

## A NEW SPECIES OF *LASIAMBIA* SABROSKY (DIPTERA, CHLOROPIDAE) PARASITIC ON MANTIS OOTHECAE

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**Abstract:** A new species, *Lasiambia mantivora* Nartshuk, sp. n., reared from the oothecae of *Mantis religiosa* (Linnaeus, 1753) in Spain, is described. The new species is compared with *Lasiambia baliola* Collin and *L. brevibuca* Duda. The adults of *L. mantivora* were reared from oothecae placed on stones. Larvae of fly were found in December feeding on mantis larvae, and the adult flies emerged the following spring, before the mantis emergence.

**Key words:** Insecta, Diptera, Chloropidae, *Lasiambia*, mantis, oothecae, new species, Spain.

**Una nueva especie de *Lasiambia* Sabrosky (Diptera, Chloropidae), parásita de ootecas de mantis**

**Resumen:** Se describe *Lasiambia mantivora* Nartshuk, sp. n., obtenida a partir de ootecas de *Mantis religiosa* (Linnaeus, 1753) en España. La nueva especie se compara con *Lasiambia baliola* Collin y *L. brevibuca* Duda. Los adultos de *L. mantivora* fueron obtenidos de ootecas localizadas sobre piedras. Las larvas se encontraron en diciembre alimentándose de las larvas de mantis, emergiendo los adultos la siguiente primavera, antes de la emergencia de las mantis.

**Palabras clave:** Insecta, Diptera, Chloropidae, *Lasiambia*, mantis, ooteca, especie nueva, España.

**Taxonomy / Taxonomía:** *Lasiambia mantivora* Nartshuk sp. n.

Some species of Chloropidae have carnivorous larvae which feed on eggs of Araneae, Orthoptera, Mantodea, Coleoptera, Auchenorrhyncha and Megaloptera (Nartshuk, 1987). Some species of the genus *Lasiambia* Sabrosky are known as carnivorous in egg pods of Acrididae: *L. palposa* (Fallén, 1820) and *L. coxalis* (von Roser, 1840) in the Palaearctic, and *L. oophaga* (Sabrosky, 1967) in the Nearctic. Schmidt (1963) reported an undetermined species of *Lasiambia* (as *Goniopsita*) reared from oothecae of *Mantis religiosa* (L., 1753) in North Italy. There are known Chloropidae species from other genera which larvae are carnivorous in oothecae of Mantodea: *Polyodaspis picardi* Séguy, 1946 in southern France, *Pseudogaurax mantivorus* Séguy, 1941 in Madagascar, *P. longinervis* Sabrosky, all in oothecae of *Mantis* sp.; *P. elachipteroides* Sabrosky, 1945 in oothecae of *Sphodromantis* Stal, 1877 in Africa and *Kurumemyia ongamea* Kanmiya, 1983 in oothecae of *Tenodera angustipennis* (Saussure, 1869) in Japan (Séguy, 1946, 1951, 1957; Sabrosky, 1945; Kanmiya, 1983). Some Chloropid species as *Pseudogaurax signatus* (Loew, 1876), *P. anchora* (Loew, 1866) in North America, *Lioscinella tonnoiri* Malloch, 1931 in Australia have no strong specialization, and their larvae feed in egg sacs of Araneae, oothecae of Mantodea and in cocoons of Lepidoptera (Hall, 1937; Priddy, 1954; Spencer, 1986).

W. Hennig, who had seen specimens of *Lasiambia* reared by Schmidt from oothecae of *Mantis religiosa* L. in Italy, situated them between *L. albidipennis* (Strobl, 1893) and *L. brevibuca* (Duda, 1933) (Schmidt, 1963). *L. albidipennis* is rather rare species described from former Yugoslavia. Duda (1932–1933) recorded in his monograph that he did not see the species. Séguy (1934) reported that larvae of this species were found in stem of *Brassica oleraceae* together with *Alacobaris chlorizans* (Germar, 1824) (Curculionidae). It is not improbably that Séguy saw another spe-

cies, not *L. albidipennis*, as he mentioned “espace interoculaire mat”, but in Strobl’s description (1893) frons is “glänzenschwartz”.

