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A new species of the genus *Bembecia* Hübner, 1819 (Lepidoptera: Sesiidae) from the Khangai, Mongolia

Новый вид рода *Bembecia* Hübner, 1819 (Lepidoptera: Sesiidae) из Хангая, Монголия

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КЛЮЧЕВЫЕ СЛОВА. Lepidoptera, бабочки-стеклянницы, Synanthedonini, *Bembecia*, систематика, новый вид, *Oxytropis tragacanthoides*, кормовое растение, Монголия, Палеарктика.

ABSTRACT. A new species, *Bembecia fumi* O. Gorbunov, **sp.n.**, from the Khangai Mountains of Mongolia is described and illustrated. The type series was bred from larvae and pupae found in the roots of *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae). Based on the structure of the male and female genitalia, this new species belongs to the high-mountain Central Asian group of *B. senilis* (Groum-Grshimailo, 1890) of the nominal subgenus and is apparently most closely related to *B. ceiformis* (Staudinger, 1881), from which it differs in the colouration of various body parts and wings, as well as in some details of the structure of the genitalia of both males and females. The types of the new species are deposited in the collection of the A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, Russia (COGM).

РЕЗЮМЕ. Ровый вид *Bembecia fumi* O. Gorbunov, **sp.n.** описан и проиллюстрирован из гор Хангай в Монголии. Типовая серия была выведена из гусениц и куколок, найденных в корнях *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae). По строению гениталий самцов и самок этот новый вид относится к высокогорной центральноазиатской группе *B. senilis* (Groum-Grshimailo, 1890) номинативного подрода и, по-видимому, наиболее близок к *B. ceiformis* (Staudinger, 1881), от которого отличается окраской различных частей тела и крыльев, а также некоторыми деталями строения гениталий как самцов, так и самок. Типы нового вида хранятся в коллекции Института проблем экологии и эволюции им. А.Н. Северцова РАН, Москва, Россия (COGM).

Introduction

It is well known, and I have pointed this out on numerous occasions, that the genus *Bembecia* Hübner, 1819 is one of the largest genera of Sesiidae in the Palearctic. It currently includes more than a hundred species [Pühringer, Kallies, 2004; Gorbunov *et al*., 2017; Gorbunov, Efetov, 2018, 2025; Gorbunov, 2019, 2020, 2023a, b, 2024b, 2025a, c, d; Gorbunov, Ivanov, 2025]. This publication, describing a new species of the genus *Bembecia*, confirms my belief that our knowledge of the taxonomic composition of the genus in the Southern and Eastern Palearctic is far from complete. This publication contributes to this knowledge of Palearctic *Bembecia*.

In 2002, on the recommendation of Academician of the Russian Academy of Sciences Yu.Yu. Dgebuadze, an entomological team was organized in the joint Russian-Mongolian complex biological expedition of the Russian Academy of Sciences and the Mongolian Academy of Sciences. The main goal of the team was to study the Lepidoptera of Mongolia. Over six field seasons (2002–2005 and 2007–2008), expedition routes covered all aimags of the country except Bayan-Ulgiya, and quite extensive material on Lepidoptera was collected. Some results of these expeditions have already been published [Puntsagdulam *et al*., 2005; Tuzov *et al*., 2005; Zagorinskiy *et al*., 2010; Sidorov *et al*., 2010; Efetov *et al*., 2012; Gorbunov, 2012a–b, 2023b, 2024a–b, 2025d–e].

During an expedition in 2003 near Bayan-Ovoo sum in Bayankhongor Aimag, in the southern spurs of the Khangai Mountains (Fig. 17), I collected several plants of a very distinctive spiny sainfoin, later identified as *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae), with clear signs of damage by clearwing moths larvae

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(Fig. 14). Indeed, just three days later, the first female emerged (Fig. 16). A total of one male and five females were hatched. A detailed analysis of both the morphology of the external structures and the genitalia of both males and females revealed that these specimens belong to a new species of the genus *Bembecia*, a detailed description of which is given below.

Material and methods

The description of the types ware made using a Leica EZ4 stereomicroscope with LED illuminations, and images of the dried moths were taken with a Sony® α450 DSLR camera equipped with a Minolta® 50 f/2.8 Macro lens. Images of the habitat and host plant were taken using a Minolta® Dynax 7000i camera equipped with a Minolta® 50 f/2.8 Macro lens on a Kodak® Ectochrome® 100VS film and then scanned with a Nikon® LS-2000 slide scanner. The figures of the genitalia were taken with a Keyence® VHX-1000 Digital Microscope. The processing of all illustrations was finalized with the Adobe® Photoshop® CC 2020 software.

