

# **Taxonomic notes on Portuguese Microlepidoptera II. *Cochylimorpha punctiferana* (Ragonot, 1881) stat. rev., a neglected Portuguese species (Lepidoptera: Tortricidae)**

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## **Abstract**

The endemic Portuguese *Cochylimorpha punctiferana* (Ragonot, 1881) is resurrected from synonymy with *C. discopunctana* (Eversmann, 1844) based on clear differences in female genitalia and DNA barcode. A neotype is designated.

KEY WORDS: Lepidoptera, Tortricidae, synonymy reversed, *Cochylimorpha*, DNA barcoding, Portugal.

**Notas taxonómicas sobre Microlepidoptera de Portugal II. *Cochylimorpha punctiferana* (Ragonot, 1881) stat. rev., uma espécie negligenciada (Lepidoptera: Tortricidae)**

## **Resumo**

O endemismo português *Cochylimorpha punctiferana* (Ragonot, 1881) é removido da sinonímia com *C. discopunctana* (Eversmann, 1844) com base em marcadas diferenças tanto na genitália feminina, como no DNA barcode. Um neotipo é designado.

PALAVRAS CHAVE: Lepidoptera, Tortricidae, reversão de sinonímia, *Cochylimorpha*, DNA barcoding, Portugal.

**Notas taxonómicas sobre Microlepidoptera de Portugal II. *Cochylimorpha punctiferana* (Ragonot, 1881) stat. rev., una especie descuidada (Lepidoptera: Tortricidae)**

## **Resumen**

El endemismo portugués *Cochylimorpha punctiferana* (Ragonot, 1881) es sacado de la sinonímia con *C. discopunctana* (Eversmann, 1844) con base a las diferencias tanto en la genitalia femenina, como en el código de barras ADN. Se designa un neotipo.

PALABRAS CLAVE: Lepidoptera, Tortricidae, sinonimia removida, *Cochylimorpha*, código de barras ADN, Portugal.

## **Introduction**

This is the second in a series of papers on Portuguese Microlepidoptera covering various taxonomic topics. In this paper *Cochylimorpha punctiferana* (Ragonot, 1881) is reinstated as a good species. *Cochylis punctiferana* Ragonot, 1881 was described from a single specimen from Bragança in

north-east Portugal collected by Manuel d'Oliveira (RAGONOT, 1881). It has since been placed under a succession of generic names: *Euxanthis* Hübner, [1825], *Stenodes* Guenée 1845 and is currently in *Cochylimorpha* Razowski, 1959. The species was illustrated in colour by KENNEL (1913) next to a figure of *Euxanthis discopunctana* (Eversmann, 1844) from Russia.

The two moths appear similar but not quite identical. In the text, Kennel places *punctiferana* in synonymy with *discopunctana*. RAZOWSKI (1970) followed Kennel in placing *punctiferana* as a synonym of *discopunctana*, adding that he suspected the type was lost. In 2000 Martin Corley looked for the type specimen among Ragonot's types in MNHN, but was unable to find it. Kennel's treatment of *punctiferana* has been followed in all relevant works. Only CORLEY (2015a) questioned it on the grounds that it was based on external appearance only, without examination of genitalia. Martin Corley's copy of KENNEL (1908-1921) has a pencilled note by T. Bainbrigge-Fletcher, a previous owner of the copy, that "punctiferana seems distinct species!". CORLEY (2015b) included it as a valid species in the Portuguese list with the intention of raising awareness of the taxon, but without providing positive evidence that it was a good species. In 2016 a male specimen was collected and in 2017, three females were collected in eastern Portugal and DNA barcodes were obtained from the male and one female. Recently a DNA barcode of *C. discopunctana* (from Russia, BOLD code: LEALT864-16) has become available and shows above 8.5% divergence from the Portuguese specimens. Together with differences in the female genitalia this is convincing evidence that *C. punctiferana* is a valid species clearly different from *C. discopunctana*. It is redescribed below. Since the original specimen described by Ragonot is apparently lost, a neotype is designated in order to stabilise the nomenclature in the future.

## Abbreviations

INV	Reference number for invertebrate sample in InBIO Barcoding Initiative, Portugal
MNHN	Muséum National d'Histoire Naturelle, Paris, France
NHMUK	The Natural History Museum, London, United Kingdom

## Methods

Genitalia were dissected using standard techniques (ROBINSON, 1976).

