



A new species *Chrysorithrum duda* (Lepidoptera: Erebiidae) from China

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A new noctuid moth, *Chrysorithrum duda* sp. n., from southwest China is described. Previously the genus *Chrysorithrum* (Butler 1878) included two species with eastern Palaearctic and Manchurian distributions. The new species differs in appearance, genitalia and DNA from its congeners *Chrysorithrum flavomaculata* (Bremer) and *Chrysorithrum amata* (Bremer & Grey).

Nomenclature used here follows Draudt 1950, Gyulai *et al.* 2011, Goater *et al.* 2003, Kononenko *et al.* 1998, Kononenko 2010.

Institutional acronyms used are as follows: AFM = Alessandro Floriani (Milan, Italy); GBG/ZSM = Gottfried Behounek (Grafing, Germany)/Zoologische Staatssammlung, München (Germany); NRCV = Nature Research Centre (Vilnius, Lithuania); OPB = Oleg Pekarsky (Budapest, Hungary); WIGJ = World Insect Gallery (Joniškis, Lithuania); ZFMK = Zoologisches Forschungsmuseum Alexander Koenig.

Chrysorithrum duda Saldaitis & Ivinskis sp. n.

(Figs. 1–3, 7, 8)

Type material. Holotype: male (Fig. 1), China, N. W. Yunnan, near Zhongdian, N 27°24.800', E 99°40.500', 23. V. 2012, H.—3350 m, Floriani leg., in GBG/ZSM collection; (Slide No. BJ 2104m)

Paratypes: 1 male (Fig. 2) the same label as holotype, 2 males (Fig. 3) China, N. W. Yunnan, Lijiang/Zhongdian, near Tuguncun, N 27°29.700', E 99°53.700', 24–25. V. 2012, H.—3200 m, Floriani leg., in the collections of AFM and WIGJ, 1 male, „Li-kiang. (China). Provinz Nord-Yuennan. 21.5.1934. H. Höne“; 1 male, same locality and collector, 21.5.1935; 1 female, same locality and collector, 14.7.1935. Elevation of collecting sites: 2.900–3.200m (H. Höne, i.l.). Coll. Höne, in the collection ZFMK.

Diagnosis. The wing pattern of the *Ch. duda* (Figs. 1–3) is approximation to the combination of the forewings of *Ch. flavomaculata* (Fig. 4) with the hindwing of *Ch. amata* (Figs. 5, 6). The wingspan of the new species (54–59 mm) is larger than *Ch. flavomaculata* (50–56 mm). The forewing median band in *Ch. duda* is curved and surrounded by straight yellow fields, an elongated brown anal dash and crooked median line, whereas in *Ch. flavomaculata* the median band is almost straight and lacks an elongated dash. In the new species the large brown reniform stigma is bifurcate at the base while that in *Ch. flavomaculata* is kidney-shaped with a broad wedge extending basally. The distal part of the forewing in *Ch. duda* has a yellow band that narrows significantly from the costal margin and is curved nearly 90°, whereas in *Ch. amata* the band is uniformly wide medially and then slightly curved in a narrow line to the inner margin. In *Ch. duda* the subterminal and terminal areas of the hindwing are brown with silvery suffusion in the costal and anal areas whereas in *Ch. amata* these are respectively brown and yellow. The new species male genitalia (Figs. 7, 8) of *duda* differ from those of *Ch. flavomaculata* (Figs. 9, 10) by having wide leaf-like valves, short ampula that do not reach the costal edge of the valva, acute valve tips, large valve costal lobes with strongly peaked protuberances, and a short triangular aedeagus diverticulum. In *Ch. flavomaculata* the valva is elongated, the costal protuberance is slender, the ampula extends over the costa, and the finger-like aedeagus-diverticulum is large. The genital structure of *Ch. amata* (Figs. 11, 12) is more divergent from either *Ch. duda* or *Ch. flavomaculata*.

(*Rhododendron brachycarpum*, *R. dauricum*) and various species of pines. Other spring-flying noctuid species collected at the same time included *Panolis pinicortex* Draudt, 1950, *Raphia corax* Draudt, 1950, *Lacanobia kitokia* Gyulai, Ronkai & Saldaitis, 2011 and many others.

Etymology: The new species is named after colleague, prominent Lithuanian collector and director of the World Insect Gallery Juozas Dūda (Joniškis, Lithuania).

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References

- Butler, A.G. (1878) Description of new species of Heterocera from Japan. Part II. Noctuides. *Annals and Magazine of Natural History*, Series 5, 1 (1), 292.
<http://dx.doi.org/10.1080/00222937808682292>
- Draudt, M. (1950) Beiträge zur Kenntnis der Agrotiden-Fauna Chinas aus den Ausbeuten Dr. H. Höne's. *Mitteilungen der Münchner Entomologischen Gesellschaft*, 40 (1), 1–174.
- Gyulai, P., Ronkay, L. & Saldaitis, A. (2011) New Noctuidae species from China (Lepidoptera, Noctuoidea). *Zootaxa*, 2896, 46–52.
- Goater, B., Ronkay, L. & Fibiger, M. (2003) *Noctuidae Europaea. Vol. 1. Catocalinae & Plusiinae*. Entomological Press, Soro, 452 pp.
- Hebert, P.D.N., Cywinska, A., Ball, S.L. & de Waard, J.R. (2003) Biological identifications through DNA barcodes. *Proceedings of the Royal Society B*, 270, 313–321.
<http://dx.doi.org/10.1098/rspb.2002.2218>
- Kononenko, V.S., Ahn, S.B. & Ronkay, L. (1998) *Insects of Korea, Ser. 3. Illustrated Catalogue of Noctuidae in Korea (Lepidoptera)*. Korea Research Institute of Bioscience and Biotechnology & Center for Insects Systematic Korea, Seoul, 507 pp.
- Kononenko, V.S. (2010) *Noctuidae Sibiricae. Vol. 2. Micronoctuidae, Noctuidae: Riculinae–Agaristinae (Lepidoptera)*. Entomological Press, Soro, 475 pp.