All labels of the holotype are cited verbatim. The labels of geographical data, imaging data and genitalia preparation numbers are printed on white paper, but the type label is printed on red paper. Each label is separated by a semicolon ";" lines in a label are separated by a slash "/". All pictures of the specimens are labeled with a number, consisting of letters and digits: name of the family, two consecutive digits separated by n-dash and a year following m-dash (e.g. SESIIDAE pictures Nos 0031–0032-2023). These letter and digit codes correspond to the numbering system of the figured specimens in the author's archive. The genitalia preparation is stored in a microtube with glycerol and pinned under the specimen. The dissected genitalia are equipped with the corresponding number placed in the microtube. This number as a label (e.g. Genitalia preparation No OG-016-2025) is pinned under the specimen and is listed in the archives of the author.

The material studied or mentioned herein is kept in the collection of the A.N. Severtsov Institute of Ecology and Evolution of the Russian Academy of Sciences, Moscow, Russia (COGM).

The name of the host plant was verified with the WFO [2025].

Taxonomic account

Order Lepidoptera Linnaeus, 1758
Family Sesiidae Boisduval, 1828
Genus *Bembecia* Hübner, 1819 ["1816"]

***Bembecia fumi* O. Gorbunov, sp.n.**
Figs 1–17.

MATERIAL. **Holotype** ♂ (Figs 1–2) with labels: "Mongolia, Bayanhongor Aimag, / 14.4 km NW of Bayan-Ovoo, / 2250 m, 46°21′N, 100°17′E, / 02.VII.2003, *ex l*., / O. Gorbunov & F. Igari leg."; "Host plant: / *Oxytropis tragacanthoides* / (Fabaceae) / Moth emerged 22.VIII.2003" "SESIIDAE / Pictures №№ / 0031-0032–2023 / Photo by O. Gorbunov"; "Genitalia examined / by O. Gorbunov / Preparation № / OG–016-2025"; "HOLOTYPUS ♂ / *Bembecia fumi* / O. Gorbunov, 2025 / O.G. Gorbunov des., 2025".

Paratypes 5 ♀♀ same locality and date as in holotype, bred from larva or pupae from roots of *Oxytropis tragacanthoides* (Fabaceae), O. Gorbunov & F. Igari leg.: 1 ♀ (Figs 5–6, 16), 01.VII.2003, bred from pupa, emerged 04.VII.2003 (Sesiidae pictures №№ 0373–0374-2015); 2 ♀♀ (Figs 3–4), 01.VII.2003, bred from larva, emerged 18.VIII.2003 (Sesiidae pictures №№ 0287–0288-2013) and 21.VII.2003 (Sesiidae pictures №№ 0859–0860-2014); 1 ♀, 02.VII.2003, bred from pupa, emerged 07.VII.2003 (Sesiidae pictures №№ 0779–0780-2014; genitalia preparation № OG–017-2025); 1 ♀ (Figs 7–8), 02.VII.2003, bred from larva, emerged 16.VIII.2003 (Sesiidae pictures №№ 0029–0030-2023).

DESCRIPTION. **Male** (holotype) (Figs 1–2). Wingspan 22.2 mm; body length 12.8 mm; forewing 9.9 mm; length of antenna 6.3 mm.

Head: flagellum black with dark violet sheen, scapus black with several yellow scales ventrally; frons pale yellow with golden tint and narrow black stripe laterally; vertex black with dark blue sheen, densely covered with white, very long, hair-like scales masking background colouration; basal palpomere black with very long hair-like scales ventrally; mid palpomere black exterior-ventrally and pale yellow interior-dorsally, with very long hair-like scales ventrally; apical palpomere smooth scaled, yellow with golden tint; occipital fringe pale yellow to white; neck plate black with greenish sheen and several pale yellow scales externally.

