

The male genitalia of *C. verhulsti* is rather remote from all known members of *Conisania*, representing the most extreme stage in the reduction of the clasping apparatus. The distinctive features between *C. verhulsti* and *C. agrotoides* lie in the shape of the uncus (fine, slender in *verhulsti*, relatively short but wide, spatulate in *agrotoides*), the valva (shorter, basally much broader in *verhulsti* with less expressed cucullus terminated in a fine hook), the harpe (short, flattened, lanceolate in *verhulsti*, longer, narrower in *agrotoides*) and the configuration of the vesica (shorter, much broader in *verhulsti* with the extension of the carina forming a strong tooth, the cornuti field is rather short, situated on a semiglobular diverticulum while much longer, tubular in *agrotoides*, without tooth-like extension of carina, cornuti field considerably longer, consisting of shorter cornuti).

It is worth to mention, that the female genitalia of the *Conisania* species are poorly known, therefore the female genitalia of the new species is hardly comparable with any of its closer relatives.

The new species is dedicated to Mr. Josef Verhulst, the collector of the holotype.



Figs 1–5. *Conisania verhulsti* sp. n., male genitalia. 1-2 = holotype, China, Gansu, 3-4 = paratype, India, Himachal Pradesh, 5 = female genitalia, paratype, China, Tibet

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Leucochlaena fallax reticularis ssp. n. (Figs 6–9, 11)

Holotype: male, Turkey, Prov. Sivas, Ziyaret Pass, 1910 m, 5–6.09. 1991, leg. P. Gyulai; slide No. 678 Gyulai (coll. P. Gyulai, Miskolc).

Paratypes: Turkey: a male with the same data; 1 male from the same locality, 2000 m, 21.08.1991, leg. Gy. M. László; two females: Prov. Sivas, Gürün, 6–7.09.1991, leg. P. Gyulai (coll. P. Gyulai, G. Ronkay, Budapest and the Hungarian Natural History Museum, Budapest).

Slide Nos 536 Gyulai, 5095 Ronkay (males), 5063 Ronkay (female).

Description: Length of forewing 11 (holotype)– 11.5 mm (males), 12–13.5 mm (females); wingspan of males 21–22 mm, that of females 21–23 mm. Head and thorax brownish with yellowish and greyish hairs, antennae of males greyish-brown, strongly bipectinate (males) those of females brownish, filiform, without pectination or cilia. Forewing dark brown with finely scattered yellowish scales, veins mainly covered with whitish (males) or yellowish white (females); costal margin with an ochreous stripe. Orbicular elongated, yellowish or light orange, reniform elliptical, brownish–yellow or bright orange; claviform stigma yellowish or light brownish. Transverse lines well marked, double, whitish, defined with brown. Antemedial line strongly sinuous, with a large wave at inner margin, postmedial line oblique, almost straight. Subterminal line obsolete, marked with a row of fine, blackish sagittiform spots along a rather broad, pale ochreous submarginal stripe. Terminal line black, cilia ochreous with a fine medial line. Hindwing pale ochreous in male, irrorated with brown scales, fawn-coloured in female. Crossline well-discernible, dark grey, marginal suffusion narrow, dark, cilia whitish or ochreous.



Figs 6–10. Male genitalia of *Leucochlaena* species. 6-9 = L. *fallax reticularis* ssp. n., Turkey, 6-7 = holotype, 8-9 = paratype; 10 = L. *hoerhammeri*, Turkey

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Figs 11–13. Female genitalia of *Leucochlaena* species. 11 = L. *fallax reticularis* ssp. n., paratype, Turkey, 12 = L. *fallax fallax*, Sarepta, 13 = L. *hoerhammeri*, Turkey

Underside of forewing brownish, lighter and brighter in female. Stigmata and crosslines represented by light shadows. Hindwings greyish-brown (males) or bright, pale yellowish with fine greyish-brown scales (females). Discal spot pale but present (males) or absent (females), shadows of crossline and marginal suffusion often visible; cilia as on upper side.

Male genitalia (Figs 6–9): uncus short, relatively broad, tegumen low, wide, penicular lobes well-developed. Fultura inferior subdeltoidal with high apical plate, vinculum strong, U-shaped. Valvae elongated, narrow with almost parallel margins, cucullus short with apex rounded; corona long, weak. Sacculus short, wide, clavus a rounded, setose plate. Harpe strong, basal bar long, narrow, apical part characteristically deeply bifurcate with arms more or less equal. Aedeagus short, cylindrical, curved, vesica short, semiglobular, with a subapical cornuti field consisting of short, strong spines.

Female genitalia (Fig. 11): ovipositor short, weak, rather broad, gonapophyses very short. Ostium bursae a narrow, sclerotized ribbon, ductus bursae short, broad, flattened and strongly sclerotized. Cervix bursae small, membranous, finely wrinkled. Corpus bursae sacculiform, caudally tapering, with a gelatinous lateral part, fundus weakly membranous, globular; without signa.

Specific differences. The new subspecies of *L. fallax* (Staudinger, 1870) is sympatric with *L. hoerhammeri* (Wagner, 1931) therefore the former view about their allopatric

speciation seems as dubious. The two races of *L. fallax* differ relatively strongly as *re-ticularis* has the forewing pattern more intensive, the orbicular stigma broader, less flattened, the subterminal line forming a broader light stripe, the hindwing marking stronger, sharper. The female genitalia of *L. fallax fallax* and *L. fallax reticularis* also show differences in the shape and asymmetry of the sclerotization of ductus bursae (see Figs 11, 12), but, as the external and genitalic differences of *L. fallax* and *L. hoerhammeri* are essentially larger, *fallax* and *reticularis* are considered as conspecific and separated only on subspecific level.

