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Description of a new Chinese species of the genus *Rhigognostis* Staudinger, 1857 (Lepidoptera: Plutellidae)

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Abstract

Rhigognostis barkamensis Baraniak & Larsen, sp. n. is described from the northern part of Sichuan province in China on the basis of a single female specimen caught by light at Zhe Gu Shan pass near Barkam. The new species is compared with all known species of *Rhigognostis* Staudinger, 1857 and a differential diagnose is given.
KEY WORDS: Lepidoptera, Plutellidae, *Rhigognostis barkamensis*, taxonomy, morphology, description, China.

Descripción de una nueva especie china del género *Rhigognostis* Staudinger, 1857 (Lepidoptera: Plutellidae)

Resumen

Se describe de la parte norte de la provincia de Sichuan en China *Rhigognostis barkamensis* Baraniak & Larsen, sp. n., sobre la base de un solo espécimen hembra capturado a la luz en el paso de Zhe Gu Shan cerca de Barkam. La nueva especie se compara con todas las especies conocidas de *Rhigognostis* Staudinger, 1857 y se da una diagnosis diferencial.
PALABRAS CLAVE: Lepidoptera, Plutellidae, *Rhigognostis barkamensis*, taxonomía, morfología, descripción, China.

Introduction

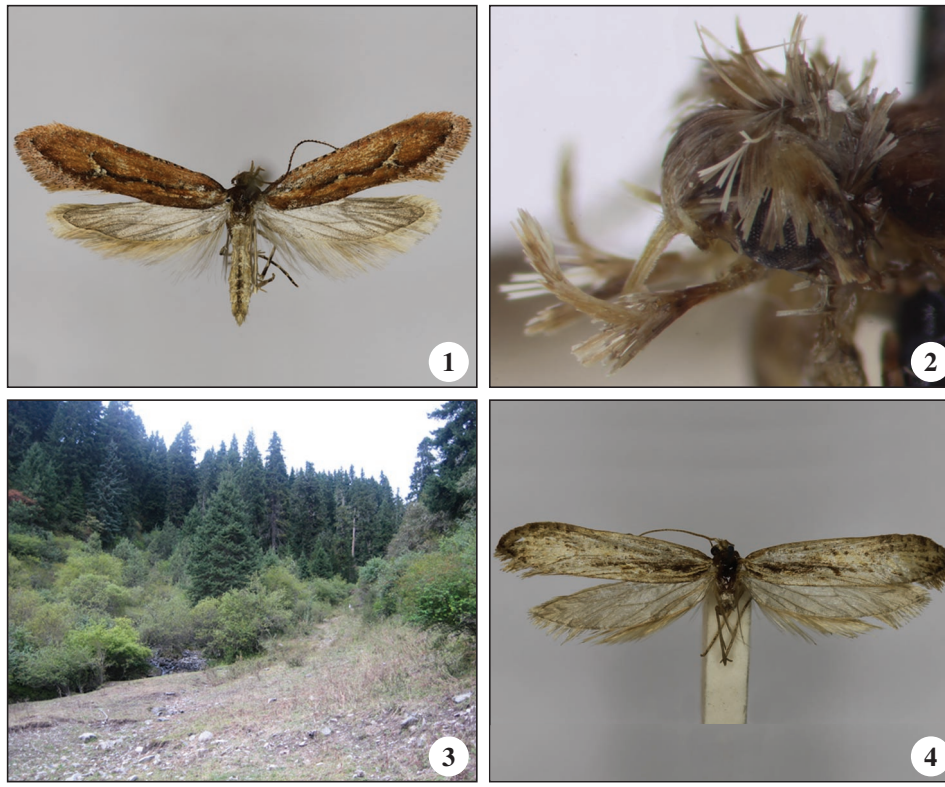
The systematic position of the genus *Rhigognostis* Staudinger, 1857 is still unclear (BARANIAK, 1992; KYRKI, 1989). The genus is included in the family Plutellidae (DUGDALE *et al.*, 1999, KYRKI, 1990), and most of the species described in the 20th century, were placed in the genus *Plutella* Schrank, 1802 (MEYRICK, 1914). So far, only two species of this genus are described from China, *Rhigognostis erysiphea* (Meyrick, 1938) (BARANIAK *et al*., 2015), and Tibet province *Rhigognostis viatica* (Durant, 1906). This species was originally placed in the genus *Plutella,* but Kyrki transferred it to *Rhigognostis* (KYRKI, 1989). In the latest list of Lepidoptera from China (LI-ZHONG, 2005) there is no information on other species of this genus. Terminology for genitalia used in this paper follows KLOTS (1970), RAZOWSKI (2008) and ULENBERG (2009).