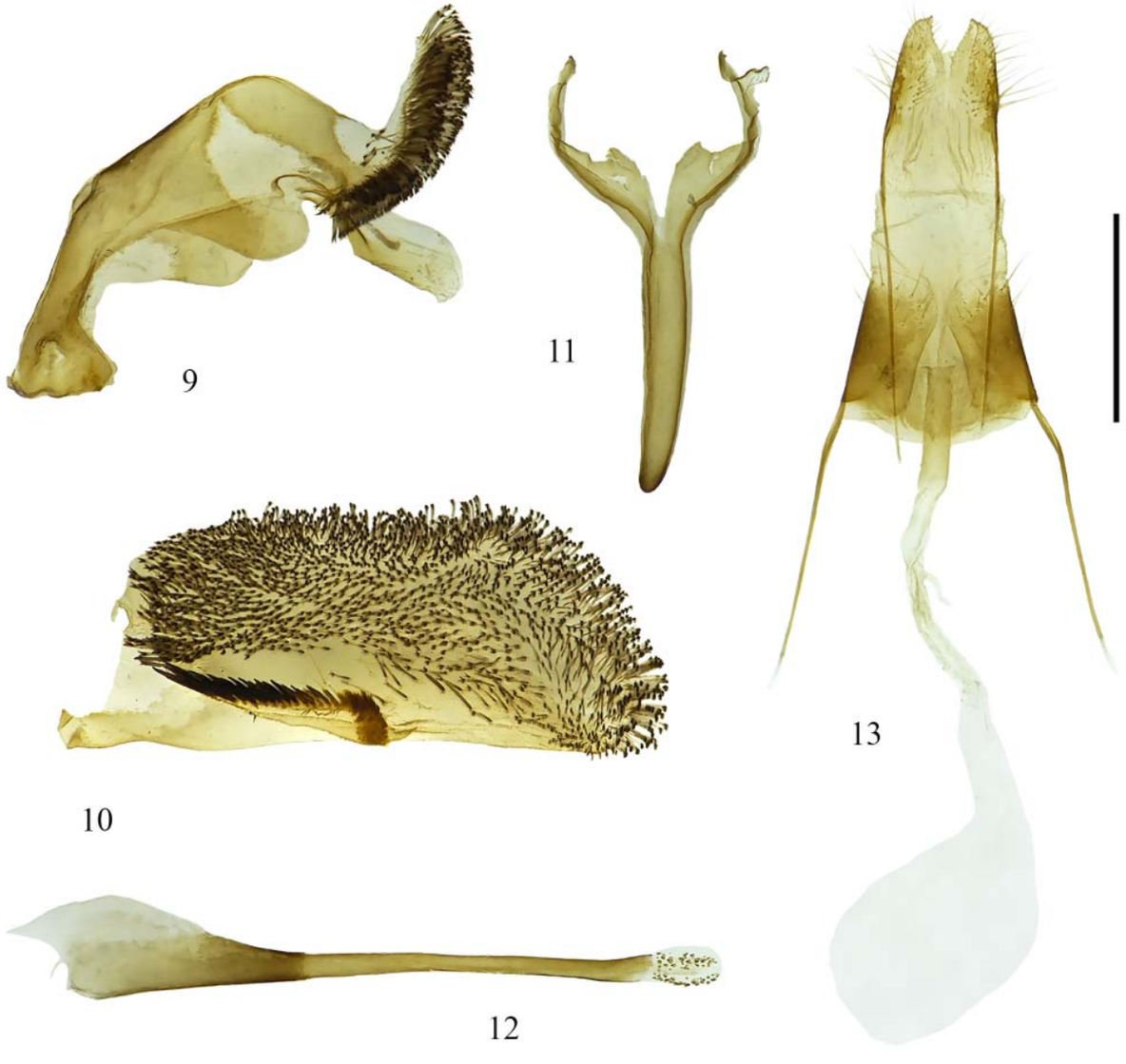
Thorax: patagium black with bright bronze sheen and several pale yellow scales laterally; tegula black with dark blue-violet sheen and several pale yellow scales at base of forewing; meso- and metathorax black with dark blue-violet sheen; besides this, tegula, meso- and metathorax densely covered with white, long, hair-like scales masking background colouration; thorax laterally black with bright greenish-blue sheen and several pale yellow scales at base of forewing; posteriorly, both metepimeron and metameron black with greenish-blue sheen, densely covered with white, long, hair-like scales.

