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A new *Pseudobankesia* species from Crete (Lepidoptera: Psychidae)

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Samenvatting. Een nieuwe *Pseudobankesia*-soort uit Kreta (Lepidoptera: Psychidae)

Een nieuwe *Pseudobankesia*-soort uit Kreta, *Pseudobankesia hauseriella* sp. n. wordt beschreven en vergeleken met de bekende soorten van de Balkanstaten en Griekenland.

Résumé. Une nouvelle espèce du genre *Pseudobankesia* de Crète (Lepidoptera: Psychidae)

Une nouvelle espèce du genre *Pseudobankesia* de l'île de Crète, *Pseudobankesia hauseriella* sp. n., est décrite et comparée aux espèces connues des Balkans et de la Grèce.

Zusammenfassung. Eine neue *Pseudobankesia* Art von der Insel Kreta (Lepidoptera: Psychidae)

Eine neue *Pseudobankesia* Art von der Insel Kreta, *Pseudobankesia hauseriella* sp. n., wird neu beschrieben und mit den bekannten Arten aus dem Balkan und Griechenland verglichen.

Key words: Psychidae - new species - Crete - Greece.

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Introduction

In 1996 and 1997 Jan Bosselaers, Gijs Verkerk and the author explored the greek Island of Crete several times to study some aspects of its invertebrate fauna. Special attention was paid to Psychidae and Tineidae.

A variety of biotopes was visited, mainly in the west of the island. The warm and dry climate does not leave much space for fungi feeding species, but nevertheless some refuge areas were discovered, especially near cave entrances, where the humidity, constant shadow and cold air coming directly from the cave itself provide an atmosphere in which fungi and mosses can flourish. During the first expedition, a large number of triangular, empty Taleporiini cases and exuviae were collected at the Omalos-cave near Omalos (fig. 1). In April 1997, almost full-grown larvae and pupae were collected and a second locality of this species was found, a humid rock wall at the entrance of the cave of Souré, Azogires (600 m). From these larvae, 8 males and 7 females of an undescribed *Pseudobankesia* species were bred.

In the spring of 1996 Dr. E. Hauser bred 2 males and 4 females ab ovo from cases that were collected in a small gorge of a brook near Drosia. P. Hättenschwiler noticed that we were working on the same species, and we decided that I would describe the species, taking the material and research of Hauser into account.

The type material is deposited in the collection of the author (HH), the Natural History Museum, London (NHML), P. Hättenschwiler (PH) and A. & E. Hauser (AEH).

Pseudobankesia hauseriella sp. n.

Holotype ♂ (fig. 2) with pupal case and exuviae, Omalos cave, case collected 22.III.1997, ex pupa 4.IV.1997 (HH). Paratypes 10♂ and 9♀: ♂ with exuviae, T2, Omalos cave, case collected 22.III.1997, ex pupa 30.III.1997 (NHML); ♂ with case and exuviae, T3, Omalos cave, case collected 22.III.1997, ex pupa 23.III.1997, microscope slides H227, H228, H229, H230, H231, H232 (HH); ♂, T4, Azogires, cave of Souré, case collected 23.III.1997, ex pupa 27.III.1997, microscope slides H233, H234, H239, S.E.M. microscope prep. P150 (HH); ♂, T5, Omalos cave, case collected 22.III.1997, ex pupa 27.III.1997, microscope slides H242, H245 (HH); 2♂ with case and exuviae, T6 and T7, Idem, case collected 22.III.1997, ex pupa 29.III.1997 (HH); ♂ with exuviae, T8, Idem, case collected 22.III.1997, ex pupa 22.III.1997, microscope slides H235 (fig. 5), H236, H240 (HH); ♂ with case and exuviae, T9, Idem, case collected 22.III.1997, ex pupa 4.IV.1997 (PH); ♂ with case and exuviae, T10, Drosia/Sisses, case collected 9.IV.1995, ab ovo 14.IV.1996, microscope slide Hauser 265, A. & E. Hauser leg. (AEH); ♂ with case and exuviae, T11, Idem, case collected 9.IV.1995, ab ovo 16.IV.1996, A. & E. Hauser leg. (AEH). The following 7 of 9 female paratypes are mounted with case and exuviae and have been collected as larvae or pupae at the Omalos cave on 22.III.1997: ♀, T12, ex pupa 27.III.1997 (HH); 4♀, T13 (S.E.M. prep. P147) (fig. 3b), T14 (fig. 3a), T15 and T16, ex pupa 31.III.1997 (HH); ♀, T17, ex pupa 2.IV.1997 (PH); ♀, T18, ex pupa 4.IV.1997 (HH); ♀, T19, Drossia/Sisses, case collected 9.IV.1995, ab ovo April 1996, microscope slide Hauser 266, A. & E. Hauser leg. (AEH); ♀, T20, Drossia/Sisses, case collected 9.IV.1995, ab ovo April 1996, microscope slide Hauser 267, A. & E. Hauser leg. (AEH).