Recently the first author determined as *L. albidipennis* some specimens from Sardinia and a large series from Turkey. These specimens are well corresponded to Strobl’s description. *L. albidipennis* have black halter and first flagellomere, broad and entirely black gena and whitish wing with pale veins. Available specimens reared from oothecae of *Mantis religiosa* in Spain well distinguish from *L. albidipennis*, as they have wings with brownish vein, yellow first flagellomere, and gena divided into upper yellowish and below shining brownish parts.

The new species need to be compared with *Polyodaspis picardi* Séguy, 1946 and *Lasiambia parallela* (Becker, 1910), the last species described in the genus *Siphonella* Mcquart, 1835 from the Island Crete. *Polyodaspis picardi* was described from southern France (Nice) and reared from oothecae of mantis. Both species share with the new species blackish halter. *Lasiambia parallela* has according Becker’s description ocellar triangle like *P. ruficornis* (Macquart, 1835), shorter than in the new species and black first flagellomere, only yellow-reddish below. *Polyodaspis picardi* has ocellar triangle long, exceeds to the fore margin of frons, slightly widened wing cell *br*, apical setae of scutellum shorter than scutellum, postalar and prescutellar dorsocentral setae short, badly distinguish from setulae on scutum. Séguy did not mention keel between base of antennae, character of the genus *Polyodaspis* Duda 1933, but Sabrosky in his unpublished list of the Chloropidae species of the World listed the species in it. The new species has ocellar triangle longer than a half of frons, but not exceeds the fore margin of frons, postalar and prescutellar dorsocentral setae as long as notopleural ones, apical setae longer than scutellum.

The new species is similar in appearance to *L. brevibuca* and *L. baliola* (Collin, 1946) and share many characters with both species. These species were recently revised with illustration of male genitalia by Ismay (2000), therefore we compare the new species with both ones.

***Lasiambia mantivora* Nartshuk, sp. n.**

**HOLOTYPE:** male, Spain, Cádiz, San José del Valle, Dehesa Picado, 30 S 262277,05 E 4056658,63 N, 110m, 20.05.2006, leg. I Sánchez. **Paratypes:** 2 males, 1 female with the same label; 2 males, 2 females, Spain, Cádiz, San José del Valle, Dehesa Picado, 30 S 262277,05 E 4056658,63 N, 110m, 12.04.2006, leg. I. Sánchez. All specimens reared from oothecae of *Mantis religiosa* L. Specimens collected 20.05.2006 kept in alcohol, specimens collected 12.04.2006 are pinned from alcohol. Holotype and paratypes of 20.05.2006 sited in the collection of the Museo Nacional de Ciencias Naturales (Madrid). Paratypes of 12.04.2006 in the collection of the Zoological Institute of Russian Academy of Sciences in S. Petersburg, Russia.

**DIFFERENTIAL DIAGNOSIS:** The new species is similar in some respect with *L. baliola* and *L. brevibuca*. Similarity and differences are summarized below. I have for comparison a male of *L. brevibuca* from Poltava oblast (Ukraine), determined by O. Duda, and a series of males and females from southern part of Leningrad oblast (Russia).

