

Lithostege fissurata Mabilie, 1888 from Malta, new for the fauna of Europe (Geometridae, Larentiinae)

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Abstract. The first record of *Lithostege fissurata* Mabilie, 1888 for Malta Island and for the fauna of Europe is presented. *L. inanis* Prout, 1941 is downgraded (again) to subspecies of *L. fissurata*. *L. bifissana* Rebel, 1911 is downgraded from species rank to synonymy of *L. notata* Bang-Haas, 1906.

Zusammenfassung. *Lithostege fissurata* Mabilie, 1888 wird für Malta und damit erstmals für die europäische Fauna nachgewiesen. *L. inanis* Prout, 1941 wird wieder auf den Rang einer Unterart von *L. fissurata* herabgestuft. *L. bifissana* Rebel, 1911 ist ein jüngeres Synonym von *L. notata* Bang-Haas, 1906.

Key words. *Lithostege fissurata*, Geometridae, fauna of Europe, Malta, synonymy.

Introduction

When Müller (1996) listed 915 European geometrid species, the fauna was thought to be well known. However, during the preparation of the book series "The Geometrid moths of Europe", several new species were discovered. The new European checklist, which was published recently on the internet, contains 957 species (Hausmann 2004). The fauna of Malta included 52 geometrid moth species in Valletta (1973) and 57 species in Müller (1996). Sammut (2000) listed 89 geometrid species for the island, but many of these records are based on doubtful sources. According to Hausmann & Viidalepp (2004) there are 59 valid records while eight additional species await confirmation.

Eleven *Lithostege* species were mentioned by Hausmann & Viidalepp (2004). However, one of them, *L. cinerata* Turati, 1924 (sensu Hausmann 2004), has to be deleted because it was recently replaced by the description of *Lithostege clarae* Gastón & Redondo, 2004. The latter name was added to the faunal inventory 'at the last minute' (July 2004) and the name of the sister species could not be removed from the list. With the discovery of *L. fissurata*, the number of European *Lithostege* taxa increases to the following eleven species:

The *bosporaria* species-group

Lithostege bosporaria (Herrich-Schäffer, 1848)

The *farinata* species-group

Lithostege coassata (Hübner, 1825)

Lithostege farinata (Hufnagel, 1767)

Lithostege duponcheli Prout, 1938

Lithostege palaestinensis Amsel, 1935

Lithostege clarae Gastón & Redondo, 2004 (= *L. cinerata* sensu Hausmann & Viidalepp 2004)

Lithostege griseata ([Denis & Schiffermüller], 1775)