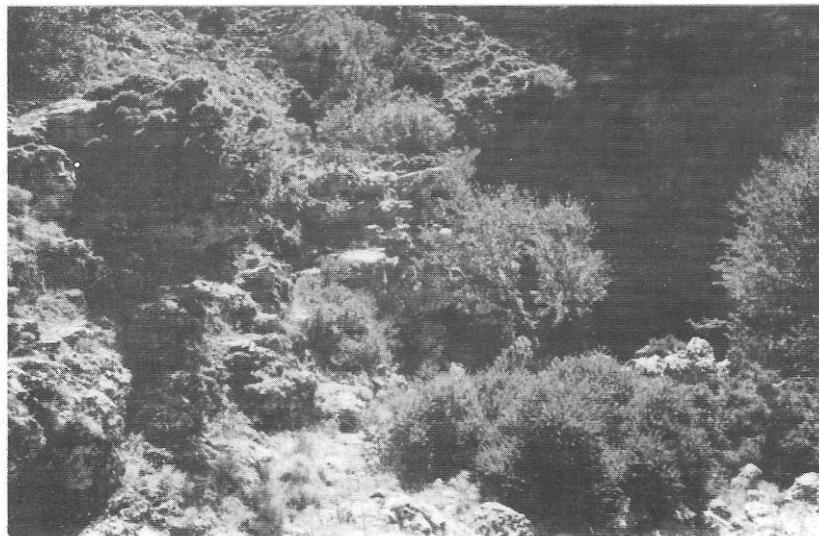


Figure 1: Entrance of the Omalos cave (Crete, Omalos) with the habitat of *P. hauseriella* sp. n.

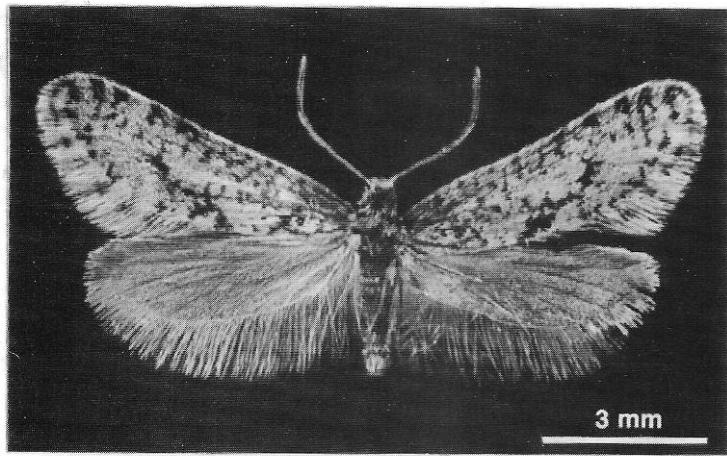


Figure 2: Holotype of *P. hauseriella* sp. n., Crete, Omalos, e.p. 4.IV.1997, leg. and coll. H. Henderickx.

