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O. G. Gorbunov. A new species of the genus *Melittia* Hübner, 1819 (Lepidoptera, Sesiidae) from the island of Lombok, Indonesia. – Far Eastern Entomologist. 2014. N 284: 13-18.

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Summary. *Melittia lombok* O. Gorbunov, **sp. n.** from the island of Lombok, Lesser Sunda, Indonesia is described and figured. Holotype of the new species is deposited in the collection of Zoological Institute, Russian Academy of Sciences, St-Petersburg.

Key words: Lepidoptera, Sesiidae, *Melittia*, new species, Indonesia.

О. Г. Горбунов. Новый вид рода *Melittia* Hübner, 1819 (Lepidoptera, Sesiidae) с острова Ломбок, Индонезия // Дальневосточный энтомолог. 2014. N 284. С. 13-18.

Резюме. С острова Ломбок (Индонезия) описан *Melittia lombok* O. Gorbunov, **sp. n.** Голотип нового вида хранится в коллекции ЗИН РАН в Санкт Петербурге.

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INTRODUCTION

The genus *Melittia* Hübner, 1819 [“1816”] is one of the largest among Sesiidae. It consists of more than 90 described species (Arita & Gorbunov, 1995; 1996a; 1996b; 2002; Gorbunov & Arita, 1995; 1996; 1997; 1999). Species of the genus are distributed throughout East and South Palaearctic, Ethiopian, Oriental and Australian regions. Almost all species of the genus are brightly colored and their both hind tibia and tarsi covered with long hair-like scales forming a very characteristic tuft. They mimic bumblebees (Hymenoptera, Apidae) both in their appearance and behavior thereby being a shining example of mimicry. All known host plants of larvae of the genus *Melittia* belong to the family Cucurbitaceae. Usually a larva lives in a gall-like broadening in the lower part of vines of the host plant. Pupation takes place in the soil in a thick cocoon.

The fauna of Sesiidae of the island of Lombok in Indonesia is completely not studied. We succeeded collect a few Sesiidae during a short collecting trip to the island in February-March 2014. The described below *Melittia lombok* sp. n. is the first record of Sesiidae for the island of Lombok.

All labels of the holotype are shown in detail. Each label is separated by quotation marks, and lines in a label separated by a “/”. Holotype of the new species will be deposited in the collection of Zoological Institute, Russian Academy of Sciences, Saint Petersburg (ZISP).

DESCRIPTION OF A NEW SPECIES

Melittia lombok O. Gorbunov, sp. nov.

Figs 1–4

MATERIAL. Holotype – male (ZISP), with the labels: “Indonesia, C. Lombok Id., / Tetebatu env., / 08°30’S, 116°24’E, 01.III.2014, / O. Gorbunov leg.”; “Sesiidae / Pictures No / 0103–0104–2014 / Photo by O. Gorbunov”; “Genitalia examined / by O. Gorbunov / Preparation No / OG–005–2014” “HOLOTYPUS ♂ / *Melittia lombok* / O. Gorbunov, 2014 / O. Gorbunov des., 2014”.

DESCRIPTION. Male (holotype) (Figs 1, 2). Alar expanse 33.2 mm; body length 18.0 mm; forewing 13.4; antenna 7.2 mm.

Head: antenna dorsally black with dark violet sheen, with an admixture of yellow scales dorso-externally both basally and at tip; ventrally light brown; frons grey-brown with purplish sheen, with a narrow pale yellow strip laterally; labial palpus basally pale yellow, mid and apical joints broken off; vertex mixed with dark brown and black scales, with a small yellow spot at ocellus anteriorly; pericephalic hairs dorsally mixed with light brown, black and a few white scales, laterally pale yellow to white.



Fig. 1. *Melittia lombok* sp. n., holotype ♂ (Sesiidae picture No 0103–2014), dorsal view.

Thorax: patagia dorsally dark brown with bronze sheen, covered with narrow light brown scales laterally; tegula, mesothorax dark brown with bronze-violet sheen, with admixture of light brown scales anteriorly; metathorax dark brown with a tuft of dark yellow scales laterally; thorax laterally mixed with grey-brown with violet sheen, pale yellow and yellow-olive scales; posteriorly both metepimeron and metameron black with violet sheen covered with pale yellow to white hairs.