<i>L. mantivora</i>	<i>L. baliola</i>	<i>L. brevibuca</i>
Body black, shining	Body black, shining.	Body black shining.
Frons shining.	Frons shining.	Frons shining
Ocellar triangle smooth, shining, a little longer than a half of frons	Ocellar triangle smooth, shining, a little longer than a half of frons	Ocellar triangle smooth, shining, a little longer than a half of frons
First flagellomere yellow, darkened on upper margin	First flagellomere yellow, darkened on upper margin	First flagellomere yellow, darkened on upper margin
Gena yellow-whitish under eye and brownish shining below, brownish part broad with setulae more than one row	Gena yellow-whitish under eye and brownish shining below, brownish part broad with setulae more than one row	Gena yellow-whitish under eye and brownish shining below, brownish part narrow with a row of setulae
Palpi brownish, enlarged in both sexes.	Palpi brownish, enlarged in both sexes.	Palpi yellow, enlarged in both sexes.
Face yellow, antennal grooves black	Face yellow, antennal grooves?	Face yellow, antennal grooves black
Pleura shining. Notopleura setae 1 +1	Pleura shining. Notopleura setae 1 +1	Pleura shining. Notopleura setae 1 +1, sometimes a small upper hind setae present
Halter, stem and head blackish from above	Halter pale	Halter pale
Legs almost entirely black	Legs almost entirely black	Legs black, but usually tibia pale on both ends
The last and previous abdominal tergites equal in length	The last male abdominal tergite twice length of previous one	The last male abdominal tergite only 1.5 times length of previous one
Membrane before synsternite 7+8 short and not expanded	Membrane before synsternite 7+8 greatly expanded	Membrane before synsternite 7+8 short and not expanded
Synsternite of equal length across abdomen	Synsternite produced to a point in the midline	Synsternite of equal length across abdomen
Cerci of male fused at base and separated apically	Cerci of male fused at base and separated apically	Cerci of male fused at base and separated apically
Apex of cerci rounded. Hypandrium deeply incised	Apex of cerci rounded. Hypandrium deeply incised	Apex of cerci angulate. Hypandrium slightly incised
Apex of hypandrial arm with strongly developed flange	Apex of hypandrial arm without flange	Apex of hypandrial arm with strongly developed flange

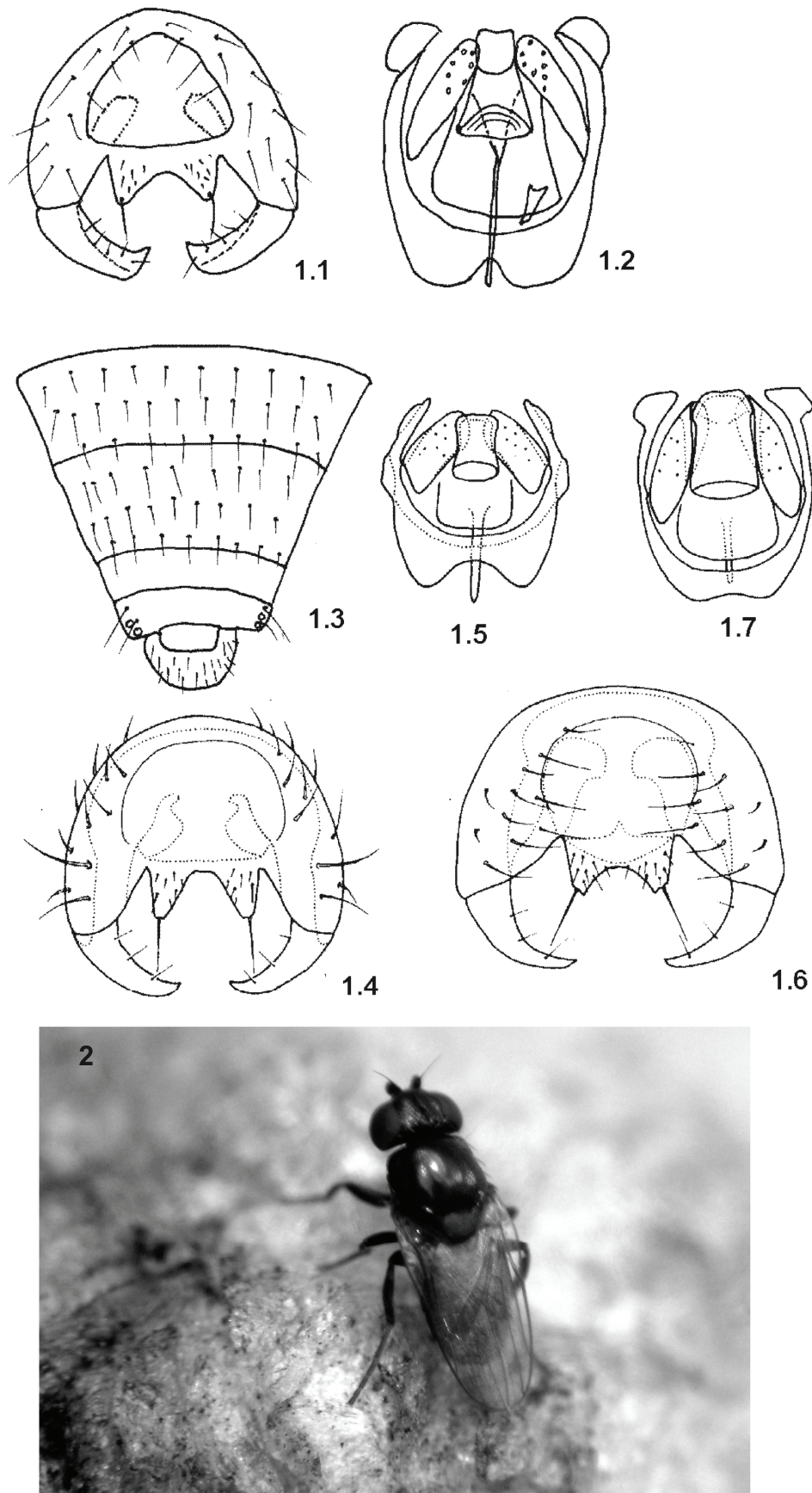
**DESCRIPTION:** Body black, shining. Frons square, narrow reddish in front, covered with black setulae. Ocellar triangle smooth longer than a half of frons, but not exceeds fore margin of frons. Postocellar and outer vertical setae rather strong and equal in length. Six short orbital setae, four last stronger than two fore ones and equal nearly 1/2 of postverticals. Antennae yellow, first flagellomere slightly darkened on outer margin. Arista black, very short pubescens. Genae as wide as first flagellomere, divided into two parts: upper under eye yellow and below brown shining with two rows of setulae. Vibrissa well developed. Haustellum short, with short labellae, which covered with long setulae. Palpi long brownish, expanded in both sexes.

