

Horisme predotai BYTINSKI-SALZ, 1936
a species distinct
from *Horisme exoletata* (HERRICH-SCHAEFFER, 1839)
(Lepidoptera : Geometridae) (*)

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Summary

Some authors consider *Horisme predotai* BYTINSKI-SALZ, 1936 (indigenous to Sardinia) and *Horisme exoletata* (HERRICH-SCHAEFFER, 1839) (indigenous to Sicily) to be conspecific. However, specific characters can be found in both the male (transtilla) and female (bursa copulatrix) genitalia. These are described and figured.

Riassunto

Nel lavoro si cerca di evidenziare le differenze tra le poco note *Horisme predotai* BYTINSKI-SALZ, 1936 (specie diffusa in Sardegna) e *H. exoletata* (HERRICH-SCHAEFFER, 1839) (specie di Sicilia); a tale scopo vengono anche forniti i genitali delle due entità.

Horisme predotai BYTINSKI-SALZ, 1936 was described from specimens collected in Sardinia (type locality: Teulada, province of Cagliari, and Uras, province of Oristano) and explicitly separated from Sicilian *Horisme exoletata* (HERRICH-SCHAEFFER, 1839). However, the situation became confused because PROUT (1938) apparently considered them to be conspecific, and no recent authors have addressed the problem.

Material examined

Horisme predotai BYTINSKI-SALZ, 1936 (Mem. Soc. ent. ital. 15 : 209).

SARDEGNA : Uras b. Oristano, Sardinia 14-18 Okt. 1934, Dr. H. BYTINSKI-SALZ, 1 ♂ (prep. V. RAINERI n. 422) Zoologisches Institut und Zoologisches Museum, Hamburg (Z.I.M.) Syntypus ; Teulada Sardinia, 8-11 Nov. 1934 Dr. H. BYTINSKI-SALZ, 1 ♀ (prep. V. RAINERI n. 444) Z.I.M. Syntypus ;

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Soleminis (CA) 23-III-1983 leg. SIEGEL, 1 ♀ (prep. V. RAINERI n. 280); Soleminis (CA) 11-IV-1983 leg. SIEGEL, 1 ♂ (prep. V. RAINERI n. 310); Soleminis (CA) 22-III-1984 leg. SIEGEL, 1 ♂ (prep. v. RAINERI n. 463); Soleminis (CA) 11.IV.1985 leg. SIEGEL, 1 ♂; Soleminis (CA) 18.IV.1985 leg. SIEGEL, 1 ♂ (prep. V. RAINERI n. 573); Soleminis (CA) 18.X.1985 leg. SIEGEL, 1 ♀ (prep. V. RAINERI n. 538): all this material is in coll. CAMPARI-RAINERI; Soleminis (CA) IV.1983 leg. SIEGEL 3 ex. coll. SIEGEL; Soleminis (CA) 6-8-11-19.IV.1985 leg. SIEGEL 4 ♂♂ coll. SIEGEL; Domus-novas (CA) 24.IV.1974 leg. F. HARTIG coll. Museo Regionale Torino.

Horisme exoletata (HERRICH-SCHAEFFER, 1839) (Die Fortsetzung von Panzer, Faunae Insectorum Germaniae initia. Regensburg Manz. Heft 163 fig. 7)

SICILIA : Sicilia Madonie, coll. DANNEHL in coll. BYTINSKI-SALZ, 1 ♂ (prep. V. RAINERI n. 424) Z.I.M.; Sicilia Madonie 19.XI.1932, coll. DANNEHL in coll. BYTINSKI-SALZ, 1 ♂ (prep. V. RAINERI n. 423) Z.I.M.; Mistretta (ME) 25.IX.1938 leg. R. LUNAK, 1 ♀ (prep. REZBANYAI n. 4159) Naturhistorisches Museum Wien; Sferracavallo (PA) Winter 1951-52, coll. DE STEFANI, 1 ♀ (prep. V. RAINERI n. 737) Museo Civico di Terrasini (PA).

External morphology

Both species are very variable in external morphology and difficult to distinguish from each other. The ground colour of *Horisme predotai* varies from light brown to almost black. In extremely dark specimens markings of both wings can be reduced to the anal spot only. The latter represent the so-called ab. «*nigra*» described by the same author on a male specimen from Teulada.

Horisme predotai tends to be darker than *Horisme exoletata*, however no character is constant enough to allow the identification of unlabelled specimens. Even the antennae, which often look somewhat different, have proved to be too variable.

