

The female of *Rhigognostis sibirica* (Lepidoptera, Plutellidae)

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The female of *Rhigognostis sibirica* Kyrki, 1989, is described. Habitually it is similar to the male. The genitalia are characterized by two signa and a narrow elongated antrum. A key to the identification of female *Rhigognostis* species on the basis of genitalia is given. *R. sibirica* is reported as new for the American continent.

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1. Introduction

The male of *Rhigognostis sibirica* was recently described by Kyrki (1989). He had also found female specimens of *R. sibirica* in North-American material and made genital slides of two of these specimens, but due to his sudden death in 1986, he never wrote anything about these females. We describe here the female of *R. sibirica* and give a new key to the identification of *Rhigognostis* species based on the female genitalia.

2. Material examined

The material (4 males, 8 females) is from the US National Museum, Washington. There were three female specimens labelled as follows: "McKinley Pk. Alaska June 1931. F.W.Morand, Coll.", one with a further label written by Jorma Kyrki: "*Rhigognostis sibirica* n.sp. ♀ det J.Kyrki 1983, Slide 21.4.1983 nr.A276/J.K." The other speci-

mens (4 exx.) are labelled "Aklavik, N.W.T. Sept.20.1931 Bryant, lot 265" one with a label by Kyrki: "*Rhigognostis sibirica* n.sp. ♀ det. J.Kyrki 1983, Slide 21.4.1983 nr. A278/J.K." The genitalia slides bear similar labels. One additional specimen is labelled: Aklavik, N.W.T. Canada, Sept. 12 1929 O. Bryant, with an additional white label "Gen. prep. no. 804 J. Itämies". The Aklavik 1931 sample also included four males.

3. Description

Female (Fig. 1). Wingspan 16–18 mm (4 exx. measured). Head brownish grey–whitish, brown around the eyes. Labial palpus greyish brown, lightest on inside and darkest on outside of the scale tuft of second segment. Thorax brownish. Forewing brownish, with many tiny black dots on costal half and apical area. Dorsal margin of forewing whitish with a row of blackish dots.

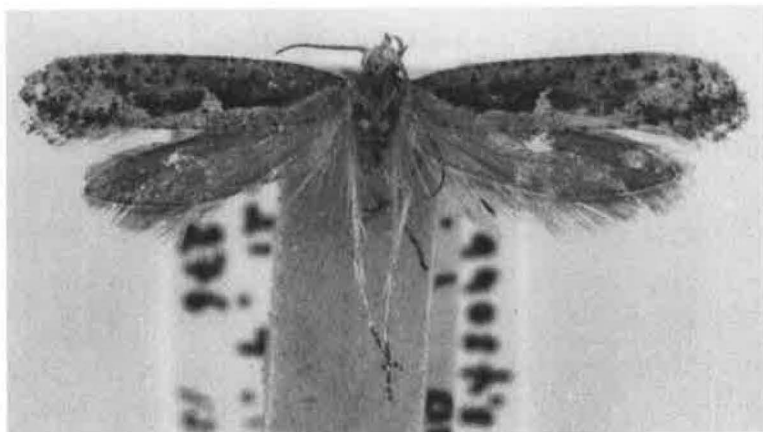


Fig. 1. The female of *Rhigognostis sibirica* Kyrki (Lepidoptera, Plutellidae). Wingspan 17 mm.

Middle longitudinal streak dark reddish brown, along hind margin bordered with almost black against the whitish dorsal area. In the middle of the apical area often a lighter, almost whitish, area. Cilia grey with two darker cilia lines. Hindwing uniformly grey, cilia concolorous. Legs dark grey, tarsal joints and tibiae white-tipped.

The ground colour of the forewings seems to vary, so that in some specimens the whole wing, with the exception of the whitish dorsal streak, is toned with brownish scales so that the dark median stripe is not so striking. In the second whitish triangle of the dorsal streak there is often a black dot, which may even be connected narrowly to the median stripe. The female is thus habitually quite similar to the male.

Genitalia (Figs. 2–3). Apophyses anteriores and posteriores short. 8th abdominal sternite with a pair of hairy sclerotized pads, which are connected with the ventral arms of the anterior apophyses. The posterior margin of the 7th sternite broadly incurved anterior to the ostium bursae. The small ostium leads to a bulbous, longitudinally elongated antrum (Fig. 2). Antrum with small spines in the anterior part. Ductus bursae long and narrow with a small sclerotized plate near the junction of the minutely spined corpus bursae (Fig. 2). Two rather large signa.

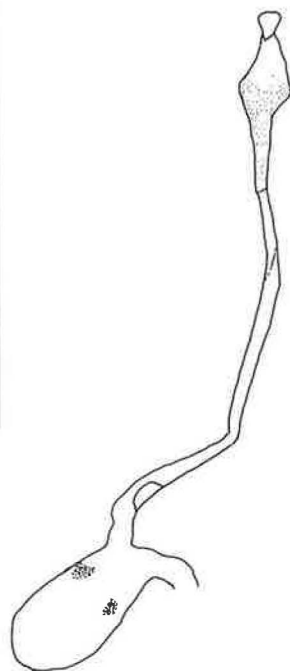


Fig. 2. The female genitalia of *Rhigognostis sibirica* Kyrki (Lepidoptera, Plutellidae).