Legs: fore coxa black with blue-violet sheen, densely covered with white, long, hair-like scales masking background colouration; fore femur externally gray-brown with bronze-violet sheen and dense admixture of pale yellow scales with golden tint and white, long, hair-like scales at posterior margin; fore tibia dorsally black with blue-violet sheen, ventrally pale yellow with golden tint; fore tarsus dorsally yellow with golden tint and admixture of dark brown scales with bronze-violet sheen on basal tarsomere, ventrally pale yellow with golden tint; mid coxa black with blue-violet sheen, several yellow scales at interior margin and white, long, hair-like scales masking background colouration; mid femur black with blue-violet sheen and white, long, hair-like scales at

Figs 1–8. *Bembecia fumi* O. Gorbunov, **sp.n.**: 1–2 — holotype ♂, Sesiidae picture Nos. 0031–0032-2023; 3–4 — paratype ♀, Sesiidae picture Nos. 0287–0288-2013; 5–6 — paratype ♀, Sesiidae picture Nos. 0373–0374-2015; 7–8 — paratype ♀, Sesiidae picture Nos. 0029–0030-2023; 1, 3, 5, 7 – dorsal view; 2, 4, 6, 8 — lateral view. Scale bar: 10 mm.
Рис. 1–8. *Bembecia fumi* O. Gorbunov, **sp.n.**: 1–2 — голотип ♂, Sesiidae снимки №№ 0031–0032-2023; 3–4 — паратип ♀, Sesiidae снимки №№ 0287–0288-2013; 5–6 — паратип♀, Sesiidae picture №№ 0373–0374-2015; 7–8 — паратип ♀, Sesiidae снимки №№ 0029–0030-2023; 1, 3, 5, 7 – вид сверху; 2, 4, 6, 8 — вид снизу. Масштаб: 10 мм.

posterior margin; mid tibia black with blue-violet sheen mixed with individual yellow long scales exterior-dorsally; spurs pale yellow with golden tint; mid tarsus dorsally yellow with golden tint and dense admixture of black scales with blue-violet sheen on basal tarsomere, ventrally pale yellow with golden tint; hind coxa black with blue-violet sheen, several yellow scales at interior margin and white, long, hair-like scales masking background colouration; hind femur black with blue-violet sheen and white, long, hair-like scales at posterior margin; hind tibia black with blue-violet sheen and two tufts of long yellow scales both exterior-dorsally at base of medial spurs and dorso-distally; spurs pale yellow with golden tint; hind tarsus dorsally yellow with golden tint, ventrally pale yellow with golden tint.

Forewing: dorsally in basal part black with dark greenish-violet sheen; costal margin and CuA-stem dark brown to black with greenish sheen; anal margin yellow with dense admixture of dark brown to black scales with dark violet sheen; discal spot black with dark violet sheen and small yellow spot distally; veins R_5 and M_3 dark brown to black with bronze-violet sheen, veins M_1 and M_2 yellow with admixture of dark brown to black scales with bronze sheen distally; apical area yellow proximally and dark brown with bronze sheen distally; cilia brown with bronze sheen; ventrally costal margin up to tip of vein R_1 ocher with golden tint; CuA-stem and anal margin yellow with golden tint; distal spot black with dark violet sheen proximally and yellow distally; margins of anterior transparent area and thin



Figs 9–13. Genitalia of *Bembecia fumi* O. Gorbunov, **sp.n.**: 9–12 — holotype ♂. Genitalia preparation No. OG-016-2025: 9 — tegumen-uncus complex; 10 — valva; 11 — vinculum and saccus; 12 — aedeagus; 13 — paratype ♀. Genitalia preparation No. OG-017-2025. Scale bar: 1.0 mm.
Рис. 9–13. Гениталии *Bembecia fumi* O. Gorbunov, **sp.n.**: 9–12 — голотип ♂. Препарат гениталий № OG-016-2025: 9 — тегумен-ункусный комплекс; 10 — вальва; 11 — винкулюм и саккус; 12 — эдеагус; 13 — паратип ♀. Препарат гениталий № OG-017-2025. Масштаб: 1,0 мм.

scaled stripe inside it black with dark violet sheen; surface between veins R_2–R_4 black with dark violet sheen; veins distally of discal spot pale yellow with golden tint and several dark brown scales with dark bronze-violet sheen; apical area pale yellow with golden tint; cilia brown with bronze sheen; transparent areas poorly-developed; anterior and external transparent areas densely covered with translucent scales with golden tint; posterior transparent area undeveloped and entirely covered with yellow and dark brown to black scales with dark violet sheen; anterior transparent area divided by thin scaled stripe into two unequal parts; external transparent area rather large with poorly defined distal margin, divided into four cells between veins R_5 and CuA_1, level to vein M_2 about twice as broad as discal spot and about 2.8 times broader than apical area.