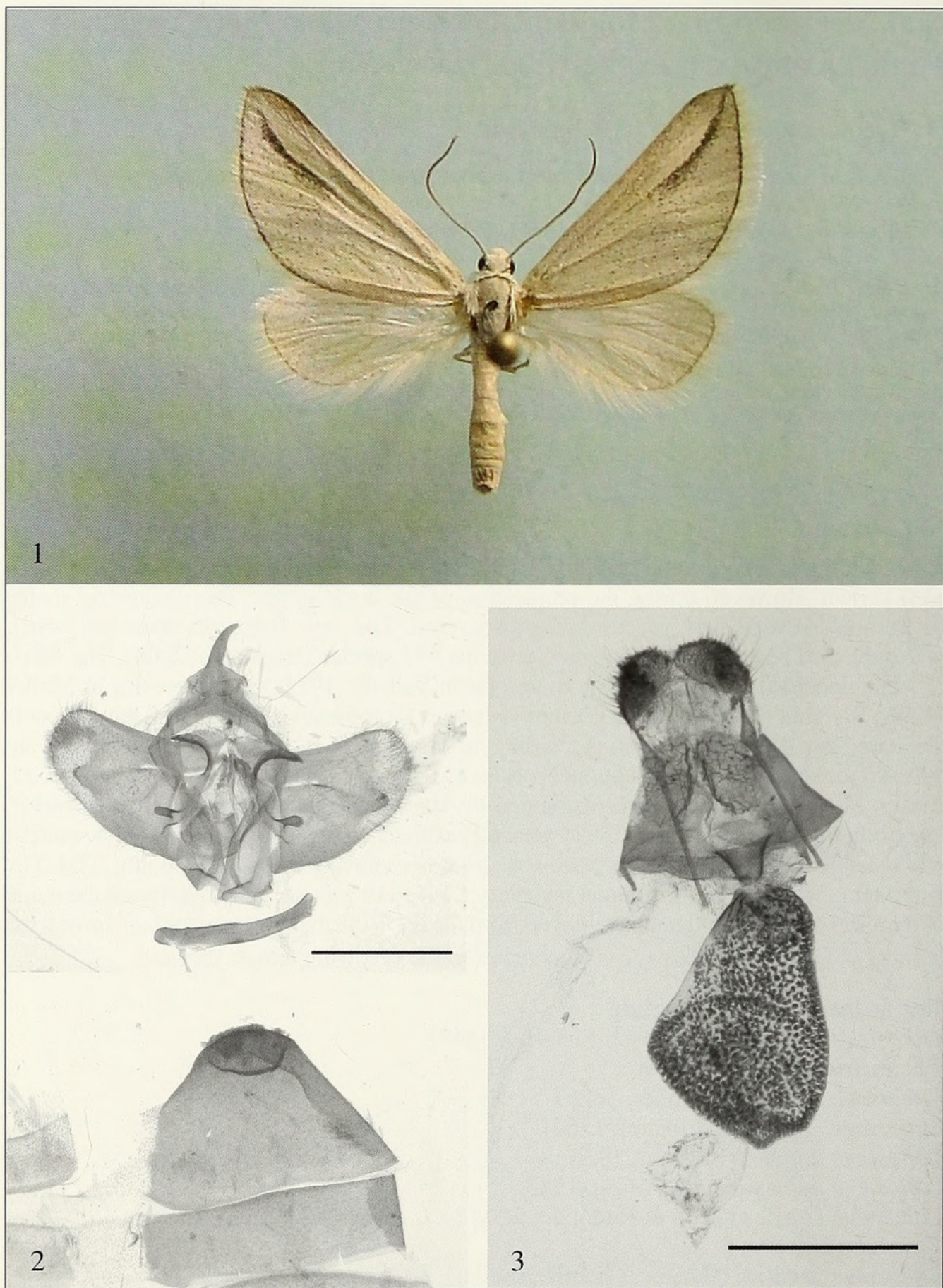
Lithostege fissurata Mabilie, 1888

Lithostege infusca (Eversmann, 1837)

Lithostege odessaria (Boisduval, 1848)

The *castiliaria* species-group

Lithostege castiliaria Staudinger, 1877



Figs. 1–3. *Lithostege fissurata* Mabille, 1888. **1.** Habitus of specimen from Malta (photo: A. Seguna). **2.** Male genitalia of specimen from Tunisia and sternum A8 (photos: A. Hausmann). **3.** Female genitalia of specimen from Tunisia (photo: A. Hausmann). Scale bars 1 mm.

Lithostege fissurata* Mabille 1888*(Figs. 1–3)**

Lithostege fissurata Mabille, 1888: 58 (type locality: Tunisia). Holotype ♀ (ZSM/Herbulot, examined; topotypical material of both sexes dissected: Figs. 2, 3).

Lithostege inanis Prout in Seitz, 1941: 331, “pl. 34i” (Scoble 1999), “pl. 34a” in the text of Prout (1941: 331), but not illustrated under both indications in the German edition of Seitz (type locality: Saudi Arabia: Khafa). Holotype ♂ (BMNH, examined; topotypical material of both sexes dissected). Wiltshire 1990 (synonym); Scoble 1999 (*bona* sp.); here regarded as subspecies of *L. fissurata* **stat. rev.**

Lithostege fitzgeraldi Wiltshire, 1947: 10, fig. 15, text-fig. 10 (type locality: Saudi Arabia, Artawiya, Nejd). Holotype ♂ (BMNH, examined). Scoble 1999 (junior synonym of *L. f. inanis*).