The species *L. fallax* and *L. hoerhammeri* are easily separable by the diagnosis of Wagner (1931) but there are further, distinctive differences in the external features and the comparison of the genitalia of the two species have not published. The main specific features are discussed below in details:

L. f. fallax and L. f. reticularis

claviform stigma ochreous-yellowish or light brownish

- antemedial line strongly sinuous
- postmedial line oblique, almost straight, not angled inwards above inner margin
- subterminal line a row of arrowheads along an arcuate but not waved stripe
- light pattern mainly yellowish
- hindwing with well-defined crossline running close to marginal suffusion
- valvae more elongated, narrower
- costal lobe absent or weak, rounded
- harpe longer, deeply bifurcate with almost equal arms
- ovipositor longer, more conical
- papillae anales shorter
- ostium bursae a narrow, ribbon-like ring
- ductus bursae short, almost homogeneously sclerotized
- anterior part of corpus bursae with a gelatinous lateral part
- fundus bursae small, globular

- claviform stigma blackish

- antemedial line not or only slightly sinuous
- postmedial line angled inwards above inner margin
- subterminal line sinuous, marked with a pale line and a row of obsolescent arrowheads
- light pattern mainly whitish
- hindwing with a poorly visible crossline, marginal suffusion very weak
- valvae shorter, much broader (Fig. 10)
- costal lobe strong, triangular, sclerotized
- harpe shorter, thicker, apical arms strongly inequal
- ovipositor shorter
- papillae anales longer, narrower
- ostium bursae a large, flattened plate with stronger proximal sclerotization
- ductus bursae longer, granulosely sclerotized, its margins much stronger
- anterior part of corpus bursae without gelatinous lateral part
- fundus bursae elongated, elliptical

L. fallax reticularis ssp. n. appears, on the basis of the collecting data, as very local and infrequent with the flight period being shorter, somewhat earlier than that of L. hoer-

L. hoerhammeri

hammeri. This fact is demonstrated well by the lack of subsequent data although other Hungarian expeditions worked in the same localities in almost the same periods. *L. fallax reticularis* ssp. n. is probably a Central Anatolian endemism, flying sympatrically with the similar *L. hoerhammeri* Wagner in Cappadocia but not found in other regions where *L. hoerhammeri* exists (e. g. from Azerbaijan where *L. hoerhammeri* is not rare).

Dasypolia (Dasythorax) monotona sp. n. (Figs 14–16, 19)

Holotype: male, China, Tibet, Karola, 5200–5600 m, 12.07.1994., leg. J. Verhulst (coll. P. Gyulai, Miskolc).

Slide No. 662 Gyulai.



Figs 14-15. Dasypolia (Dasythorax) monotona sp. n., male genitalia, holotype, China, Tibet

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Description: Lenght of forewing 12 mm, wingspan 23 mm. Head, thorax and abdomen with fine greenish-grey and dark green hairs. Forewing almost uniformly greyishbrown, wing pattern hardly visible. Transverse lines (especially the very sinuous outer one) and the orbicular and reniform, which are covered yellow scales and edged less and more with black. Yellow scales can be seen sporadic on all over the forewings. Cilia whitish, contains yellowish-white – black pieces. Hindwing dark greyish – brown, with whitish cilia. Underside of forewings greyish – brown, veins black, cilia white or grey, changes in strips. Hindwing brownish, lighter and lighter to the basal part because of the less and less dark flatterns.

Male genitalia (Figs 14, 15): uncus short, slender, slightly flattened, tegumen rather low, broad. Fultura inferior broadly subdeltoidal with short apical process, vinculum short, weak, V-shaped. Valva relatively short, medially broadened, cucullus short, triangular with apex acute; corona very short, weak. Sacculus short, rounded, clavus reduced, harpe long, slender, slightly curved, its basal bar fine, arcuate. Costal extension strong, long, wedge-shaped. Aedeagus relatively short, cylindrical, slightly arcuate, ventral plate of carina sclerotized, bill-like. Vesica tubular, upturned dorsally. Basal part broadened, bearing two small diverticula. Distal part tapering, armed with a small but strong, bulbed cornutus and a field of short spinules.

The known populations of *Dasypolia (Dasythorax) "anartinus"* form a complex of three externally strongly different taxa which can be interpreted as distinct, allopatric species, although the differences in the male genitalia, as a general rule within the whole genus, are small. The *D. (D.) anartinus* (Püngeler, 1901) is distributed in the easternmost Tien Shan region, *D. (D.) puengeleri* Hacker & Peks, 1992 (stat. nov.) is known from Ladakh while *D. (D.) monotona* was discovered in eastern Tibet.

Specific differences: The new species is closer to D. (D.) puengeleri by its darker coloration and less contrasting pattern than to the much lighter, more conspicuously marked D. (D.) anartinus. It differs externally from D. (D.) puengeleri by its more elongated, narrower forewings, the lighter irroration is much paler, light ochreous, not yellow-ish-orange the darker hindwing, resp. The main differences in the male genitalia of the two taxa can be found in the configuration of the apical process of the fultura (smaller, shorter in *monotona*, much longer, spine-like in *puengeleri*), the cucullus (narrower, more triangular in *monotona*) and the size of the bulbed cornutus in the vesica which is larger in case of *monotona*.

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Figs 16–17. 16 = Conisania verhulsti sp. n., holotype, China, Gansu; 17 = Conisania verhulsti sp. n., paratype, China, Tibet; 18 = Conisania verhulsti sp. n. paratype, India, Himachal Pradesh; 19 = Dasypolia (Dasythorax) monotona sp. n., holotype, China, Tibet