Hindwing: transparent; veins and outer margin brown with bronze sheen, but ventrally veins M_2 and CuP pale yellow in basal half; discal spot brown with bronze sheen with several pale yellow scales; cilia brown with bronze sheen, white anally; discal spot narrow, cuneiform, reaching base of common stem of veins M_3–CuA_1; outer margin narrow, about 0.4 times as broad as cilia.

Abdomen dorsally black with dark greenish-violet sheen, densely covered with white, long, hair-like scales; tergite 2 with several pale yellow scales with golden tint laterally; tergites 4, 6 and 7 each with pale yellow with golden tint broad stripe distally; ventrally black with dark greenish-violet sheen; sternite 3 with admixture of thin yellow and pale yellow scales medially; sternites 4–7 each pale yellow with golden tint; anal tuft black with dark greenish-purple sheen and few yellow scales dorso-medially and yellow ventrally.

Male genitalia (holotype; genital preparation No. OG–016-2025) (Figs 9–12). Tegumen-uncus complex broad; scopula androconialis well-developed, about 0.6 times as long as length of tegumen-uncus complex (Fig. 9); crista gnathi medialis broad, semi-oval; crista gnathi lateralis slightly narrower, semi-cordate (Fig. 9); valva (Fig. 10) trapeziform-oval, crista sacculi compound, with two distinct parallel ridges: ventral ridge long and high, dorsal one visibly lower, densely covered with strong, pointed setae; caudal end of dorsal ridge and ventral ridge connected by group of flat-topped setae (Fig. 10); saccus (Fig. 11) gradually narrowed basally with rounded base, long, about 1.25 times as long as vinculum; aedeagus (Fig. 12) narrow, straight, about as long as length of valva; vesica with numerous strong cornuti (Fig. 12).

Female (paratype) (Figs 3–4). Wingspan 19.9 mm; body length 10.9 mm; forewing length 9.0 mm; length of antenna 5.9 mm.

Head: flagellum and scapus black with dark blue-violet sheen; frons yellow with golden tint and narrow black stripe laterally; vertex orange; basal palpomere black with very long hair-like scales ventrally; mid and apical palpomeres orange with admixture of several hair scales exterior-ventrally; mid palpomere with very long hair-like scales ventrally; occipital fringe yellow; neck plate black with greenish-violet sheen.

Thorax: patagium black with bright greenish sheen; tegula black with dark greenish-violet sheen, several yellow scales at base of forewing and along inner margin; mesothorax black with dark violet sheen; metathorax black with dark violet sheen, several yellow scales and tuft of yellow hair-like scales laterally; besides this, tegula and mesothorax covered with yellow, short, hair-like scales; thorax laterally black with bright greenish-violet sheen and several yellow scales at base of forewing; posteriorly, both metepimeron and metameron black with dark greenish-violet sheen, densely covered with black, short, hair-like scales.

Legs: fore coxa black with dark greenish-violet sheen, covered with black, short, hair-like scales; fore femur black with dark greenish-violet sheen and black, long, hair-like scales at posterior margin; fore tibia dorsally orange with admixture of black scales with dark violet sheen, ventrally pale yellow with golden tint; fore tarsus dorsally orange with several black scales with blue-violet sheen, ventrally pale yellow with golden tint; mid coxa black with dark greenish-violet sheen, covered with black, short, hair-like scales; mid femur black with dark greenish-violet sheen and black, long, hair-like scales at posterior margin; mid tibia black with greenish-blue sheen, large orange spot medially and orange elongated scales distally; spurs pale yellow with golden tint; mid tarsus dorsally orange with several black scales with bluish sheen, ventrally pale yellow with golden tint; hind coxa black with dark greenish-violet sheen, covered with black, short, hair-like scales; hind femur black with dark greenish-violet sheen and black, long, hair-like scales at posterior margin; hind tibia orange with several black scales with greenish-blue sheen basally; spurs pale yellow with golden tint; hind tarsus dorsally orange with several black scales with bluish sheen, ventrally pale yellow with golden tint.

