

## A new *Micropterix* species from southern France (Micropterigidae)

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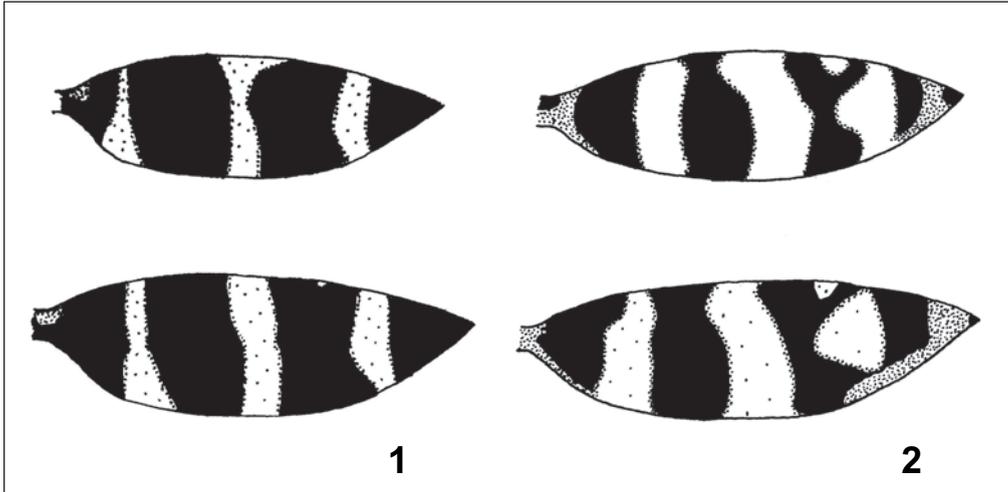
**Abstract.** *Micropterix huemeri* sp. n. is described from the Alpes-Maritimes Department (southern France) and compared with its closest relatives, i.e. *Micropterix trifasciella* Heath, 1965 and *Micropterix rothenbachii* Frey, 1856. The new species is well characterised by the structure of the male genitalia.

**Zusammenfassung.** Aus den französischen Meeralpen wird *Micropterix huemeri* sp. n. beschrieben und mit ihren nächsten Verwandten verglichen. Dies sind *Micropterix trifasciella* Heath, 1965 und *Micropterix rothenbachii* Frey, 1856. Die neue Art ist sehr gut durch den Genitalapparat des Männchens charakterisiert.

**Résumé.** *Micropterix huemeri* sp. n. est décrit du département des Alpes-Maritimes (Sud de la France) et comparé aux espèces les plus apparentées, à savoir *Micropterix trifasciella* Heath, 1965 et *Micropterix rothenbachii* Frey, 1856. La nouvelle espèce est bien caractérisée par la structure des genitalia mâles.

### Introduction

The genus *Micropterix*, Hübner, [1825] belongs to the most basal lineages of Lepidoptera and contains about 70 species, most of them occurring in the western Palaearctic (Kristensen 1998). Though the morphology of the group has been studied extensively due to the long recognised phylogenetic key position within the Amphiesmenoptera and the fascinating habit of pollen-feeding by the moths, a taxonomic revision or field guide for the European species still do not exist. The most complete overview might be that of the website of Kurz, Kurz & Zeller-Lukashort (2001–2004) which catalogues the western Palaearctic species of *Micropterix* and gives illustrations, descriptions, and the distribution for each species. Discoveries of new *Micropterix* species are still possible in Europe, the previous one dating back to 1997, when the authors described *Micropterix renatae* from Tuscany (Kurz, Kurz & Zeller 1997). During a collecting trip to Marguareis in the Alpes-Maritimes Department of southern France in 1991, Drs Peter Huemer and Gerhard Tarmann from the Tiroler Landesmuseum Ferdinandeum, Innsbruck (TLMF) found some specimens of an unidentified *Micropterix* species. Subsequent investigations showed that these specimens belong to an undescribed species. In this paper, we are presenting a description because a revision of the group is not foreseen in the near future. *Micropterix* species are well characterized by a combination of the forewing pattern elements and characters of the male genitalia. The following description is based on these features.



**Figs. 1–2.** Schematic drawings of the forewings (top male, bottom female). **1.** *Micropterix huemeri* sp. n. **2.** *Micropterix rothenbachii* Frey, 1856.

