

The genus *Chrysoclista* Stainton, 1854 in Europe (Lepidoptera, Agonoxenidae)

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The three European species of *Chrysoclista* Stainton, 1854 are reviewed. *C. razowskii* Riedl, 1965 is shown to be a synonym of *C. lathamella* Fletcher, 1936 (**syn. n.**). *C. splendida* **sp. n.** (= *razowskii* auct.) is described, and a key to the adults is presented. A neotype of *Chrysoclista lathamella* Fletcher, 1936 is designated. The history of the nomenclature of the European *Chrysoclista* is given in some detail, and a checklist is presented.

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Introduction

Chrysoclista is a small genus of brightly coloured moths. It is holarctic in distribution, with three species occurring in Europe. Their larvae live, as far as it is known, under bark of branches and trunks of deciduous trees. The adults are most often found resting on the trunks of their host tree; occasionally they are netted during daytime or attracted to light. Most species of *Chrysoclista* are considered as rare.

During a recent visit to The Natural History Museum in London (BMNH) I realized, when looking through the drawers with *Chrysoclista* specimens, that the species known on the continent as *C. razowskii* Riedl in fact is conspecific with *C. lathamella* Fletcher (= *bimaculella* Haworth), described from Britain. This has the consequence that the species known as *C. lathamella* auctorum is without a name, and the aim of this paper is to remedy this situation.

Chrysoclista Stainton, 1854

The spectacular, brightly coloured moths of this genus superficially resemble similar species in other gelechioid families. The

male genitalia easily characterize members of *Chrysoclista*. A generic description is published by Riedl (1969) and by Zagulajev & Sinev (1981/1990)

Remarks: The generic name *Glyphipteryx* Curtis, 1827 has been used for this genus, but the International Commission of Zoological Nomenclature (ICZN) has ruled (Opinion 1418) (Tubbs, 1986) that it should be treated as an unjustified emendation of *Glyphipterix* Hübner, 1825 (Glyphipterigidae). In the same opinion *Chrysoclista* Stainton was placed on the Official List of Generic Names in Zoology.

A number of species have in former time been referred to *Chrysoclista*, but at present it is restricted to the species listed below.

C. linneella (Clerck)

This species is recognized by its small size and bright orange forewings (fig. 3). In Britain a form with uniformly blackish forewings, apart from the silvery spots, occurs (fig. 4).

Bionomy: The larva feeds in the bark of *Tilia*, extruding rusty coloured frass, and

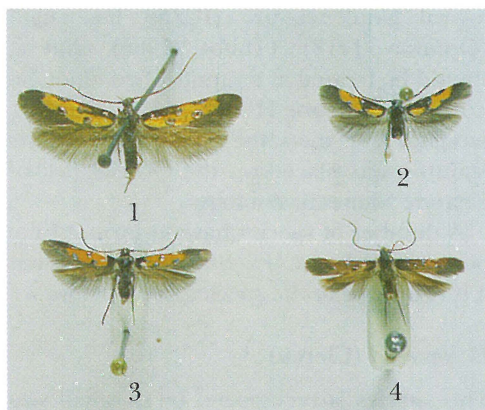
pupation takes place in the bark (Emmet & Johnson, 1979). Records from other trees (e. g. *Malus* and *Pyrus*) are unlikely and need confirmation. Adults fly May-August, probably in one generation.

Distribution: Found over most of Europe. Introduced into N. America (Klots, 1942).

Remarks: In older literature the species name can be found spelled as e. g. *lineella*, *linnaeella* or *linnaeanella*; these are here considered as misspellings. The name *linneella* Clerck, 1759 is placed on the Official List of Specific Names in Zoology (Opinion, 1418) (Tubbs, 1986).

C. splendida sp. n.

Description: Fig. 1. Wingspan 14-17 mm. Labial palp slender, upcurved, brownish beneath, light at upper surface. Head, thorax and tegulae shining dark brown. Antenna black with white tip. Forewing with blackish brown margin, broadest at costa from base to before middle and along termen; an irregular, elongate, orange spot from base to apical area; five silvery spots in margins of the orange area, the three in middle of wing with black spot in the cen-



Figs 1-4. Males of *Chrysoclista*.

Fig. 1. *C. splendida* sp. n., holotype, Austria, 16 mm.