4. Comparison with other *Rhigognostis* species

Kyrki (1989) divided the females of the *Rhigognostis* species into two groups according to the presence or absence of signa. *R. sibirica* is among those with two clearly distinguishable signa. The other species in this group are: *R. schmaltzella* (Zetterstedt), *R. incarnatella* (Steudel), *R. kuusamoensis* Kyrki and *R. kovacsi* (Gozmany). *R. sibirica* is easy to separate from the other species of this group by the shape of the antrum, which is longitudinally elongated while it is roundish in the other species. The ductus bursae is also much longer and narrower than in the other species (see figs. 49–52 in Kyrki 1989).

A completed key to the species of *Rhigognostis* based on the female genitalia (Kyrki 1989) is presented below. In order to clarify some terms in the original key, we calculated two ratios: the breadth of ductus bursae (a/b) and the form of antrum (c/b) (Fig. 4).



Fig. 3. The antrum of the female genitalia of *Rhigognostis sibirica* Kyrki (Lepidoptera, Plutellidae).

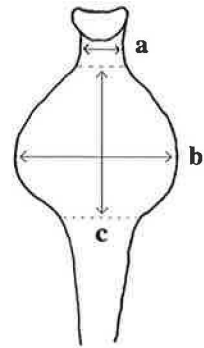


Fig. 4. A scheme of the ratios calculated for the key of females of *Rhigognostis* species.

Distribution

Only fourteen specimens of *Rhigognostis sibirica* are known: two males from Siberia, Russia, and 4 males and 8 females from Alaska, U.S.A. The species is new to the American Continent.

Comment

Because the male genitalia of the American specimens are similar to those of the Siberian *R. sibirica*, we are convinced that the habitually similar American females from the same material represent the same species.

It may seem surprising that nothing was mentioned of the females of *R. sibirica* in Kyrki's original description (Kyrki 1989), although he had made genital slides of the females as early as 1983. As far as we can understand, the reason is that Jorma Kyrki kept collecting new material of *Rhigognostis* spp. from museums all over the world and planned to extend his revision to make it worldwide. While doing this, he did not regularly "update" his manuscript, and most parts of it, including *R. sibirica*, were written well before 1983. Due to his sudden death in 1986 his work was never completed. We edited his manuscript after his death on the basis of the notes we found among his papers. At that time we were not aware of the American specimens of *R. sibirica*, but found them later when *Rhigognostis* material was returned to the U.S.A. As a consequence, the female and the first American specimens of *R. sibirica* are reported more than ten years after Jorma Kyrki's original observation.

- 1. Bursa without signa 2.
- Bursa with 2 signa 5.
- 2. Ostium more than twice as long as broad, antrum not spined *senilella* (Zetterstedt)
- Ostium about as long as broad, inside of antrum spined 3.
- 3. Ostium expanded laterally *japonica* (Moriuti)
- Ostium not expanded 4.
- 4. Spinose part of antrum long *annulatella* (Curtis)
- Spinose part of antrum short .. *wolfschlaegeri* (Rebel)
- 5. Ductus bursae narrow ($a/b = 0.2$) 6.
- Ductus bursae broad ($a/b = 0.35-0.45$) 7.
- 6. Antrum broad, bulbous ($c/b = 0.9$)
..... *chmaltzella* (Zetterstedt), *incarnatella* (Steudel)
- Antrum narrow, elongated, bulbous ($c/b=1.4$)
..... *sibirica* Kyrki
- 7. Ductus shorter, anterior half transversely ribbed
..... *kuusamoensis* Kyrki
- Ductus longer, anterior half smooth
..... *kovacsi* (Gozmány)

We hope that this little report will inspire someone to revise the North American *Rhigognostis* species, which so far are included in the genus *Plutella* (see Hodges et al. 1983). According to Kyrki (unpubl. material) the Nearctic species *P. poulella* (Busck) and *P. interrupta* (Walsingham) belong to the genus *Rhigognostis*, which thus, together with *R. senilella* from Greenland (Kyrki 1989) and *R. sibirica* contains four species.

References

- Hodges, R. W., Dominick, T., Davis, D. R., Ferguson, D. C., Franclemont, J. G., Munroe, E. G. & Powell, J. A. 1983: Check list of the Lepidoptera of America North of Mexico, including Greenland. — London. E. W. Classey Ltd. 284 pp.
- Kyrki, J. 1989: Reassessment of the genus *Rhigognostis* Zeller, with descriptions of two new and notes on further seven Palearctic species (Lepidoptera: Plutellidae). — Entomol. Scand. 19: 437–453.