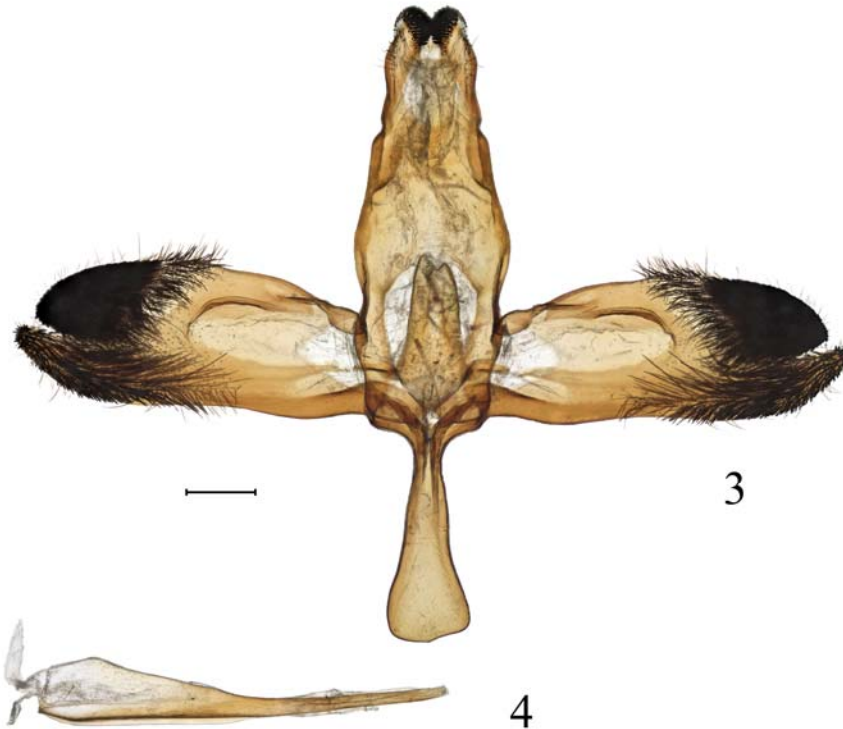
Legs: neck plate pale yellow with a few dark brown scales with bronze sheen laterally; fore coxa mixed with pale yellow, white and dark brown scales with bronze sheen, with admixture of individual black hair-like scales basally; fore femur externally pale yellow to yellow with golden sheen, with a narrow dark brown to black with bronze sheen at anterior narrowly yellow margin; fore tibia dorsally yellow with a narrow dark brown to black stripe medially, ventrally yellow to pale yellow, posteriorly covered with yellow and a few black elongated scales; fore tarsus yellow with golden sheen, with a narrow black stripe with dark bronze sheen dorsally; mid coxa dark brown with bronze sheen, with a few yellow scales anteriorly; mid femur anteriorly pale yellow to white with golden sheen; externally dark brown with bronze-violet sheen; posteriorly covered with light brown, dark brown and yellow scales, with pale yellow hair-like scales basally; mid tibia internally dark brown to black, externally mixed with light brown and yellow scales, with a small yellow spot at base of spurs and a few white scales with electric-blue lustre at basal third; spurs dark brown to black with bronze sheen; mid tarsus black with dark purple sheen, three basal tarsomeres with a narrow white ring basally and with a few white scales with electric-blue lustre at base



Fig. 2. *Melittia lombok* sp. n., holotype ♂ (Sesiidae picture No 0104–2014), ventral view.

of basal tarsomere externally; hind coxa dark brown with bronze sheen, mixed with yellow scales anteriorly; mid femur dark brown with bronze-violet sheen, with a small pale yellow to white spot exterior-distally; hind tibia exterior-dorsally mixed with long light brown and yellow scales, with an admixture of individual, red-brown, pointed scales; interior-ventrally dark brown with purple sheen, with a small white spot at base of mid spurs and with a small yellow spot between bases of mid and apical spurs; spurs brown to black with bronze sheen; hind tarsus black with dark purple sheen, with a small pale yellow spot at base of basal tarsomere externally.

Abdomen: dorsally dark brown to black with dark bronze-purple sheen, densely covered with individual, narrow, light brown scales; tergite 5 with admixture of yellow scales medially; each tergite with yellow and white scales on distal margin; ventrally pale yellow with an admixture of dark brown to brown scales on basal sternite distally; anal tuft small, black with a few yellow scales; ventrally pale yellow; valva pale yellow to white.