Fig. 2. *C. lathamella* Fletcher, Denmark, 11 mm.

Fig. 3. *C. linneella* (Clerck), Denmark, 12 mm.

Fig. 4. *C. linneella* (Clerck), dark form, England, 11 mm.

ter; a light yellowish spot at costa before apex. Hindwing dark brown. Fringes of both wings blackish.

♂-genitalia: Uncus broad; gnathos consisting of two cowhorn-shaped, denticulated arms; valva slightly wavy at upper and lower margins, distal margin more sclerotized, rounded; anellus shaped as two lanceolate, pointed arms of 3/4 valva length; saccus short, rounded; aedeagus slender, angular in middle (figured by Riedl, 1969: fig. 266).

♀-genitalia: Rather simple, without distinct antrum; no signum in corpus bursae (figured by Riedl, 1969: fig. 358).

C. splendida differs from *linneella* in having a black costal spot from base to before middle of forewing. *C. lathamella* has the orange spot in forewing distinctly separated into two by a black bar. In ♂-genitalia similar to *lathamella*, which has a more slender valva without sclerotization in distal margin, anellus of only half length of valva and an only slightly bent aedeagus. *C. linneella* has very short gnathos arms, a broad, rectangular valva and a more complexly built anellus. Female genitalia of *Chrysoclista* are only slightly differentiated.

Bionomy: The larva is stated in the literature (e. g. Zagulajev & Sinev, 1981/1990) to feed under bark of *Salix alba*. I have been unable to trace if this record dates back to actual breeding records, or it was assumed from the fact that most specimens are found sitting on trunks of this tree. Kasy (1954) recorded that he bred moths from twigs of *Salix alba* and *purpurea*, which were infested with the gall midge *Helicomomyia saliciperda* Duf. However, he stated that the larvae were not feeding in the gall, but in other parts of the twigs. Raebel (1925), who found adults of this species in some numbers on trunks of *Salix alba* and *S. fragilis*, was of the opinion that trees growing along streams were preferred. Adults are found in June and July.

Distribution: Central and south-eastern Europe. Also recorded from Sweden (Svensson, 1992). Local and scarce; only

Checklist of *Chrysoclista*

<i>linneella</i> (Clerck, 1759)	Europe, N. America (introduced)
<i>gemmatella</i> (Costa, [1836])	
<i>splendida</i> sp. n.	Europe
<i>bimaculella</i> auct.	
<i>razowskii</i> auct.	
<i>lathamella</i> Fletcher, 1936	Europe
<i>bimaculella</i> (Haworth, 1828), nec (Thunberg, 1794)	
<i>razowskii</i> Riedl, 1965, syn. n.	
<i>zagulajevi</i> Sinev, 1979	Caucasus
<i>abchasica</i> (Sinev, 1986), comb. n.	Caucasus
<i>cambiella</i> (Busck, 1915)	N. America
<i>villevilla</i> (Busck, 1904)	N. America

Key to adults of European *Chrysoclista*

1. Forewing with orange spots 2
- Forewing uniformly blackish *linneella* (form)
2. Forewing with one elongate, more or less irregular, orange spot 3
- Forewing with two orange spots *lathamella*
3. Forewing with black costal blocks from base to middle;
larger species (14-17 mm) *splendida* **sp. n.**
- Forewing with slender black streak along costa;
smaller species (10-13 mm) *linneella*

found in numbers on few occasions. Most specimens in European museums originate from Vienna and were collected in the 19th century.

Remarks: The scarcity of this species, and also of *lathamella*, is a possible reason why they were confused until now. *C. lathamella* (as *bimaculella*) was never illustrated in Continental or British literature even though it was described from Britain (apart from that of Wood (1839), where it was misidentified). It certainly added to the confusion that Spuler (1910, pl. 89) illustrated in colour, under the name of *bimaculella*, a specimen of *splendida*.

The genitalia were not figured by Pierce & Metcalfe (1935), probably because of lack of material.

Type material: Holotype: '♂ / Wien, Umgeb. / *Chrysoclista lathamella* Fletcher, det S. Yu. Sinev / HOLOTYPE, *Chrysoclista splendida* Karsholt, 1997' (in coll. ZMUC).