Systematic

***Rhigognostis barkamensis* Baraniak & Larsen, sp. n.** (Fig. 1)

Holotype: 1 ♀, [China] Sichuan N., near Barkam, 3300 m, Zhe Gu Shan pass, 31º 55.625’ N 102º

39.290' E, 21-IX-2011, Floriani leg. genitalia slide YPO 77/2014, E Baraniak. Holotype will be preserved in Lepidoptera collection in the Zoological Museum, Copenhagen, Denmark.



Figures 1-4.– Adult female and labial palp of *R. barkamensis* Baraniak & Larsen, sp. n. **1.** Adult female-holotype. **2.** labial palp. **3.** Habitat of *Rhigognostis barkamensis* Baraniak & Larsen, sp. n. (Fot. Aidas Saldaitis). **4.** Adult male paratype *R. viatica* (Druant), Gyantse. 13000 ft, June 1904, Tibet Expedition, H. J. Walter, Walsingham coll.

Wingspan: 20 mm. Head light brown. Labial palps composed of 3 segments: first segment short, light brown; second segment with a long bicoloured tuft of light and dark brown scales; third segment longest, bent upwards with the-distal part pointed. It is very light brown and the tip has pure white scales (Fig. 2). Maxillary palp short, light brown, apex pointed with some white scales. Antennae: scapus and pedicel light grey-brown; flagellomeres light brown, each with a white ring.

Forewing (Fig. 1) chocolate brown**,** with rusty lustre. Basal area tricoloured: dark brown near costal margin, light brown near dorsal margin, white scales in central part. Costal margin proximally dark brown, small dark spots visible at 1/3 of its length, central and distal part light brown. A longitudinal streak reaching from base to two thirds of the wing ending bowed upwards and with a small whitish triangular spot edged with black pointing towards the corner. The streak is dark brown to blackish. Central part, to termen margin, light brown. Termen margin darker. Cilia white-brown, with 2 thin interrupted darker lines. Hindwing light grey**,** with similarly coloured cilia and a darker dividing line.

Thorax dark brown. Abdomen light grey-brown with a longitudinal blackish streak in the middle. Legs are black ringed with narrow white rings.

Female genitalia (Figs 5-8): Papilla analis membranous, broad, with scanty hair-like spines. Posterior apophyses long and thin, hook-shaped. Anterior apophyses thin, noticeably narrowing, shorter than posterior apophyses. Ostium bursae oval, small, antrum triangular in outline, with gently rounded margins, strongly sclerotized, markedly constricted near ductus bursae. Ductus bursae short and wide, strongly sclerotized, immediately under antrum strengthened with longitudinal sclerites, which makes it more narrow. Remaining part of ductus bursa slightly narrower, only near inception of bursa copulatrix slightly dilated, emitting a short membranous ductus bulla, broadening into a small, membranous bulla seminalis. Ductus seminalis narrow, markedly sclerotized. Bursa copulatrix small and oval, strongly strengthened with spinules; signum absent.

Male unknown.

Biology: Only the collecting data are known.

Type locality: Zhe Gu Shan pass Barkam area in northern Sichuan Province on the eastern edge of the Tibetan Plateau, at an elevation of 3300 m. The type locality (Fig. 3) is a shrubby humid alpine meadow surrounded with mountainous *Picea* forest.

Remarks: *Rhigognostis barkamensis* Baraniak & Larsen, sp. n. can easily be distinguished from other known species of this genus by morphological features. Scales on forewings coloured like in *R. erysiphaea* (BARANIAK *et al.*, 2015) but the shape and colour of the narrow and dark longitudinal streak in *R. barkamensis* is in contrast to the white narrow pattern in *R. erysiphaea.* The external morphology of *R. viatica* (Durrant, 1906) was examined by first author during his visit to BNHM in London (Fig. 4). In the original description *R. viatica* is placed between *R. senilella* (Zetterstedt, 1839) and *R. annulatella* (Curtis, 1832) and thus the differences to *barkamensis* are large. The structure of the female genitalia especially antrum, is generally similar to that of *R. incarnatella* and *R. schmaltzella* (Zettersted, 1839) (BENGTSSON, 2011). The difference is pronounced with a constricted and sharp angle to ductus bursa. The opening of antrum is not circular but slightly constricted, like in *R. annulatella*. Ductus bursae wide but short, under antrum strengthened with two sclerites. Uniform sclerotization of its further part makes it different from other known species, where it is at least partly membranous. Bursa copulatrix of the new species is small, oval, strongly sclerotized, without signum. Its oval shape and strengthening of its walls by spinules also distinguishes it from other known species, where bursa copulatrix is spherical, membranous, usually with paired signa.