Scutum shining, evenly covered with black setulae. Pleura shining. Notopleural setae 1+1, posterior seta longer than anterior. Other setae: a humeral, a prescutellar dorso-central, and a postalar. Scutellum semicircular. Apical setae

shorter than scutellum and 3-4 short subapical setae. Abdomen brown.

Wing transparent, veins light brown. Costal sectors 2:3:4 as 45:27:15. Haltere (head and stem) brownish above and yellow below. Legs black, only tarsi yellow. Body length 1.9-2.1 mm.

**ECOLOGY:** The female of *L. mantivora* deposits her eggs during the summer and fall, when the *Mantis religiosa* lays her oothecae. The affected oothecae were placed on stones. We have found developed larvae in December, feeding each of them on a mantis larva, and the adults emerge the following spring, before the mantis emergence. They chewed a rough hole in the capsule of the ootheca to exit. We have found 12 and 19 flies in only two oothecae out of 35 examined. The number of egg capsules parasitized by Hymenoptera (*Podagrion* spp.) was much higher (18 out of 35).



**Fig. 1.** Structures of apex of male abdomen and male genitalia of *Lasiambia*. **1.1-1.3.** *L. mantivora* sp. n.: **1.1** epandrium, apical view; **1.2.** hypandrium, ventral view; **1.3.** apex of male abdomen, dorsally; **1.4, 1.5.** *L. baliola* Collin: **1.4.** epandrium, apical view; **1.5.** hypandrium, ventral view; **1.6, 1.7.** *L. brevibucca* (Duda): **1.6.** epandrium, apical view; **1.7.** hypandrium, ventral view. 4-7. after Ismay, 2000. **Fig. 2.** Just emerged adult of *Lasiambia mantivora* sp. n. on a *Mantis religiosa* ootheca (I. Sánchez)

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