Paratypes: 1 ♂, 'Wien' (ZMUC); 1 ♂, [Wien], 'Bimaculella, Man 9/78', 1 ♀, 'Bimaculella Hw. Stt. Tin. 242, Prater [Wien], Man 57', both labelled 'Zeller coll., Walsingham Collection 1910-427' (BMNH).

Additional material, excluded from type series: numerous old specimens from Vienna and Budapest in various European museums.

C. lathamella Fletcher

This species is easily recognized by having two orange spots in the forewing (fig. 2).

Bionomy: Early stages unknown. *C. lathamella* is a scarce species, which has been taken in some numbers only on a couple of occasions. Adults have been found on trunks of *Salix alba* and *S. caprea*, and have been caught flying around *S. cinerea*.

Distribution: North and West Europe, Poland, western Ukraine.

Remarks: *Tinea bimaculella* was described by

Haworth (1828) from a single specimen found near London by Latham. Haworth stated in his description that the moth has two orange spots on the forewing (hence the name *bimaculella*). The holotype could not be located in the BMNH collection, nor does it appear in the lists kept there on Haworth types in the University Museum of Oxford (Kevin Tuck, pers. comm.). Fletcher (1936) came to the same conclusion. Riedl (1969) stated that Haworth's type should be at the BMNH, but apparently he did not examine it himself, and his statement is incorrect.

The holotype may have become lost early, because when Stainton (1851) gave a more detailed description of *bimaculella* he knew of only one specimen "taken by Mr. Designes, at the end of June, from fallow, at Black Park". This is in accordance with Fletcher (1936), who doubted that early authors like Stephens and Westwood knew this species personally.

Later Walsingham, who had Zeller's collection in his position, pointed out to Stainton that two species may be involved, and this led Stainton (1888) to announce for material of this rare species. That resulted in seven British specimens, the origin and variation of which are dealt with in detail by Stainton (1889). All seven are now in the BMNH, where I have examined them, and all belong to the species with two orange spots in the forewing. In spite of some variation, British specimens, taken together, differed from Continental ones (from Vienna). However, Stainton became confused by one specimen taken at Glogau [now Glogow] in Poland by Zeller, as he could see no difference between that specimen and the British ones. Zeller himself was aware that two species were involved, as he labelled his specimen "*Chrysoclista glogavica* Z.". Apparently he never described *glogavica*, which would have been the valid name for the species with two orange spots.

Tinea bimaculella Haworth, 1828 is a primary homonym of *Tinea bimaculella* Thunberg, 1794 (= *Pammene aurana* (Fabricius, 1775), Tortricidae) and also of *Tinea bimac-*

ulella Schrank, 1802 (identity unknown). Fletcher (1936) proposed *Chrysoclista lathamella* as a replacement name (ICZN, 1985, article 67(h)). Such a name has the same type as the name it replaces, and as stated above the type of *Tinea bimaculella* Haworth is to be considered lost. In order to prevent further confusion in the nomenclature of *Chrysoclista* a neotype of *lathamella* Fletcher, 1936 is here designated. It is a male belonging to the BMNH collection, and it is labelled "Surrey, Leith Hill, ex Harper coll., Walsingham coll.", and "Neotype, *Chrysoclista lathamella* Fletcher, 1936 (*Tinea bimaculella* Haworth, 1828, nec Thunberg, 1794), O. Karsholt design. 1997". The specimen is listed by Stainton (1889) and dealt with by him already in (1857).

Sinev (1979, 1986) compared the two Caucasian *Chrysoclista* species with *razowskii* (auct.). They seem to be closely related, and both differ (among others) from the three European *Chrysoclista* species in the broad, rounded valva in the male genitalia.

The specimen illustrated in this periodical (Buhl et al., 1995: 63, fig. 5) as *razowskii* is the same which is figured here (fig. 2) with the correct name of *lathamella*.

I wish to thank Klaus Sattler and Kevin Tuck, The Natural History Museum, London, UK for help and information during my stay at the museum. Per Falck, Holstebro, Danmark loaned me the illustrated specimen of *lathamella*, and Reinhard Gædike, Deutsche Entomologisches Institut, Eberswalde, Germany provided literature not easily accessible. Geert Brovad (ZMUC) kindly photographed the adult moths.

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