



A new species of *Cardepi* Hampson, 1905 (Lepidoptera: Noctuidae) from China

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The genus *Cardepi* Hampson, 1905, which was revised by Hacker (1998), was reduced to 15 species after *C. additamenda* Hacker, 1998 was downgraded to a subspecies of *C. hartigi* Parenzan, 1981 (Hacker *et al.* 2002). Most of *Cardepi* have a trans-Palaearctic distribution throughout the continental mountain steppe belt with most western Palaearctic species being coastal-halophilous and Central Asian taxa being halophilous in the natron flats. Per Hacker (1998) only *C. emmanueli* Berio and *C. mixta* (Pagenstecher, 1907) are restricted to Eastern Africa. A detailed genitalic study of both sexes is needed to properly separate the species because all *Cardepi*, including numerous named subspecies, are very similar in their external features, wing pattern and genitalia. After the aforementioned exhaustive revisions of the genus it was somewhat unexpected that a new species was discovered by Alessandro Floriani in the Taklimakan desert (West China, Xinjiang province, Kashgar area), which is described as new herein.

Cardepi rothei Gyulai & Saldaitis sp. n.

(Figs 1–3, 14–17, 30)

Type material. Holotype: male (Fig. 1), China, Xinjiang, W Taklimakan desert, Yarkan He riv. valley, tugay forest, 1140 m, N 39°21.953", E 078°11.639", 9–12. VI. 2013, leg. A. Floriani, coll. P. Gyulai (to be deposited in the Hungarian Natural History Museum, Budapest, Hungary); (Slide No. PGY 3680m)

Paratypes: 102 males (Fig. 2), 43 females (Fig. 3), with the same data as the holotype; 11 males, 3 females, China, Xinjiang, SW from Kashi, W Taklimakan desert, Terambar, 1200 m, N 39°10.564", E 077°04.039", 7. VI. 2013, leg. A. Floriani, in the collections of A. Floriani (Milan, Italy), P. Gyulai (Miskolc, Hungary), F. Hofer (Baden, Austria), Nature Research Centre (Vilnius, Lithuania), D. Nilsson (Kalvehave, Denmark), S. Rothe (Taucha, Germany), H. Seibald (Vienna, Austria) and World Insect Gallery (Joniškis, Lithuania). Slide Nos: PGY 3610, 3672, 3677 (males), 3616, 3738 (females).

Diagnosis and description. Wingspan 23–27 mm. Although *Cardepi rothei* sp. n. resembles all known Central Asiatic species and subspecies of *Cardepi* it can be separated externally by its more elongate forewing apex, paler forewing ground color with less brown or gray suffused wings, and fawn or pale ochre body hair. *Cardepi rothei* is most similar to the light coloured *C. helix helix* Boursin, 1962 (Figs 4, 5) but is easily distinguished by its even, unserrated, and slightly wavy subterminal line which is not as medially projected toward the margin as in *C. helix*. On average *Cardepi rothei* is smaller than *C. helix* (24–31 mm), and the most geographically widely distributed *C. irrisoria* (Ershov, 1874) (= *albipicta* Christoph, 1884 (25–34 mm) (Figs 11, 12). *C. rothei* (Figs 1–3) lacks the broad white antemedial and postmedial transverse line shading of *C. kaszabi* Sukhareva & Varga, 1973, and the white-filled orbicular spot and white-variegated forewing cilia of *C. irrisoria* f. *albipicta*. The claviform stigma is small but more conspicuous than that of *C. irrisoria*. The undersides of the wings, whose ground colors are pale fawn or whitish with subtle brown suffusion restricted to the submarginal area or to the forewing postmedial and hindwing medial lines, distinguish the new species from its Central Asian congeners except for light forms of *C. helix* and *C. irrisoria*. The underside characters are useful for separating *C. rothei* from *C. helix dubatolovi* Hacker, 1998 (Figs 7, 6) and *C. dardistana* Boursin, 1967 (Figs 9, 10). The latter species appears to be the most closely allied to *C. rothei* species based on genitalia but differs in having a distinctive and diffuse brown stripe in the ventral submarginal area.

covered with Oleaster (*Elaeagnus*), Camel Thorn (*Alhagi*) and various Zygophyllaceae (Caltrop) bushes. Other desert Noctuidae species collected with *C. rothei* included *Catocala contemnenda* Staudinger, *Catocala remissa* Staudinger, *Drasteria antiqua* (Staudinger) among others.

Etymology. The new species is named after a prominent German lepidopterist, Mr. Stefen Rothe (Taucha, Germany).

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References

- Hacker, H. (1998) Revision der Gattung *Hadula* Staudinger, 1889 (= *Discestra* Hampson, 1905; = *Aglossestra* Hampson, 1905; (= *Cardiestra* Boursin, 1963); *Anartomorpha* Alpéraky, 1892, *Trichanarta* Hampson, 1895, *Anarta* Ochsenheimer, 1816 und *Cardepi*a Hampson, 1905) mit Beschreibung einer neuen Gattung *Hadumorpha* gen. n. (Lepidoptera, Noctuidae). *Esperiana*, 6, 577–843.
- Hacker, H., Ronkay, L. & Hreblay, M. (2002) Hadeninae I. In: Fibiger, M. (Ed.), *Noctuidae Europaeae. Vol.4*. Entomological Press, Soró, 416 pp.