Figs 3–4. Male genitalia of *Melittia lombok* sp. n. (holotype, genital preparation No OG-005-2014): 3 – general view; 4 – aedeagus. Scale bar: 0.5 mm.

Forewing: dorsally at base black but densely covered with light brown-olive and a few yellow scales; costal and anal margins, CuA-stem and discal spot dark brown to black with dark purple-bronze sheen, with a few individual light brown scales; veins within external transparent area dark brown to black with dark purple-bronze sheen; apical area dark brown to black with dark purple-bronze sheen with an admixture of individual snow-white scales; discal spot narrow with a long, narrow, cuneiform projection proximally; transparent areas well-developed; external transparent area large, divided into 5 cells, on level of vein M_2 about 2.5 times as broad as discal spot and about 1.6 times as broad as apical area, cell between veins M_1 and M_2 shorter than that between veins M_2 and M_3 ; ventrally costal and anal margins, CuA-stem, discal spot and apical area dark brown with bronze sheen; cilia dark brown with bronze sheen.

Hindwing: transparent; dorsally anal area dark brown to black with purple-bronze sheen, covered with yellow to pale yellow with light purple sheen scales and hairs; veins, discal spot and outer margin dark brown to black with dark purple-bronze sheen; discal spot extremely narrow and nearly undeveloped; outer margin about thrice narrower than cilia; ventrally anal area dark brown with purple-violet sheen; veins, discal spot and outer margin dark brown with bronze sheen; cilia dark brown with bronze sheen.

MALE GENITALIA (genital preparation No OG-005-2014) (Figs 3, 4). Tegumen-uncus complex narrow; uncus bilobed distally with a small drop-shaped plate of strong pointed setae internally on each side; gnathos small, narrow, membranous with slight sclerotization basally (Fig. 3); valva (Fig. 3) elongate-oval; distal field of setae practically not separated from medial one; medial field narrow with short setae; pocket-shaped crista small; ventral lobe relatively broad and long, somewhat exceeding distal margin; saccus relatively broad, gradually broadened basally (Fig. 3); aedeagus (Fig. 4) narrow, broadened basally, about as long as valva; vesica with numerous minute cornuti.

FEMALE. Unknown.

INDIVIDUAL VARIABILITY. Unknown.



Fig. 5. Habitat of *Melittia lombok* sp. n. on the island of Lombok, Lesser Sunda Islands.

DIFFERENTIAL DIAGNOSIS. By the shape of the valva of the male genitalia *M. lombok* sp. n. seems to be closest to *M. sumatrana* Le Cerf, 1916, but differs clearly from it by the coloration of the hind tibia (exterior-dorsally more brighter, light-brown-orange in the species compared) and shape of the external transparent area of the forewing (cell between veins M_1 and M_3 equal length in *M. sumatrana*, cp. Fig. 1 with fig. 47a in Arita & Gorbunov, 1996b). From *M. indica* Butler, 1874 and *M. proxima* Le Cerf, 1917 this new species can be distinguished by the presence of light brown and red-brown scales on hind tibia (yellow and pale yellow in the species compared) and by the coloration of the anal area of the hindwing

(with white scales with strong green-blue hue in the species compared). From *M. proxima*, *M. lombok* sp. n. also differs by the shape of the male genitalia, by the shape of pocket-shaped crista and ventral lobe (*cp.* Fig. 3 with Fig. 55b in Arita & Gorbunov, 1996b). From *M. gorochovi* O. Gorbunov, 1988 this new species can be separated by the coloration of the hind tibia (with more yellow scales on the species compared) and by the conformation of the male genitalia, especially by the shape of pocket-shaped crista (*cp.* Fig. 3 with fig. 9a–d in Gorbunov & Arita, 1996). From *M. kulluana* Moore, 1888, *M. lombok* sp. n. differs rather easily by the shape of the external (more broad and nearly reaching up to the distal margin of the wing in *M. kulluana*) and posterior (well-developed and nearly reaching up to the distal margin of the discal spot in the species compared) transparent areas of the forewing.

BIONOMICS. The host plant unknown. Holotype has been netted sitting on a leaf in the beginning of March.

HABITAT (Fig. 5). A border of tropical forest on the southern slope of the volcano Rinjani somewhat higher of the town of Tetebatu.

DISTRIBUTION. Hitherto known only from the type locality on the island of Lombok, Lesser Sunda Islands.

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