



## A new *Polymixis* (Lepidoptera, Noctuidae) species from China

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A new *Polymixis* Hübner species from China's Yunnan and Sichuan Provinces is described and distribution data for *Polymixis albiorbis* Hreblay & Ronkay, 1998 is provided. The type specimen of *Polymixis albirena* (Boursin, 1944) and the *Polymixis magnirena* (Alphéraky, 1892) holotype's genitalia are illustrated.

*Polymixis* is one of the largest triline Noctuidae genera within the Xylenini tribe. It is represented by more than seventy species in the Palaearctic region which are subdivided into numerous lineages or species-groups. Proper taxonomical relationships and the rank of those lineages require further study and revision. One such species-group is the widespread Himalayan *magnirena*-species group, which previously included three species and one subspecies: *P. magnirena*, *P. albirena*, *P. albiorbis* and *Polymixis albiorbis annapurnae* Hreblay & Ronkay, 1999. Individuals of this group are difficult to separate externally as their size, colour and wing shape can be variable from within a single collecting site on the same date. Longer specimen series or DNA sequences are helpful, especially in case of the *P. magnirena*–*P. albirena* species-pair. Moreover, the male and female genitalia of these species are also rather variable and very similar to each other. During a collecting expedition into the mountainous area of western Sichuan in the spring of 2010, a short series of *Polymixis* species including some apparent specimens of *P. "albiorbis"* was collected. In 2012 a trip to North Yunnan yielded longer series of both sexes of *P. magnirena*, *P. albirena* and suspected *P. "albiorbis"*. However, when the latter were compared with paratype specimens of *P. albiorbis*, *P. albiorbis* from Bhutan and *P. a. annapurnae* from Nepal, the Yunnan specimens were clearly larger with much longer male antennae pectination. Genitalia examination and DNA analysis corroborated these morphological differences and confirmed the existence of a new species. The Sichuan specimens collected in 2010, while having slightly different DNA, were recognized to be the same as the new species from Yunnan.

Abbreviations for personal and institutional collections used herein: AFM = Alessandro Floriani (Milan, Italy); ASV = Aidas Saldaitis (Vilnius, Lithuania); BBT = Balázs Benedek (Törökbálint, Hungary); GBG/ZSM = Gottfried Behounek (Grafing, Germany) / Zoologische Staatssammlung München (Germany); HHM = Hungarian Natural History Museum (Budapest, Hungary); PGM = collection of Péter Gyulai (Miskolc, Hungary); SMNK = Staatliches Museum für Naturkunde Karlsruhe; ZISP = Zoological Institute of Russian Academy of Science (Sankt-Peterburg, Russia).

### *Polymixis quarta* sp. n.

(Figs 1–4, 15, 21)

**Type material. Holotype:** male (Fig. 1), China, NW Yunnan, Baima Xue Shan, near Yak La pass, N028°24.900', E098°59.800', 18. V. 2012, H-3900 m, leg. Floriani, slide No. JB2039m, DNA No. BC ZSM Lep. 65247 (coll.GBG/ZSM).

**Paratypes:** 2 males with the same data as the holotype, 12 males, 2 females (Figs 2, 3) from the same place but 21–22. V. 2012; slide Nos JB2211f, JB2272f, DNA Nos. BC ZSM Lep. 65246, Lep. 65248, Lep. 65249, 2 males, 4 females (Fig. 4), China, W. Sichuan, road Menghugang/Kangding, N029°49.955', E102°02.827', 12. IV. 2010, h-3000 m, leg. Floriani; slide Nos PGy2411m, PGy2437m, DNA Nos BC ZSM Lep. 65244, Lep. 65246, 1 male, 1 female, China, W. Sichuan, Kangding, near Zheduo Pass, N030°17.022', E101°50.256', 13. IV. 2010, h-3230 m, leg. Floriani, slide No. PGy2412m, 3 males, 2 females, China, N. Sichuan, road Jiuzhaigou–Songpan, N 33°08.770', E 103°43.624', 17. iv. 2015, h-2900 m, leg. Floriani & Saldaitis (colls AFM, BBT, ASV and PGM).