

Proutia rotunda sp. n. (Lepidoptera, Psychidae)
— a bag-worm moth species confused with *P. betulina*
(ZELLER)

Esko SUOMALAINEN

Department of Genetics, University of Helsinki, Arkadiankatu 7, SF-00100 Helsinki, Finland

Summary

The taxon known as *Proutia betulina* (ZELLER) in northern Europe does not correspond to a syntype (here designated as lectotype) of that species. The northern species is described as *P. rotunda* sp. n. It is characterized by shorter branches of the bipectinate antenna and a more roundish forewing than in *P. betulina*. The new species seems to be distributed mainly in northern Europe and in northern parts of Central Europe, while *P. betulina* seems to be restricted to Central Europe, occurring southwards to northern Italy.

A few years ago I received from Mr. Peter HÄTTENSCHWILER some specimens of *Proutia betulina* (ZELLER, 1839), collected by him at Mendrisio, southern Switzerland. When comparing these with Finnish specimens identified as the same species, I noticed that the two sets of specimens showed clear differences. Particularly the structure of the male antenna was so different that I could not consider the two taxa as conspecific.

Proutia betulina was described on the basis of specimens from Glogau, now in western Poland. A syntype is preserved in the British Museum (Natural History), and by my request Dr. Kevin TUCK sent me photographs of it. The specimen is labelled "Lectotype" [circular, purple-edged label ; as far as I know the lectotype was never validly designated] / "Betulina Bartsch [?-o-] lit 3/56" [by ZELLER] / "Epichnopteryx betulina Z. Is. 39, 183. Spey. Is. 46, 34. HS v p. 63. anicanella Br. 73" [by ZELLER] / "Psychidae slide no. 75 leg, antenna" / "BM ♂ genitalia slide no. 3318". The specimen is here designated as lectotype.

The lectotype corresponds with the specimens from Mendrisio, whereas the specimens from Finland belong to another, seemingly undescribed species. This is described here.



Fig. 1. *Proutia rotunda* sp. n. ♂ Finland, U : Pyhtää, H. LUOMA leg.



Fig. 2. *Proutia betulina* (ZELLER, 1839), ♂ Switzerland, Mendrisio, P. HÄTTENSCHWILER leg.

***Proutia rotunda* sp. n.**

(Figs 1, 3, 5 and 6)

HOLOTYPE : ♂, labelled "Fennia, Al: Lemland, Vesteränga, 7.VII.1946, Lingonblad" / "Holotype *Proutia rotunda* SUOMALAINEN" [red label] (deposited in the Zoological Museum, University of Helsinki).

PARATYPES : 17 ♂♂ 7 ♀♀ : Finland : Al : Lemland, Vesteränga 1 ♂ 7.VII.1946 LINGONBLAD leg. and 2 ♂♂ 20.VII.1952 H. BRUUN leg., Lemland 1 ♀ 1987 T. & K. NUPPONEN leg. ; U : Porvoo/Borgå 2 ♂♂ 5 ♀♀ 20.V.1948, 17.VI.1949, 19.VI.1949, 11.VII.1950, 16.VII.1951, 5.VI.1957, 12.VI.1957 E. SEPPÄNEN & A. STRANDMAN leg. ; U : Pyhtää 5 ♂♂ 19.VI.1973, 26.VI.1973, 29.VI.1973 H. LUOMA leg. ; EH : Nastola 2 ♂♂ 1948 HEINÄNEN leg. ; Lempäälä 1 ♂ 2.VII.1942 E. SALO leg. ; Denmark : Alleröd 1 ♂ 31.V.1979 M. FIBIGER leg. and 1 ♂ 22.4.1962 K. LARSEN leg. ; Hviding 1 ♂ 16.V.1970 K. LARSEN leg. ; Lilleröd 1 ♀ 24.IV.1962 M. FIBIGER leg. Paratypes in the Zoological Museum, University of Helsinki, in Coll. E. SUOMALAINEN and in Coll. P. HÄTTENSCHWILER.

ETYMOLOGY : Lat. fem. adj. *rotunda* = round, from the roundish wing shape of the new species.

DIAGNOSIS : The male of *Proutia rotunda* differs from the closely related *P. betulina* (Figs 2, 4 and 7) in the more roundish wing shape and, particularly, in the shorter branches of the bipectinate antenna. In the female, the caudal hair tuft is snowy white (light grey in *P. betulina*).