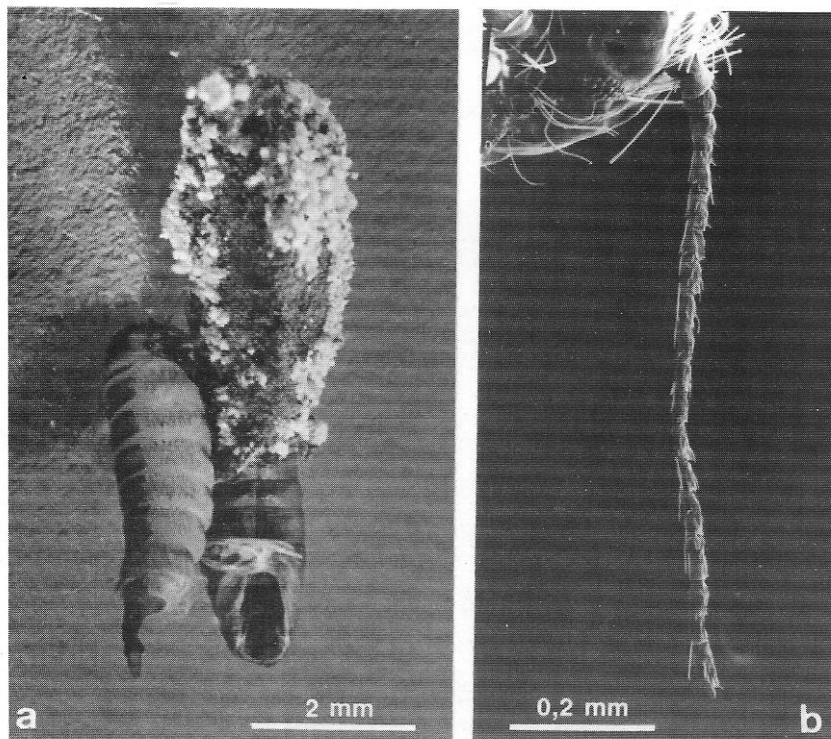


Figure 3: Paratype ♀ of *P. hauseriella* sp. n.; 3a. Paratype T14, Omalos, e.p. 31.III.1997 — 3b. Antenna of paratype T13, e.p. 31.III.1997, S.E.M. prep. P147.

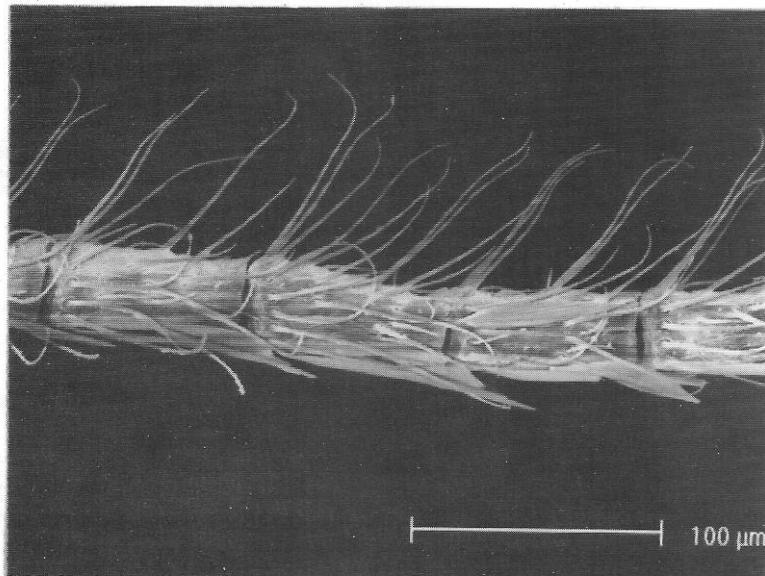


Figure 4: *P. hauseriella* sp. n., antennal segments of ♂ paratype T4, Crete, Azogires, e.p. 27.III.1997, S.E.M. prep. P150.

Differential diagnosis. None of the known species of the genus *Pseudobankesia* Meier, 1963 have a relatively long saccus of the male genitalia, nor long antennae in the female — distinct characters of *P. hauseriella* sp. n.

Male (fig. 2). Wingspan 12.0–12.8 mm (average 12.2 mm, n = 6), forewing with scales class IV (classification according to Sauter 1956), yellowish-grey with dark brown scales scattered over the wing. Pattern variable, forming a fable net, with blurred discoidal spot and dark spot near dorsal margin, usually without median connection. Hindwings scales class 2–3, light grey. Venation normal for *Pseudobankesia*, as in Hättenschwiler (1994). Antenna with approximately 31 segments. Cilia approximately as long as the segments (fig. 4). Fore leg with epiphysis. More details and comparison with other species are shown in the table below.

