Opusc. Zool. Budapest, 2019, 50(1): 105–107

A new species of *Orthosia* (Lepidoptera: Noctuidae) from Vietnam

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Abstract. The description and diagnosis of *Orthosia franzhoferi* sp. nov. are given. The new species and three closely related taxa are illustrated with 4 imagines in colour and 4 female genitalia figures.

Keywords. Lepidoptera, Noctuidae, *Orthosia*, new species, Vietnam.

INTRODUCTION

The most recent survey on the Asiatic *Orthosia* species was published by Ronkay *et al.* (2010) providing descriptions of 11 new species and 3 new subspecies from China, Indochina and Taiwan. The subsequent investigations on the winter fauna of northern Indochina revealed the existence of another *Orthosia* (s.l.) species in North Vietnam which is described here as new to science.

Abbreviations for personal and institutional collections used are as follows: HNHM = Hungarian Natural History Museum (Budapest, Hungary); PGM = collection of Péter Gyulai (Miskolc, Hungary); PGY= genitalia slide of Péter Gyulai.

TAXONOMY

Orthosia franzhoferi sp. nov.

(Figures 1–6)

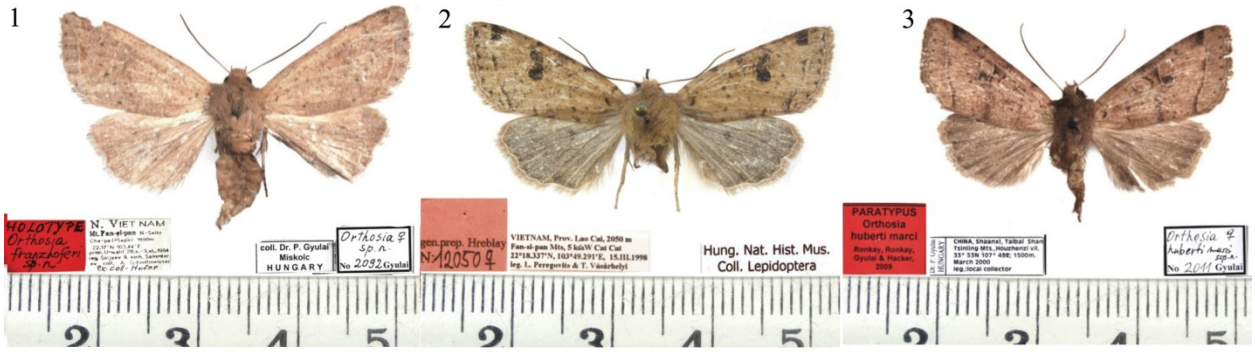
Material examined. *Holotype*: female (Fig. 1) "N. Vietnam, Fan-si-pan Mts., N-seite Cha-pa (=Sapa), 1000m, 22.17ºN 103.44ºE, prim. Urwald, 28.X.–3.XI. 1994, leg. Sinjaev & einh. Sammler, ex coll. A. Schintlmeister, ex coll. F. Hofer", "coll. Dr. P. Gyulai, Miskolc, Hungary", slide No. PGY2092♀ (coll. PGM, later to be deposited in the HNHM).

Description. The main external features of the new species are the brown head and thoracic vesture, the pale brown, unicolorous ground colour of wings with slight red-brown shade in the forewings, sparsely with tiny black dots; the reduced (obsolete) wing pattern with conjectural, poorly defined, ghost–like stigmata; the poorly visible transversal lines from which the arcuate postmedial line is somewhat better indicated by blackish dots; the subterminal line is thin and yellow, slightly defined by red scales at the inner side; the hindwing median fascia is represented by a few blurred brown signs on the main veins; and the indistinct, brown hindwing discal spot. The wingspan of the single known female is 35 mm; the antennae are thin, filiform.

