

**A new species of the genus *Bembecia* HÜBNER, 1819  
from the Caucasus, USSR**

(Lep., Sesiidae)

by

OLEG G. GORBUNOV

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The description of a new species of the genus *Bembecia* HÜBNER, 1819, is presented below. This paper is a continuation of my studies in clearwing moths (Sesiidae) of the Caucasus (cf. GORBUNOV 1986, 1987a, b, 1988). Specimens of this beautiful species have been collected as caterpillars at the foothills of the western part of the Meskhetian Range (Georgian SSR), not far from the left bank of Kura River. In accordance with the recommendations of the International Code of Zoological Nomenclature, a colour illustration of the holotype is given.

*Bembecia s y z j o v i* spec. nov. (figs. 1-6)

**Material:**

Holotype ♂, USSR, Transcaucasus, Georgia, Meskhetian Mt. Range, appr. 20km NE Akhaltzikhe, 12.VII.1988, e.l., leg. O. GORBUNOV. Paratypes 2 ♂♂, same locality and date, e.l., leg. O. GORBUNOV. The types are deposited in the author's collection.

**Description:**

Body length 15.0-16.0 mm; fore wing 10.5-11.0 mm; antenna 7.2-7.5 mm.

Head: frons yellowish-white with a few black scales centrally; vertex with very long golden-yellow hairy scales; 1st segment of labial palps with a few yellow scales externally, 2nd yellow with black strip outside, 3rd yellow with a few black scales on top; scales on both 1st and basal half of 2nd segment of labial palps hairy; antenna normal for genus, black with bluish-violet metallic lustre; proboscis not developed.

Thorax: patagia black with bluish lustre, with a small yellow speck on each side; tegula black with bluish lustre, with a small yellow speck near base of fore wing and yellow top; background of dorsal side black, but thickly covered with very long, hairy-like golden-yellow scales; laterally black with a large yellow speck.

Fore wings: costal margin and cubital stem black with a few yellow and brown scales, anal margin yellow; discal spot black, but external side bordered with yellow scales; apical area yellow and extremely narrow; veins within external transparent area yellow with black and brown scales here and there; from below yellow, proximal half of discal spot and narrow strip between veins R1 and R3 black; cilia dark brown with bronzed lustre.

Hind wing: transparent, veins from above black, from below yellow; discal spot triangular, black, with top at base of veins M3-Cu1.

Legs: tarsi yellow with a few black scales at base ventrally; fore tibiae black dorsally and yellow ventrally; middle and hind tibiae black with bluish-violet lustre, with a yellow patch

externally; fore femorae and coxae black with a narrow yellow strip externally; middle and hind femorae black; legs covered with long golden-yellow hairy scales, beside background ones; spurs apically yellow and black basally.

Abdomen: ground colour black with greenish-violet lustre; dorsally distal half of segments nos. 4, 6 and 7 yellow; segment no. 2 with a very narrow yellow strip distally; segment no. 5 with a few yellow scales; laterally the first three segments with yellow scales; ventrally segments nos. 1-2 black, the other ones black with yellow distal half; anal tuft dorsally yellow with two black stripes in central part, ventrally yellow.

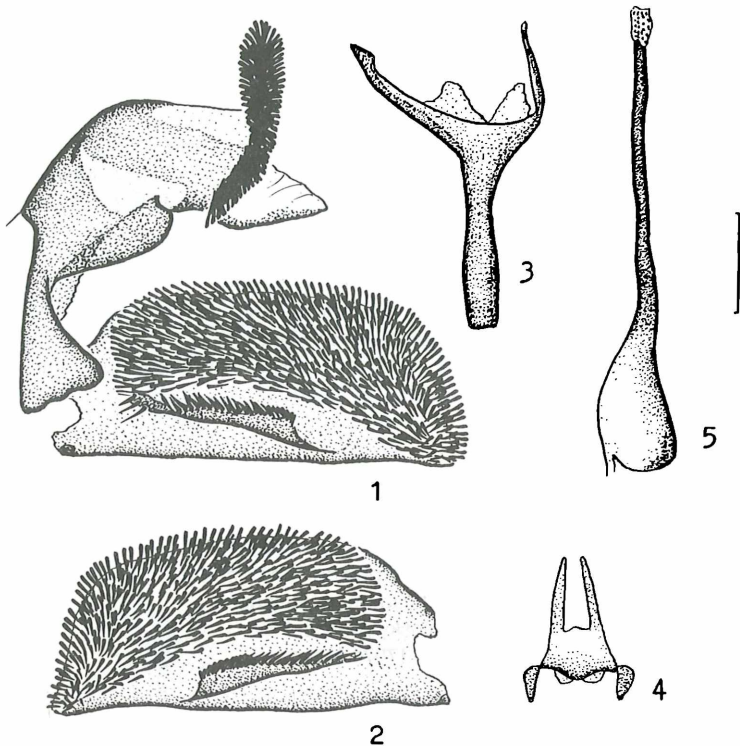
Genitalia: tegumen-uncus complex (fig. 1) narrow (width-length ratio 3:7.5); scopula androconialis well developed; lateral gnathos cheeks subcardiform, crista gnathi very narrow, as a membranous fold; valve (fig. 2) trapeziform, crista sacculi long, slightly curved and caudally expanded, as a fold, dorsal edge with a row of strong and pointed sensory setae; saccus with a small swelling subapically, slightly shorter than vinculum (fig. 3); anellus with short and wide processus (fig. 4); aedeagus (fig. 5) bulbous basally, somewhat longer than valve; vesica with numerous but very small cornuti.