Material. 1♂, **Malta**, Qrendi, San Niklaw, 7.iii.2004, coll. Denis Magro, at light. Additionally examined (ZSM): 5♂♀ **Tunisia**, 11 ♂♀ **Algeria**, 1♂1♀ **Libya**, 4♂♂ **S. Israel** (Arava valley: Yotvata), 21♂♀ **Saudi Arabia**; 1♀ **SE. Iran** (Balutshistan).

Diagnosis. (Fig. 1). Wingspan: 19–28 mm. Wing shape with the generic characteristics of *Lithostege*, i.e. small, hindwing round, forewing termen convex, forewing apex slightly pointed. Ground colour of hindwing dirty white, that of forewing pale creame-coloured. No wing pattern except for the broad dark grey apical streak, which may, in about 5% of the specimens occasionally be absent or very weakly marked. In subsp. *inanis* this apical streak is always absent, hindwing darker than in nominate subspecies, usually darker than forewing. Sternum A8 in both sexes posteriorly sclerotised to a rounded lobe.

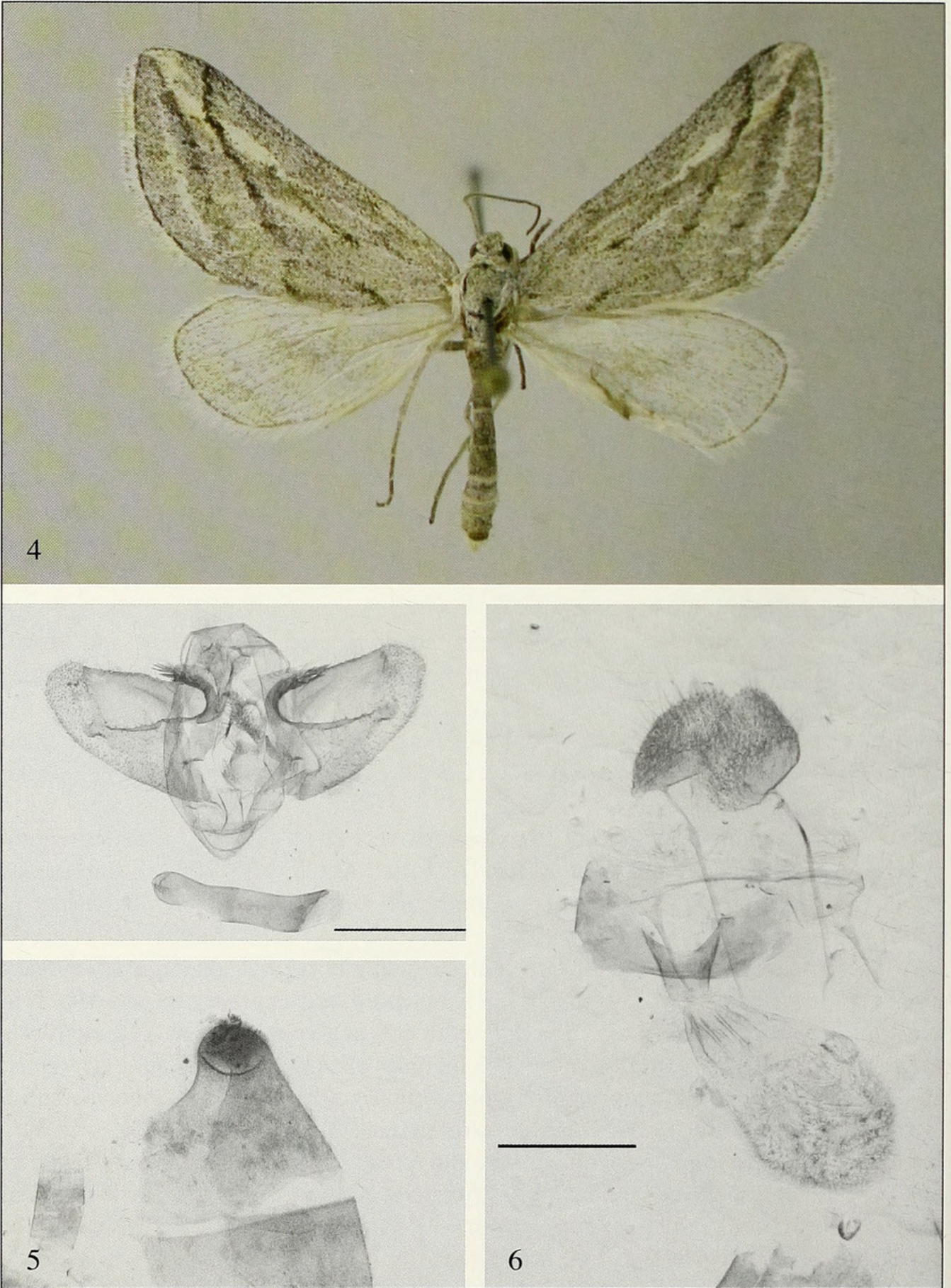
Male genitalia (Fig. 2). Uncus short, stout, tapered. Valva short and broad. Posterior basal process of valva short, strongly curved, spinulose at tip. Anterior basal process of valva short and rounded. Aedeagus short.