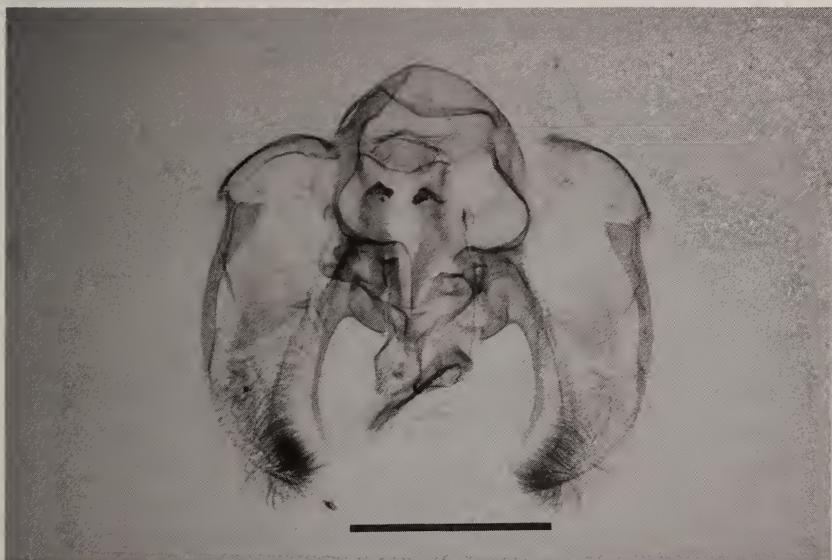
Male genitalia (Figs. 1-2)

Specific characters in the male genitalia given by BYTINSKI-SALZ are rather confused, to the point that one is occasionally under the impression that the author might have mixed up his specimens.

Broadly speaking, however, variation within species encompasses that between them. Having examined the male genitalia of *Horisme exoletata* (fig. 1), the best specific character that I was able to find is the transtillae which are large and touch each other distally.



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Fig. 1-2. Male genitalia of *Horisme* spp. 1. *H. exoletata* (H.-S.) GP V. RAINERI No. 423 ; 2. *H. predotai* BYT.-S. GP V. RAINERI No. 310. The aedeagi have been removed. Scale bar : 1 mm.

In contrast, these structures in *Horisme predotai* (fig. 2) are minute and are well separated. As already suggested by BYTINSKI-SALZ, the sacculus can also be slightly different, but the variation is too great to be useful as a distinguishing character. No significant differences could be demonstrated in the genitalia (male or female) of *Horisme predotai* taken in the autumn or spring.

Female genitalia (Figs. 3-4)

The most constant character of the female genitalia is in the structure of the numerous star-shaped folds that are scattered all over the inner surface of the bursa copulatrix. This type of bursa has been termed "instrate" by PIERCE (1914). These folds apparently have the same function as the signa. They are larger in *Horisme exoletata* (fig. 3) and possess a more elongate apical "spine". One of the best characters, however, is that each radial arm of the star-shaped structures is petaloid and distally rounded in *Horisme exoletata* while they are apically pointed in *Horisme predotai* (fig. 4).

Biology

Horisme predotai seems to be bivoltine and not monovoltine, as stated by BYTINSKI-SALZ. The specimens that I have seen were collected by Mr. C. SIEGEL, who lives at Soleminis (province of Cagliari) and collects all the year round. Yet no specimens have been collected in December, January or February.

I have unfortunately had difficulties in obtaining specimens of *Horisme exoletata*. It seems to be rare, and I could only obtain material of the autumn brood. I am therefore unable to establish if the species also flies in the spring.

According to Mr. C. Siegel (pers. comm.), the foodplant of the larvae of *Horisme predotai*, in the wild, is *Clematis vitalba* L.

Discussion

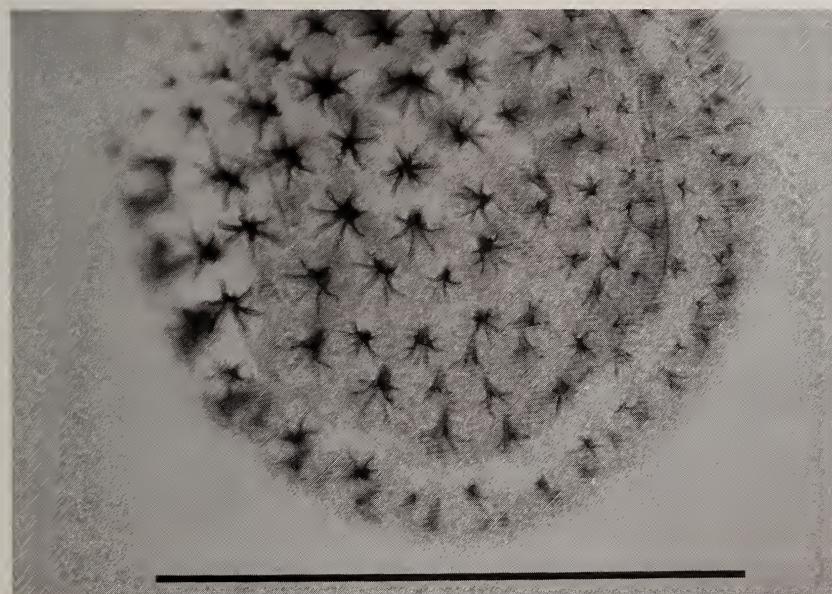
The genitalic differences reported above are rather small. However, they appear to be fairly constant and I believe that they are significant and can be used to distinguish the two species. Further experiments (hybrid experiments, enzyme electrophoresis etc.) will nevertheless be important to finally point out the amount of genetic dissimilarity occurring between them.

Acknowledgements

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3



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Fig. 3-4. Bursa copulatrix of *Horisme* spp. 3. *H. exoletata* (H.-S.) GP V. RAINERI No. 737 ;
4. *H. predotai* BYT.-S. GP V. RAINERI No. 280. Scale bar : 1 mm.

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