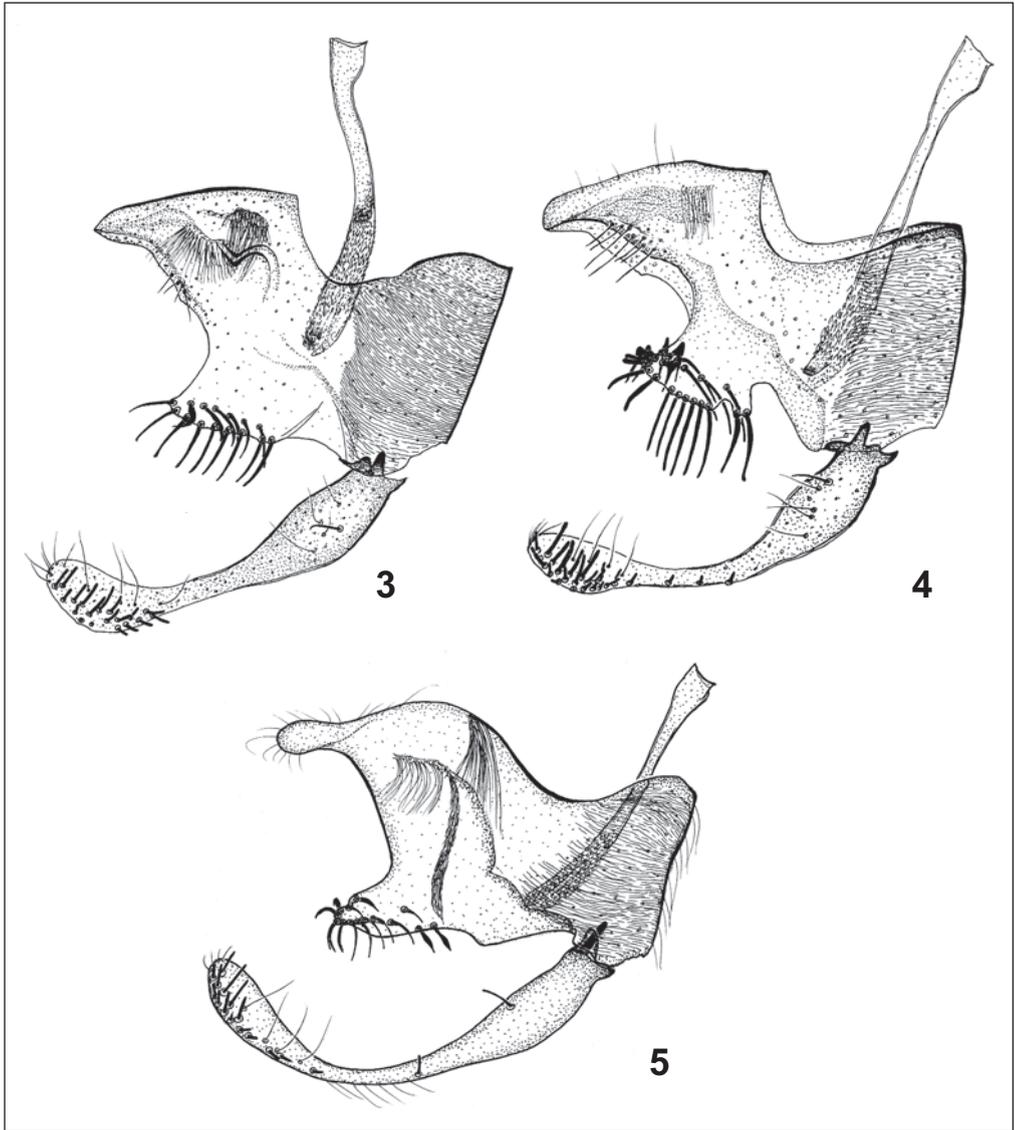
### *Micropterix huemeri* sp. n.

**Material.** Holotype: ♂: „Frankreich; Dep. Alpes Maritimes; Marguareis W-Hang; Navela, 2100-2200 m; 18.7.1991; leg. Huemer & Tarmann“; „GU MIC2 ♂ P. Huemer“; „[red label] Holotypus *Micropterix huemeri* Kurz, Kurz & Zeller ♂“; „ID-Nummer HdN-2289“; coll. TLMF. Paratypes: 2♂, 1♀ same data, ID-Nummern: MK-1190, MK-1191, HdN-2290; coll. TLMF.