Female genitalia (Fig. 3). Apophyses anteriores very short. Antrum trapezoid or sub-triangular. Ductus bursae very short. Corpus bursae globular or slightly elongate, covered all over with spinules.

Distribution. Nominate subspecies from western Algeria to Libya, south-eastern Egypt (Wiltshire 1949), Israel (new for the fauna of Israel; Arava valley: ZSM). Subspecies *inanis* from Saudi Arabia to south-eastern Iran (new for the fauna of Iran; Balutshistan: ZSM) and southern Iraq (Wiltshire 1952).

Life history. Univoltine. Label data indicate a flight period spanning from early March to early May (nominate subspecies), and from mid-February to mid-March in ssp. *inanis*. Vertical distribution from 0 m up to 800 m above sea level. The moth was caught in Malta near a coastal steppe which includes plants like the Sea squill (*Urginea maritima*), Branched Asphodel (*Asphodelus aestivus*), and Spurges (*Euphorbia* spp.). Egg described in Prout (1937). Other immature stages unknown.

Remarks. After examination of numerous topotypical specimens exactly corresponding to the original description, the taxon “*L. bifissana* Rebel, 1911”, described from the Jordan valley (Israel/Jordan) in comparison with *L. fissurata*, and treated as a separate species in Scoble (1999), must be downgraded to the synonymy of *L. notata* Bang-Haas, 1906 (syn. n.) (Figs. 4–6). The habitus and morphology of *L. fissurata* support its position in the *Lithostege farinata* species-group. The peculiar wing pattern excludes confusion with any other of the known *Lithostege* species, at least in the nominate



Figs. 4–6. *Lithostege notata* Bang-Haas, 1906 (= *bifissana* Rebel, 1911). **4.** Habitus of specimen from Jordan, 20 km NE Dead Sea. **5.** Male genitalia and sternum A8 (Israel, southern Dead Sea region). **6.** Female genitalia (Israel, southern Dead Sea region) (photos: A. Hausmann). Scale bars 1 mm.

subspecies. This new record shows that apart from new entries by ‘species splitting’, there are still some ‘spectacular’ Macrolepidoptera species awaiting discovery on the territory of Europe. However, it remains unclear whether *L. fissurata* is just a rare species, overlooked due to the early flight season, or a recent coloniser of the island of Malta, or a rare migrant from North Africa.

Acknowledgements

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