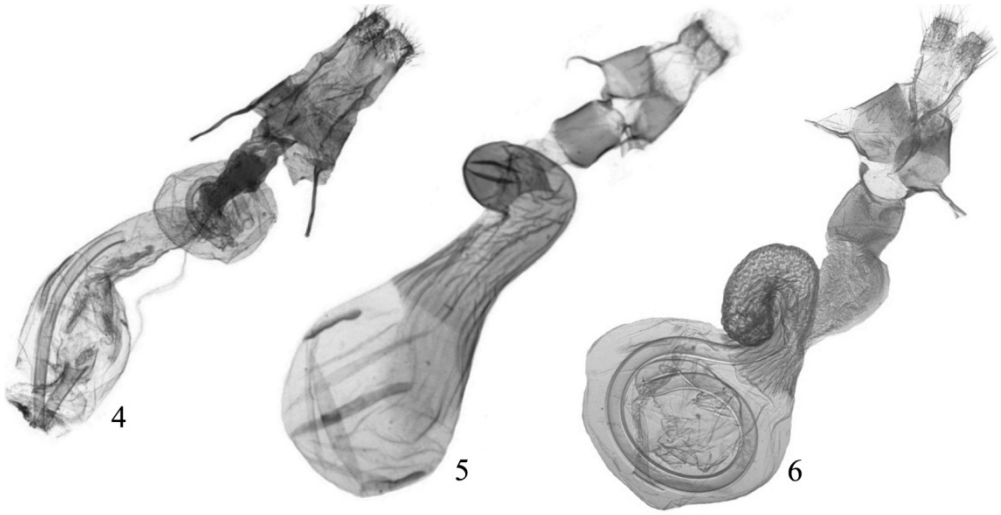
Female genitalia. The main characters of *O. franzhoferi* (Fig. 4) are the large, broad, setose papillae anales and long apophyses anteriores and posteriores; the sclerotized, rather tubular antrum with somewhat oval ostium bursae; the long ductus bursae, belt-like appendix bursae and plum-like corpus bursae.

Diagnosis. The new species (Figs. 1, 4) is the sister species of the Vietnamese *Orthosia huberti huberti* Hreblay & Ronkay, 1999 (Figs. 2, 5) (the type locality of the two is almost the same) and its Chinese subspecies, *Orthosia huberti marci* Ronkay, Ronkay, Gyulai & Hacker, 2010 (Figs 3, 6) and of the Chinese *Orthosia yelai* Ronkay, Ronkay, Gyulai & Hacker, 2010 (Figs. 7, 8).

urn: lsid:zoobank.org:pub:5EA0B8EB-8381-4C77-9B26-E059AF787CF7 *published: 26 June 2019*
HU ISSN 2063-1588 (online), HU ISSN 0237-5419 (print) *http://dx.doi.org/10.18348/opzool.2019.1.105*



Figures 1–3. Adults. 1 = *Orthosia franzhoferi* sp. nov., holotype, Vietnam, Fan-si-pan Mts. (coll. PGM); 2 = *Orthosia huberti huberti* Hreblay & Ronkay, 1999, Vietnam, Fan-si-pan Mts, (coll. HNHM); 3 = *Orthosia huberti marci* Ronkay, Ronkay, Gyulai & Hacker 2010, paratype, China, Shaanxi, (coll. PGM).



Figures 4–6. Female genitalia. 4 = *Orthosia franzhoferi* sp. nov., holotype, Vietnam, Fan-si-pan Mts, slide no. GYP 2092 (coll. PGM); 5 = *Orthosia huberti huberti* Hreblay & Ronkay, 1999, Vietnam, Fan-si-pan Mts, slide no. Hreblay 12050 (coll. HNHM); 6 = *Orthosia huberti marci* Ronkay, Ronkay, Gyulai & Hacker 2010, paratype, China, Shaanxi, GYP 2011 (coll. PGM)

Although *O. franzhoferi* is most similar externally to *O. huberti*, according to the female genitalia structure, its closest known relative is *Orthosia yelai*. The four taxa are apparently similar in the ground colour and wing pattern elements. The distinctive external features for the separation of the four taxa are as follows: *O. franzhoferi* sp. nov. has lighter wings and much regressed wing pattern than in *O. huberti huberti*, *O. huberti marci* and *O. yelai* with the absence of the basal, antemedial and medial crosslines and the orbicular and reniform stigmata (including the black spot in the latter stigma which is more or less conspicuous in the related species). Additionally, the brown definition of the subapical triangular spot is diffuse, ghost-like, and the subterminal line is also paler whereas it is much stronger, more or less brown or brown edged in *O. huberti* and O. *huberti marci*; in comparison to *O. yelai*, the conspicuous, completely encircled orbicular and reniform stigmata of this species support the very easy distinction.