### **Description**

**Adult** (Fig. 1). Forewing length: ♂ 3.9 mm (n=3); ♀ 4.4 mm; Head yellow; antennae approximately almost 3/4 (male) or almost 1/2 (female) forewing length, golden fuscous. Thorax coppery to bronzy golden, tegulae purple violet with bronzy golden edges; forewings purple violet to bluish violet; base of costa bronzy golden; wing markings golden, slightly lined bronzy golden; a fascia at 1/4, slightly bent, moderately broad on inner margin, distinctly narrowed from centre of wing to costa; a fascia at 1/2, slightly bent outwards, moderately broad, sometimes narrowed medially, sometimes distinctly broadened at costa; a fascia at 3/4, slightly broader than the other ones with distinctly curved inner margin; sometimes a residual costal spot at 3/5; cilia bronzy golden, apically whitish; hindwing coppery to bronzy golden, apically distinctly tinged purple; cilia bronzy golden; legs and abdomen golden fuscous.

**Male genitalia** (Fig. 3) (n=1). Uncus short, slightly stout with moderately broad tip; beyond uncus a hairy structure; a small area with several faint, straight setae at the posterior margin of tegumen between uncus and accessory clasper; accessory clasper proximally broad, distally tapered, on inner surface with an upper row of 6 sickle-shaped setae and a lower row of 9 more or less straight, moderately long setae, with the two proximal setae slightly set apart; valva slightly bent, narrowed beyond middle with a triangular distal end and 2–3 irregular rows of shorter setae on inner surface beyond the narrowing; post-basally with a distinctly robust seta on inner surface; aedeagus typical for the genus, without cornuti.



**Figs. 3–5.** Male genitalia. 3. *Micropterix huemeri* sp. n. (holotype). 4. *Micropterix trifasciella* Heath, 1965. 5. *Micropterix rothenbachii* Frey, 1856.

**Diagnosis.** Based on our investigations of more than 50 western Palearctic *Micropterix* species, *M. huemeri* belongs to a group of closely related species which is characterised by the following characters. The accessory claspers bear two rows of setae. In the ventral row, the distal setae are strongly modified (Y- or T-shaped) and the 1–2 most proximal ones are distinctly separated from the rest. These characters are shared by *M. hartigi* Heath, 1981 (n=8), *M. rothenbachii* Frey, 1856 (n=77), *M. ibericella* Caradja, 1920 (n=2), *M. allionella* (Fabricius, 1794) (n=29), and *M. trifasciella* Heath, 1965 (n=42).

Externally *M. huemeri* is quite well separated from the other species of this group by its three complete golden fasciae on the forewing and the absence of any other markings. One exception is *M. trifasciella*, which has very similar wing pattern elements with only slightly broader fasciae on the forewing. However, the male genitalia are different in the shape of the accessory clasper which is proximally much narrower and with a different formation of setae. Further, on the inner surface of the valva the row of the short and thick setae extends further towards the basis into the narrowing of the valva.

In *M. huemeri* the structures of the male genitalia are most similar to those of *M. rothenbachii*. The latter species is redescribed and figured by Heath (1981). *M. huemeri* can be distinguished superficially from *M. rothenbachii* by both the lack of a small costal golden spot and the golden tinge on the outer margin of the forewing. Concerning the male genitalia, *M. rothenbachii* has a distally club-shaped uncus and longer, distally more spatulate valvae with only one stout seta in the middle of the narrowing.

**Distribution.** To our present knowledge, *M. huemeri* sp. n. seems to be an endemic of the geologically isolated region of the Marguareis, living at altitudes higher than 2000 m.

**Derivatio nominis.** The new species is named in honour of Dr Peter Huemer, who collected the species.

**Remarks.** Due to the persisting problems in preparing female genitalia of specimens in the genus *Micropterix*, no attempt has been made to prepare the genitalia of the single available female of the new species.

#### Acknowledgements

We are grateful to Dr Peter Huemer and Dr Gerhard Tarmann, both from the Tiroler Landesmuseum Ferdinandeum, Innsbruck, for the loan of the material.

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