Etymology: The species is named after the collecting area.

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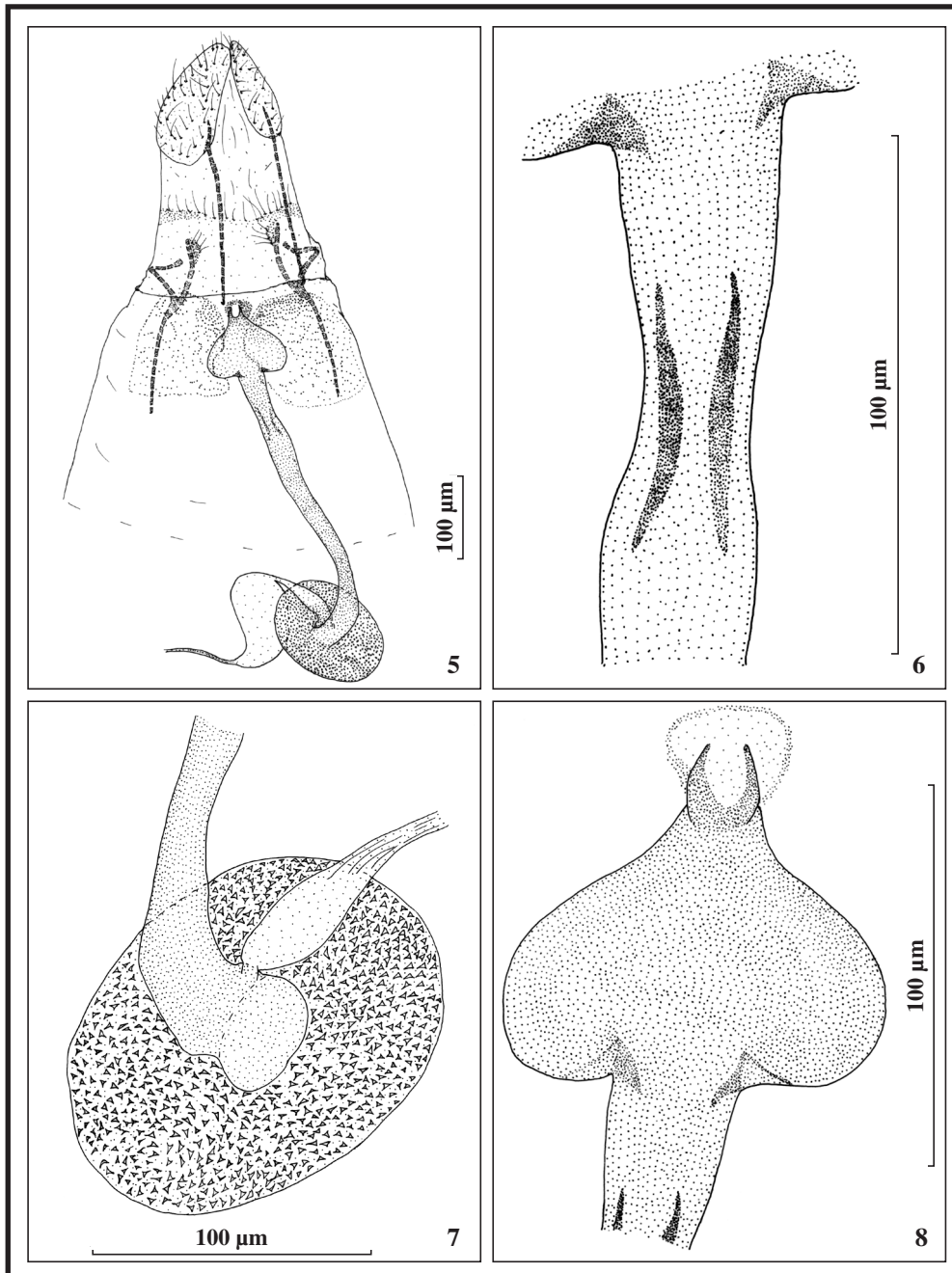

Figures 5-8.– Female genitalia of *R. barkamensis* Baraniak & Larsen, sp. n. **5.** general view. **6.** sclerotized part of ductus near antrum. **7.** sclerotized part of bursa copulatrix. **8.** detail of antrum (genitalia prep. E Baraniak YPO 77/201).