Forewing: dorsally in basal part black with dark greenish-violet sheen; costal margin up to tip of vein R_3 dark brown to black with greenish sheen and several individual orange scales between veins Sc and R-stem; CuA-stem dark brown to black with violet sheen and dense admixture of orange scales; anal margin orange with admixture of dark brown to black scales with dark violet sheen; discal spot black with dark violet sheen in proximal two third and orange in distal third; veins distally of discal spot orange with admixture of dark brown scales with bronze sheen; apical area orange proximally and dark brown with bronze sheen distally; cilia brown with bronze sheen; ventrally costal margin up to tip of vein R_1 ocher with golden tint; CuA-stem and anal margin yellow-orange with golden tint; distal spot black with dark violet sheen in proximal two-third and orange in distal third; anterior margin of anterior transparent area and thin scaled stripe inside it black with dark violet sheen; surface between veins R_1–R_3 dark brown with bronze sheen; veins M_1–M_3 orange in basal half and yellow with admixture of dark brown scales with bronze sheen in distal half; veins R_{4+5}, R_4, R_5 and CuA_1 mixed with yellow-orange and dark brown scales with bronze sheen; apical area yellow with golden tint proximally

and dark brown with bronze sheen distally; cilia brown with bronze sheen; transparent areas poorly-developed; anterior and external transparent areas densely covered with translucent scales with golden tint; posterior transparent area undeveloped and entirely covered with orange and dark brown to black scales with dark violet sheen; anterior transparent area divided by thin scaled stripe into two unequal parts; external transparent area rather large, divided into four cells between veins R_5 and CuA_1, level to vein M_2 about twice as broad as discal spot and about 2.6 times broader than apical area.

Hindwing: transparent, but surface between vein CuP and anal margin in basal half covered with orange scales; dorsally discal spot, veins M_2, CuA-stem and 1A orange in basal half and dark brown with bronze sheen in distal half, remaining veins brown with bronze sheen and admixture of orange scales; discal spot orange; outer margin brown with bronze sheen, orange anally; ventrally costal margin, discal spot, vein M_2, CuA-stem CuP and 1A orange, remaining veins brown with bronze sheen; outer margin brown with bronze sheen, orange anally; discal spot narrow, cuneiform, reaching base of common stem of veins M_3–CuA_1; outer margin narrow, about 0.3 times as broad as cilia.

Abdomen black with dark greenish-violet sheen; dorsally tergites 2, 4 and 6 each with yellow distal half; ventrally sternite 4 entirely yellow, sternite 5 with admixture of yellow scales medially, sternite 6 with yellow distal half; anal tuft entirely black with dark greenish-violet sheen.

Female genitalia (paratype; genital preparation No. OG–017-2025) (Fig. 13). Papillae anales relatively broad, narrowly well-sclerotized laterally, covered with short and long setae; tergite 8 broad, with short and long setae distally, with ventral margin folded inside; posterior apophysis slightly longer than anterior apophysis; both lamellae antevaginalis and postvaginalis undeveloped; ostium bursae tube-shaped, situated medioventral to tergite 8; antrum long, about 0.7 times as long as anterior apophysis, sclerotized in distal half; ductus bursae about as long as antrum; corpus bursae ovoid, without signum.