The male genitalia with the very long saccus and the long and pointed aedeagus are typical for the new species (fig. 5a ventral, fig. 5b lateral view).

Female (fig. 3a). Apterous, length without ovipositor 2.4–3.1 mm (average 2.7 mm, n = 5). The abdomen is pale yellowish-white with brownish sclerotised plates dorsal and clear brown undivided sternites. The bursa is wide, less sclerotised than in *P. macedoniella*. The anal hair-tuft is shiny brown to grey-brown forming a ring around the abdomen on segment 7. The antenna is very long with 20–23 segments (fig. 3b). The scapus shows a distinct groove (fig. 6). See also table.

Table. Morphological differences between some *Pseudobankesia* species.

Males	<i>P. macedoniella</i>	<i>P. dioszeghyi</i>	<i>P. arathova</i>	<i>P. darwini</i>	<i>P. hauseriella</i>
Length of forewing (mm)	5.2–6.4	—	4.1–4.9	—	4.8–6.1
Average (mm)	5.7	6	4.4	5.4	5.8
Distance of eyes (× times height of eye)	1.5	1.2	1.5	±2	1.7
Ground colour of forewing	straw-yellow	pale yellow	white	cream white	yellowish grey, darker than <i>P. macedoniella</i>
Colour of forewing pattern	fading yellow	brown	dark, contrast strong weak	clear brown contrast weak	dark fine net, dark discoidal spot on dorsal margin
Colour of head scales	yellowish	golden yellow	white	creamy white	yellowish grey
Number of antennal segments	26–28	31	26–28	29–31	31
Epiphysis on first tibia	present	missing (?) or vestigial	missing (?)	missing (?)	present
Females	?	?	pale brown	straw-yellow	yellowish-white
Colour of body	?	?	pale brown	straw-yellow	yellowish-white
Number of antennal segments	12–16	?	12–15	11	20–23
Number of tarsi	4–5	?	4–5	5	5
Spur on third tibia	long, double	?	very short	absent	very short or absent, double if present
Cases					
Length (mm)	4.5–5.5	?	4.2–4.5	5.0–5.3	5.0–6.7 (average 5.8)