Female genitalia. The female genitalia of the three species are easily separable as the shape and size of all major parts show distinctive features. The new species has (Fig. 4), in comparison with

O. huberti huberti and *O. huberti marci* (Figs 5, 6), remarkably longer apophyses anteriores and posteriores, considerably weaker ostium-antrum complex, longer ductus bursae, differently shaped, belt-like appendix bursae (it is globular in *O. huberti huberti*, horseshoe-like and ribbed in *O. huberti marci*) and plum-shaped corpus bursae which is larger and sacculiform in *O. huberti huberti* and globular in *O. huberti marci*. *O. franzhoferi* sp. nov. is more resemble *O. yelai* (Fig. 8) in the structure of the ostium-antrum-ductus bursae complex, which is slenderer and differently sclerotized in the new species; furthermore it has considerably longer ductus bursae, differently shaped, belt-like appendix bursae and less spacious corpus bursae.

Biology and distribution. The new species is known only from the type locality in Vietnam.

Etymology. The name of the new species is dedicated to Mr. Franz Hofer, who donated the holotype specimen of the new species to the author years ago.

Acknowledgements – The author is grateful to Franz Hofer (Baden, Austria) for donation of this new species; to László Ronkay for much help and consultation; Gábor Csorba, Zsolt Bálint, Balázs Tóth and Gergely Katona (HNHM, Budapest) for the type documentations of *Orthosia huberti huberti* of the Hreblay collection in the HNHM; Zsuzsa Csenkey (HNHM, Budapest) for scanning of genitalia slides; Adrienne Gyulai–Garai (Miskolc, Hungary) for her computer assistance.

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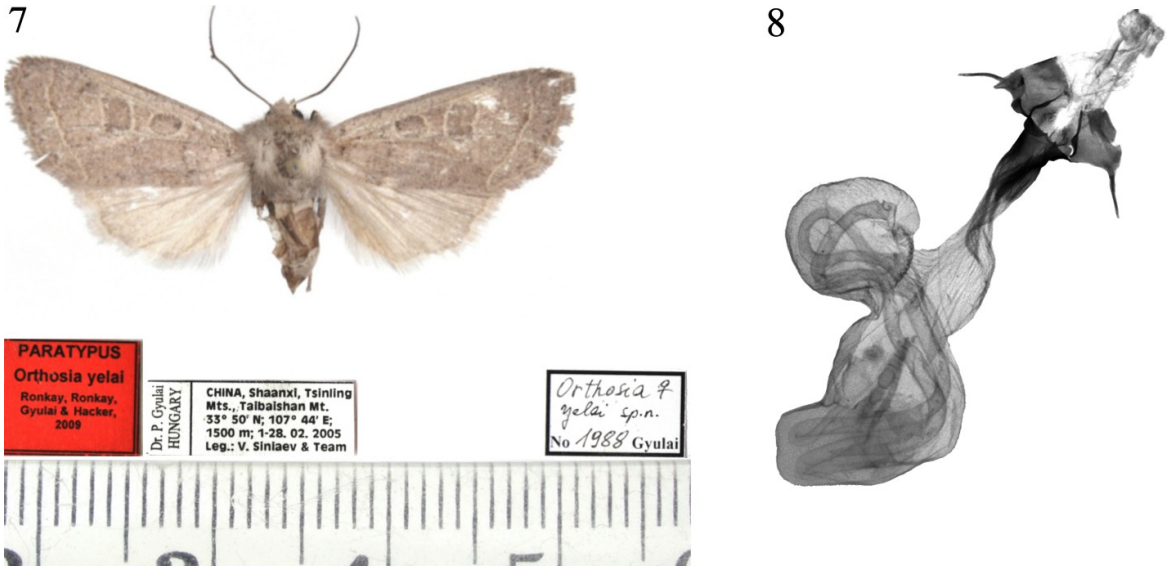

Figures 7–8. Color imagine of adult and female genitalia of *Orthosia yelai* Ronkay, Ronkay, Gyulai & Hacker, 2010, paratype, China, Shaanxi, GYP 1988 (coll. PGM)