DESCRIPTION : ♂ : Wingspan 12.0-14.5 mm, average 13.5 mm (n = 12) (5 ♂♂ of *P. betulina* had a wing span of 12.0-13.5, average 12.5 mm). Intercalated cell present at terminal end of forewing discoidal cell. Tip of forewing more rounded than in *P. betulina* ; forewing and hindwing colour grey brown, sometimes darker than in *P. betulina*. Forewing with broad scales (class V-VI sensu SAUTER 1956 : 489), seemingly not differing from those of *P. betulina*. Length of antenna as in *P. betulina* ; antenna on average with 22 segments (in *P. betulina* 21). Length of side branches of bipectinate antenna usually about 70% of those in *P. betulina*. In three males of *P. rotunda*, ratio of length of side branch of fifth segment from base (two basal segments not counted) / length of segment 2.0-2.3 (in 12 ♂♂ of *P. betulina* from Coll. HÄTTENSCHWILER 2.8-3.8 ; within population variation considerably less). Male genitalia (Fig. 5) as in *P. betulina* (according to P. HÄTTENSCHWILER, in litt., genitalia of this genus show few specific differences).



Fig. 3. *Proutia rotunda* sp. n. ♂ antennae, Finland, U : Pyhtää, H. LUOMA leg.



Fig. 4. *Proutia betulina* (ZELLER, 1839). ♂ antennae, Switzerland, Mendrisio, P. HÄT-TENSCHWILER leg.



5



6



7

Fig. 5. Male genital armature of *Proutia rotunda* sp. n. Finland, U: Pyhtää, H. LUOMA leg.

Fig. 6. Larval case of *Proutia rotunda* sp. n. ♂, Finland, Sippola, H. LUOMA leg. (Drawing: H. LUOMA).

Fig. 7. Larval case of *Proutia betulina* (ZELLER, 1839). ♂, Switzerland, Mendrisio, P. HÄTTENSCHWILER leg.

♀ : Caudal hair tuft snowy white (in *P. betulina* light grey). Antenna with 10-12 segments (in *P. betulina* 10-16, HÄTTENSCHWILER & CHAO 1990). In two females ratio of lengths of third and first legs 2.0 and 2.06 (in *P. betulina* 1.4, HÄTTENSCHWILER & CHAO 1990).

LARVAL CASE (Fig. 6) : Larger than in *P. betulina* (Fig. 7), with pieces of stems of Poaceae, and with lichens and other material collected from the surface of tree trunks and stones (the cases of *P. betulina* are shorter and smoother, Fig. 7).

BIOLOGY : In Finland the species has been observed in deciduous and mixed forests, mainly on warm, but mesic, southern slopes. The larval cases are fixed on trunks of birch (*Betula*) or rowan (*Sorbus*), or on the sides of large stone blocks, usually in well protected and shady places. The adults emerge usually in June or early July (SEPPÄNEN 1966, H. LUOMA in litt.).

DISTRIBUTION : *P. rotunda* is relatively rare in Finland but has been observed from the provinces A, V, U, EK, St, EH, ES, EP and KP (KYRKI 1978), i.e. from the southern coast at 60° N to about 64° N. The taxon reported from Sweden is clearly *P. rotunda* ; it has been found in the southern part of the country from about 55° to 59° N (NORDSTRÖM et al., 1961). In addition, the species has been observed from Denmark (see type material) and from the German Federal Republic : Waldeck (STAUDINGER leg.). The general distribution of the species remains to be determined.

Remarks

P. betulina is known to me from western Poland, Glogau (the type material), from the German Democratic Republic, Mark Brandenburg (M. WEIDLICH leg.), from the German Federal Republic : Baden, Rastatt (A. BIEBINGER leg.) and from Switzerland, Mendrisio (P. HÄTTENSCHWILER leg.). In Coll. HÄTTENSCHWILER, *P. betulina* is present, in addition, from the following localities : German Federal Republic : Duisburg ; Bavaria, Münchshofen ; Italy : Garda, Vesano ; Czechoslovakia : Prag ; Belgium : Mol ; Switzerland : Yverdon ; Herrliberg ; Biasca ; Dorenaz ; Uster.

For the distribution of other *Proutia* species, see HÄTTENSCHWILER & CHAO, 1990. The recently described *P. chinensis* HÄTTENSCHWILER & CHAO, 1990 has equally long branches of the antenna as *P. betulina*. *Proutia salicicolella* (BRUAND, 1853) and *P. eppingella* (TUTT, 1900)

are junior synonyms of *P. betulina* (ZELLER, 1839) (HÄTTENSCHWILER, 1978).

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