Diagnosis: Judging from the above description, it is difficult to find a similar species to this new one. However, there is some similarity in the habitus between *B. syzcyjovi* spec. nov. (fig. 6) and *B. romanovi* (BARTEL, 1912) (fig. 7). On the other hand, the genitalia of the new species is similar to that of *B. ichneumoniformis* ([DENIS & SCHIFFERMÜLLER], 1775). More detailed differences between these species are presented in the following table:

	<i>B. ichneumoniformis</i> DENIS & SCHIFFERM.	<i>B. romanovi</i> BARTEL	<i>B. syzcyjovi</i> spec. nov.
antenna	black with a yellow spot apically	orange and black internally	completely black
fore wings:			
anal margin	red	red	yellow
discal spot	black with red scales externally	completely red	black with a narrow, yellow external strip
apical area	orange with black veins	completely orange	yellow, practically absent
hind wings:			
discal spot	orange	orange	black
abdomen:			
yellow strips on segments dorsally	2, 3, 3, 6, 7	2, 4, 5, 6, 7	2, 4, 6, 7
genitalia:			
crista gnathi	well developed, vertical, sclerotized	well developed, horizontal, sclerotized	poorly developed vertical, membranous
valve	oval	nearly square	trapezoid
crista sacculi	long, straight	double, S-shaped	long, straight

Bionomics: the host plant of this species is *Astragalus trichocalyx* TRAUTV. (Fabaceae). The larva lives inside the root approximately 5-10 cm below ground level. The peculiarities of its vital activity greatly resemble those of the *Bembecia* species. Before pupation, the larva makes a long exit tube, thereafter it constructs a cocoon in the gallery in the root. Under

laboratory conditions, the adults of this species emerged in the first days of September. In my opinion, the biological cycle of this species is one per year.



Figs 1-5. Male genitalia of *Bembecia syzcjovi* spec. nov., paratype: 1) tegumen-uncus complex; 2) right valva; 3) saccus; 4) anellus; 5) aedeagus. Line on the right: 0.5 mm.

Habitat: the caterpillars of *B. syzcjovi* spec. nov. have been found in the roots not far from the banks of Kura River, on a small sunny glade within a mixed forest at the foothills of the Meskhetian Range. This glade was completely grazed by cattle, so only individual specimens of *Astragalus trichocalyx* and *Euphorbia* spp. survived. In this locality I collected also another Sesiidae: *Chamaesphexia schizoceriformis* (KOLENATI, 1846).

Distribution: Like many other species of *Bembecia*, *B. syzcjovi* spec. nov. is clearly monophagous and its distribution corresponds to that of the host plant. According to A. A. GROSSHEIM (1952), *Astragalus trichocalyx* occurs very locally: several localities within Kura Valley near Akhaltzikhe. Very likely the distribution of *B. syzcjovi* spec. nov. is likewise restricted.

Etymology: I have the pleasure to name this beautiful new species after my friend Mr. VALERY V. SYZCJOV (Moscow, USSR), who technically helped me in my research.

Acknowledgements: I am grateful to my wife Mss. L. PETROVA for the help in collecting material and for her kind and invaluable assistance. I also thank to Dr. U. EITSCHBERGER for editing this paper.

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#### Author's adress

Dr. OLEG G. GORBUNOV  
Institute of Evolutionary Morphology and Ecology of Animals  
USSR Academy of Science  
Leninsky prospect 33  
SU-117071 Moscow

Erklärung der Farbtafel:

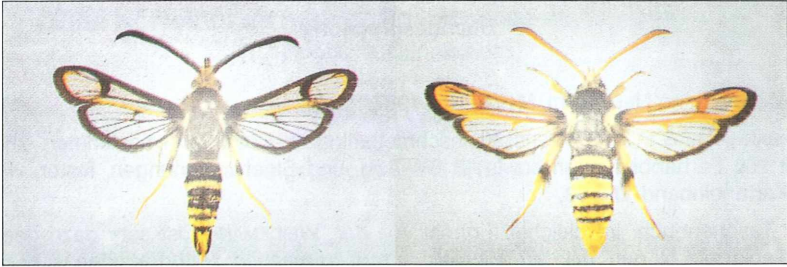
Fig. 6: *Bembecia syzcjovi* spec. nov., holotype ♂

Fig. 7: *Bembecia romanovi* (BART.), male

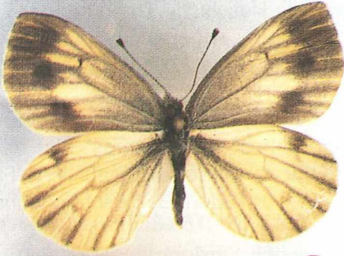
Tafel zu EITSCHBERGER & GLENZ: Achte Ergänzung zu "Systematische Untersuchungen am *Pieris napi-bryoniae*-Komplex". Eine partielle 2. Generation von *Pieris bryoniae bryoniae* in den Nordalpen. S. 219-220. Tafelerklärung auf S. 220

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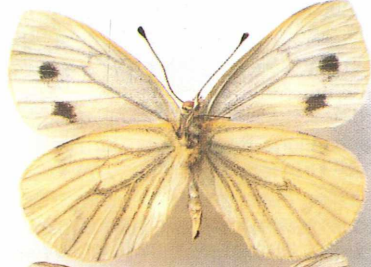
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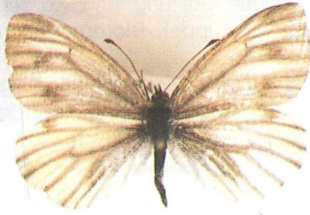
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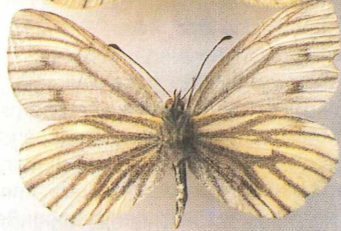
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