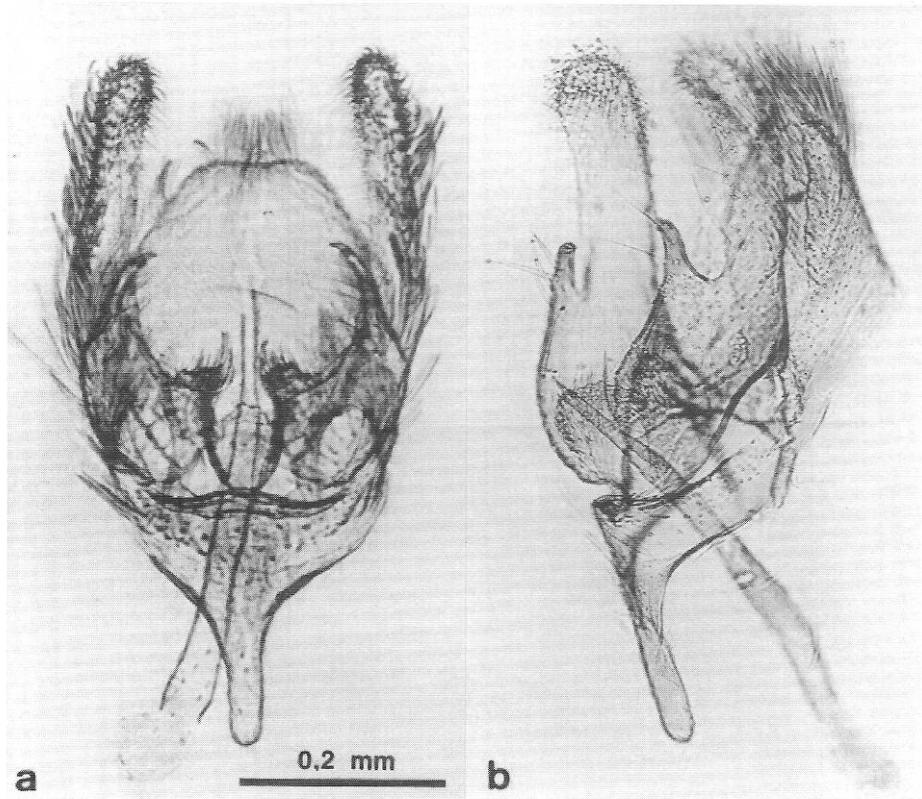


Figure 5: *P. hauseriella* sp. n., ♂ genitalia of paratype T8, Crete, Omalos, e.p. 3.IV.1997, LM prep. H235; 5a. ventral view — 5b. lateral view.

Case (only adult cases with exuviae are considered). Male case: length 5.7–6.7 mm (average 6.0 mm), width 1.7–2.6 mm (average 2.0 mm). Female case: length 5.0–6.4 mm (average 5.6 mm), width 1.7–3.3 mm (average 2.1 mm).

The length/width average index 2.9 (5.8 mm / 2.0 mm), 2.3 in *P. macedoniella*. The case is triangular in cross section, tapered on both ends. The head-hole is on the underside, the rear end is closed by three lobes. The side walls are flat or slightly bent to the outside, covered with sand and especially with light-green or whitish lichen. The length data of other species can be seen in the table.

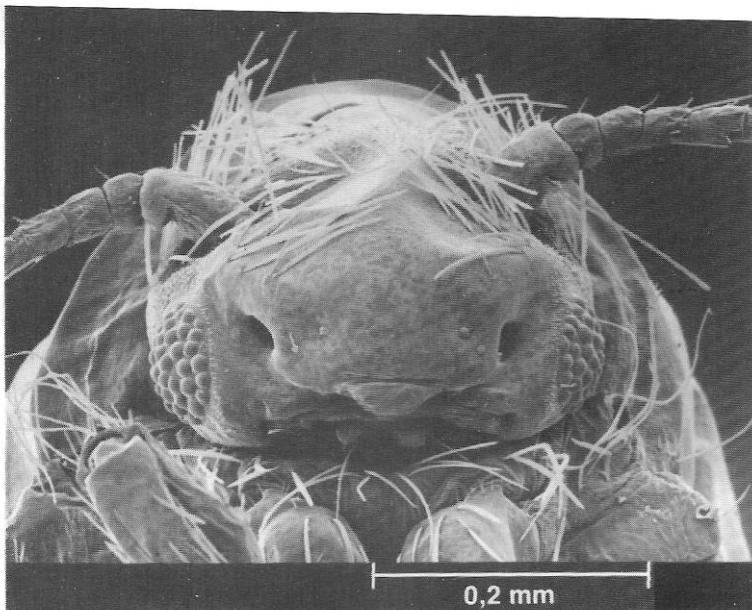


Figure 6: *P. hauseriella* sp. n., head of ♀ paratype T13, Crete, Omalos, e.p. 21.III.1997, S.E.M. prep. P147.

Distribution. At this moment, 11 species of *Pseudobankesia* are known (Henderickx 1996). 4 species are described from the Balkan area: *P. macedoniella* (Rebel, 1919) (see Meier 1964), *P. arahova* Stengel, 1990, *P. darwinii* Stengel, 1990, and *P. dioszeghyi* (Diószeghy, 1938). The latter species is erroneously considered to be described by Rebel in 1938, but it was in fact Diószeghy (1935) who published the original description using Rebel's notes. This species from Romania is little-known, and the female is undescribed yet. None of the previous mentioned species has been recorded from Crete. The new species appears to be endemic on Crete, where it has been found in three localities in the middle and the west of the island.

Parasitism. From the cases collected at the Omalos cave (22.III.1997) 3 hymenopterous parasites were bred 6–12 April 1997. According to Dr. C. van Achterberg (personal communication) two female specimens belong to the Ichneumonidae (Campopleginae). The third specimen was determined as a *Meteorus affinis* (Westmael) female (Braconidae) never mentioned before as a Psychidae parasite.

Etymology. I dedicate this species to the Austrian entomologist Dr. Erwin Hauser, to acknowledge his important contribution to our knowledge of the Psychidae of Crete.

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