DNA barcodes were obtained following the protocol described in CORLEY *et al.* (2019).

### *Cochylimorpha punctiferana* (Ragonot, 1881), **bona** sp.

Material examined: 1 ♂, PORTUGAL, Trás-os-Montes, Macedo de Cavaleiros, Vale da Porca, 24-IV-2016, J. Nunes, C. Silva and E. Jesus, INV00582: BOLD code: IBILP 1562-19. Neotype female, PORTUGAL, Beira Baixa, Idanha-a-Nova, Segura, 30-III-2017, Corley, Ferreira and Mata, gen. prep. B. Goodey 5185, INV04209: BOLD code: IBILP 1563-19, to be placed in NHMUK; 2 ♀♀ with same data as neotype, one with gen. prep. 5186, in coll. M. Corley.

Description (taken, with minor modifications, from RAGONOT, 1881): (Fig. 1). Wingspan 12.5-13.5 mm. Forewings much suffused with brownish-grey, leaving but little of the whitish ground colour. The base, a rather broad fascia, which begins on the costa nearly in the middle, going straight down to the median vein, then slanting towards the base and ending straight on the inner margin from the dorsal vein, and a large triangular spot on the dorsal margin before the anal angle, are all dark greyish brown. Between the fascia and the spot on the dorsal margin is a narrow white space. At the end of the median vein there is a very distinct round blackish dot surrounded with whitish; above on the costa is a small brown spot, beyond which there are two others forming an arc, below which there is a pale brownish cloud parallel with the terminal margin. Before the apex is another small brown spot, and the fringes, which are white, are distinctly chequered above and beneath with large brownish spots at the base and extremity. The underside is blackish brown, spotted with dark brown on the whitish costa.

The hindwings are dark brownish grey above and lighter below, the fringes white.

In the Segura specimens the brown coloration mentioned by Ragonot is distinctly tinged olive. Ragonot gives the wingspan as 7 mm, clearly an error.

Male. The only known male is apparently lost. In the photo (fig. 2) it has the chequered fringes rather less distinct than in the females. Male genitalia are not available for study.

Female genitalia (Figs 3, 4). Tergite VIII and sterigma heavily sclerotised; colliculum with narrow lateral sclerites; ductus bursae, short, as wide as long, lightly sclerotised but without internal sclerite; corpus bursae shortly ellipsoid, spiculate in anterior three-quarters, without sclerite.

Diagnosis: *C. punctiferana* is characterised by the blackish dot in the midline of forewing at two-thirds and the roughly triangular spot on the dorsal margin near the tornus, together with the chequered fringe. Similar species are *C. discopunctana*, *C. discolorana* (Kennel, 1899), *C. fuscimacula* (Falkovitsh, 1963) and *C. obliquana* (Eversmann, 1844) which all have the dot at two-thirds variously developed, but none shows the combination of the large triangular spot near tornus and chequered fringes. RAGONOT (1881) mentions *Aethes languidana* (Mann, 1855) (as *reversana* Staudinger, 1859) as similar, but this lacks the blackish dot. In the female genitalia none of these species has the short wide ductus bursae of *punctiferana* and all have a sclerite of greater or lesser size in ductus bursae or corpus bursae or both. These species are all figured by RAZOWSKI (2002, 2009).

Biology: The Segura specimens were collected in fresh condition on 31 March; the male from Macedo de Cavaleiros was collected on 24 April. The date of collection of the original specimen from Bragança was not given. The Segura locality is at the foot of a steep slope with abundant and varied wildflowers, close to a river. Where known, *Cochylimorpha* larvae are internal feeders in flower- and seed-heads, stems or roots of Asteraceae or rarely Dipsacaceae, so it is probable that this is also the case with *punctiferana*.

Distribution: Endemic to Portugal, being known from just three localities in the east of the country, although the precise location of the original specimen is not known, since Bragança is a large district. The site could possibly have been at some distance from the city.

## Remarks

The male genitalia of *C. punctiferana* remain unknown, as the specimen from Macedo de Cavaleiros has been lost. At Segura the site is on the west bank of the Ribeiro de Santa Marina, a few hundred metres from its confluence with the Rio Erges, which forms the border between Portugal and Spain, so *C. punctiferana* is likely to be present in the latter country.

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