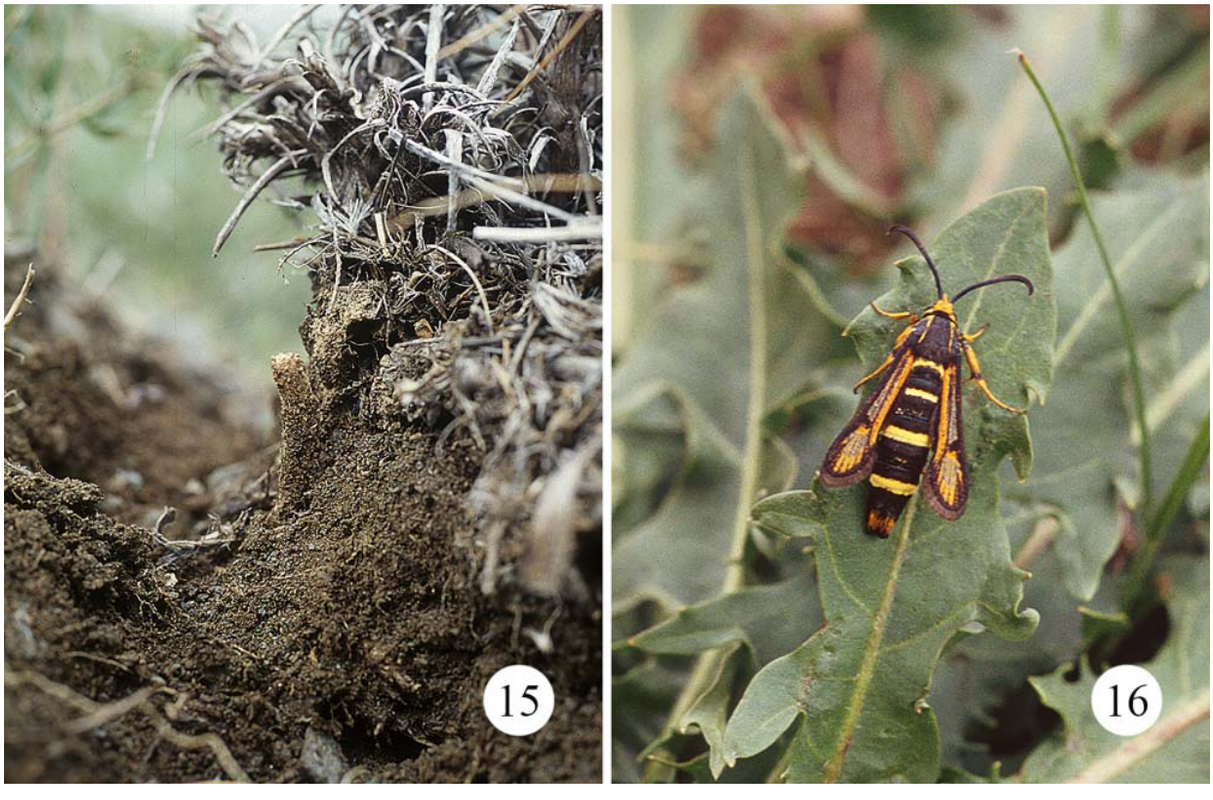
INDIVIDUAL VARIABILITY. Unknown for males. Females vary in the number of orange scales on the head, thorax, legs and abdomen. There is one female whose tegula is almost entirely orange, and tergite 3 of the abdomen has an admixture of yellow-orange scales in the central part (Figs 7–8). The transparent areas of the forewing hardly vary in size. The main dimensions have the following variability: wingspan 19.9–25.1 mm; body length 10.9–15.7 mm; forewing length 9.0–11.5 mm; length of antenna 5.9–7.1 mm.

DIFFERENTIAL DIAGNOSIS. Referring to the structure of both male and female genitalia the new

Fig. 14. *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae), the larval host plant with obvious traces of larval activity of *Bembecia fumi* O. Gorbunov, **sp.n.**
Рис. 14. *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae), кормовое растение с явными следами жизнедеятельности гусениц *Bembecia fumi* O. Gorbunov, **sp.n.**

species belongs to the high mountainous Central Asian *B. senilis* (Groum-Grshimailo, 1890) species-group of the nominotypical subgenus. It seems to be the closest to *B. ceiformis* (Staudinger, 1881) (type locality: Kazakhstan, Alakol Distr., Lepsy). The male of *B. fumi* O. Gorbunov, **sp.n.** can be distinguished from males of *B. ceiformis* by the colouration of the frons (black in *B. ceiformis*, *vs* pale yellow with golden tint and narrow black stripe laterally in the new species), discal spot of the forewing (outer half golden yellow in *B. ceiformis*, *vs* with small yellow spot distally in the new species), hind tibia (yellow with black ring both proximally and distally in the species compared, *vs* black with blue-violet sheen and two tufts of yellow long scales both exterior-dorsally at base of medial spurs and dorso-distally in *B. fumi* O. Gorbunov, **sp.n.**) and abdomen (tergite 2 narrowly yellow, tergites 4, 6 and 7 with broad pale yellow margins distally; sternites 4 and 7 each with broad pale yellow stripe distally, sternite 6 with admixture of several pale yellow scales medially in in *B. ceiformis*, *vs* tergite 2 with several pale yellow scales with golden tint laterally; tergites 4, 6 and 7 each with pale yellow with golden tint broad stripe distally; ventrally black with dark greenish-violet sheen; sternite 3 with admixture of thin yellow and pale yellow scales medially; sternites 4–7 each pale yellow with golden tint in *B. fumi* O. Gorbunov, **sp.n.**). Besides that, males of these two species differ significantly from each other in the relative size of the external transparent area of the forewing, which is very wide in the new species (compare Fig. 1 in this article with fig. 196 in Špatenka *et al*. [1999]). In addition, the two species have some differences in the structure of the male genitalia, particularly in the structure of the crista sacculi (compare Figs 9–12 in this article with fig. 130 in Špatenka *et al*. [1999]). The female of *B. fumi* O. Gorbunov, **sp.n.** can be distinguished from the female of *B. ceiformis* by the structure of the external transparent area of the forewing (compare Figs 3, 5, 7 in this article with fig. 197 in Špatenka *et al*. [1999]) and basal part of the hindwing which is densely covered with orange scales in *B. fumi* O. Gorbunov, **sp.n.**, while in *B. ceiformis* it is completely transparent (cp. Figs 3–8 in this article with fig. 197 in Špatenka *et al*. [1999]), and by the colouration of the anal tuft (black, golden-yellow medially and distally in *B. ceiformis*, *vs* entirely black with dark greenish-violet sheen in the new species). In addition, these two species have differences in the female genitalia (different structure of the tergite 8, ostium bursae and antrum) (compare Fig. 13 in this article with fig. 380 in Špatenka *et al*. [1999]).

The new species clearly differs from *B. tristis* (Staudinger, 1896) (type locality: Mongolia, Zavkhan



Figs 15–16. Peculiarities of bionomics of *Bembecia fumi* O. Gorbunov, **sp.n.**: 15 — exit tube on the root of *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae); 16 — freshly emerged female, 4.VII.2003.
Рис. 15–16. Особенности биологии *Bembecia fumi* O. Gorbunov, **sp.n.**: 15 — вылетная трубка на корнях *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae); 16 — свежевыведшаяся самка, 4.VII.2003.

Fig. 17. Habitat of *Bembecia fumi* O. Gorbunov, **sp.n.** Mongolia, Bayanhongor Aimag, 14.4 km NW of Bayan-Ovoo, 2250 m, 46°21′N, 100°17′E, 2.VII.2003.
Рис. 17. Биотоп *Bembecia fumi* O. Gorbunov, **sp.n.** Монголия, Баянхонгорский аймак, 14,4 км СЗ Баян-Овоо, 2250 м, 46°21′с.ш., 100°17′в.д., 2.VII.2003.

Aimag, Uliastai) in the colouration of the various parts of the body and wings (compare figs 1–8 in this article with figs 1–16 in Gorbunov [2025d]), and some details in both male and female genitalia (compare figs 9–13 in this article with figs 17–23 in Gorbunov [2025d]).

In addition, in terms of the structure of both male and female genitalia, *B. fumi* O. Gorbunov, **sp.n.** is apparently closest to *B. senilis*, *B. jakuta* (Herz, 1903), *B. bohatschi* (Püngeler, 1905), *B. alaica* (Püngeler, 1912), *B. tschimgana* (Sheljuzhko, 1935), *B. yakovlevi* O. Gorbunov, 2023, and some other Asian species of the genus. From all of them, this new species can be separated by combinations of colouration of different parts of the body and wings and the shape of the transparent areas of the forewing. For an accurate definition of all these species, one should look at the corresponding illustrations in Špatenka *et al*. [1999] and Gorbunov [2023a–b, 2025a].

BIONOMICS. The larval host plant is *Oxytropis tragacanthoides* Fisch. ex DC. (Fabaceae) (Fig. 14). The larva lives in the root, approximately 3–10 cm below the ground level. After hibernation, the larva actively feeds on the roots, which leads to the death of part of the plant (Fig. 14). After stopping feeding, the larva makes an exit tube (Fig. 15) from the root to the soil surface. In the lower part of the exit tube the larva weaves a dense cocoon with a rounded stopper that opens only from the inside. Adults (Fig. 16) are on the wing from the early July to the mid of August.

HABITAT. Plants with larvae and pupae of this beautiful new species were collected on the slopes of a small mountain range at an altitude of about 2250 m above sea level, covered with rather sparse herbaceous vegetation (Fig. 17).

DISTRIBUTION. This species is known only from the type locality in the vicinity of Bayan-Ovoo sum of Bayankhongor Aimag in the eastern part of the small mountain range Dzhargalantyn-Nuruu in the southern part of the Khangai.

ETYMOLOGY. This new species is named after my friend Fumi Katsurayama (nee Igari), who helped me collect clearwing moth larvae, pupae, and adults in Japan and Mongolia.

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