

A NEW NORTH AMERICAN *CALOSIMA* (LEPIDOPTERA: COLEOPHORIDAE: BLASTOBASINAE)

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ABSTRACT.— *Calosima munroei* n. sp. is described from Marin and Contra Costa counties of coastal California. New host records for the genus include *Cupressus goveniana* Gordon, *C. sargentii* Jepson (Cupressaceae), and dead *Salix* sp. (Salicaceae). A photograph of the imago and illustrations of wing venation, male and female genitalia are included.

KEY WORDS: Blastobasidae, California, *Calosima munroei* n. sp., Cupressaceae, Gelechioidea, Holcocerini, hostplants, Nearctic, Salicaceae, taxonomy, USA.

The Blastobasinae are probably one of the most commonly collected groups of Gelechioidea in the Americas. Yet this group is one of the least known to science. Generally, species are gray or brown with low interspecific variation, making identifications difficult without the examination of the genitalia.

Whether one follows the familial concept of Meyrick (1894) for Blastobasidae or the subfamilial concept Blastobasinae within Coleophoridae of Hodges (1998), the taxon is accepted as a monophyletic group. Although several authors (Meyrick, 1894; Dietz, 1900, 1910; Walsingham, 1907; McDunnough, 1961; Powell, 1976, 1980; Hodges, 1983) contributed insightful ideas that helped to develop a modern scheme of relationships within Blastobasinae, they did not give definitive characters for it. Adamski and Brown (1989) were the first to corroborate these intuitive ideas of monophyly for the Blastobasinae, and give supportative evidence for generic placement of species within.

Calosima was established by Dietz (1910), recognizing two species, *C. argyrosplendella* Dietz and *C. dianella* Dietz. Four other North American species have been transferred to the genus (Adamski and Hodges, 1996), and one species is described from the Galapagos (Adamski and Landry, 1997). Several other undescribed species of *Calosima* are currently recognized by the author in a monograph of Costa Rican Holcocerini (in prep.).

Most *Calosima* are small to medium-sized moths. Most species are pale gray or pale brown in color, with some species having distinct wing maculations, while other species are concolorous, having a satin shine. Several *Calosima* are known to occur in southeastern and southwestern United States, but *C. argyrosplendella*, *C. elyella* (Dietz), and *C. melanostriatella* (Dietz) are known in the Northeast. Foodplants vary from seeds within cones of Cupressaceae and Pinaceae, pineapple (Bromeliaceae), and dried orange (Rutaceae) and dead willow (Salicaceae).

The Methuen Handbook of Colour (Kornerup and Wanscher, 1978) is used as a color standard for the description of the adult vestiture. Genitalia were dissected as described by Clarke (1941), except mercurochrome and chlorazol black are used as stains. Pinned specimens and genital preparations were examined using dissecting and compound microscopes. Wing measurements were made using a calibrated ocular micrometer.

The purpose of this work, as others in the *Tropical Lepidoptera* journal Festschrift, is to honor Eugene Munroe for his lifetime achievements and excellence in the systematics of Lepidoptera, particularly on the Pyralidae. It seems appropriate that on his 80th birthday, I celebrate with others the accomplishments of a colleague and friend with the description of *Calosima munroei* n. sp.

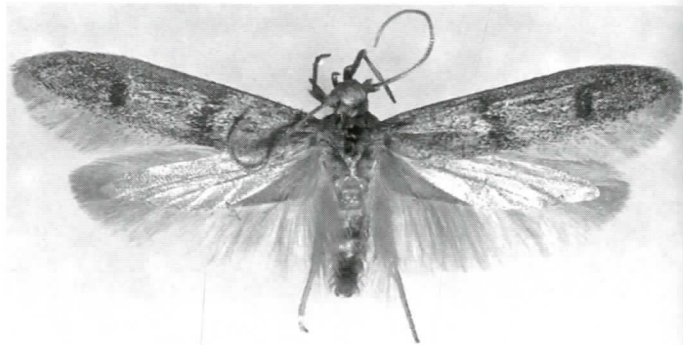


Fig. 1. Holotype of *Calosima munroei* Adamski.

Calosima munroei Adamski, new sp.

(Fig. 1-4)

Diagnosis.— *Calosima munroei* can be distinguished from other *Calosima* by possessing a prominent submedian fascia and a large spot near the distal part of cell; a slightly dilated uncus, ventrally keeled; a platelike juxta; a relatively long aedeagus, distally tapering to a point.

Description.— *Head:* Vertex and frontoclypeus with narrow scales; scales mostly pale grayish brown intermixed with few scales grayish brown tipped with pale grayish brown; antennal scape and pedicel mostly dark brown intermixed with pale grayish-brown scales, pecten mostly pale grayish brown intermixed with some dark-brown scales, flagellum pale grayish brown, males with more flagellar cilia than females, antennal notch absent; outer surface of labial palpus mostly with brown scales intermixed with brown scales tipped with pale grayish brown, and pale grayish-brown scales; inner surface mostly with pale grayish-brown scales intermixed with brown scales and brown scales tipped with pale grayish brown; palpal scales on both surfaces mostly pale grayish brown near apical area of segments; proboscis with pale grayish-brown scales intermixed with grayish-brown and brown scales. *Thorax:* Mesonotum and mesoscutum and tegulae mostly with pale brownish-gray scales, intermixed basally with grayish-brown scales tipped with pale grayish brown. *Legs:* Outer surface of legs with grayish-brown scales tipped with pale grayish brown, inner surface pale grayish brown; midtibia of hindleg and apical area of all femura, tibiae, and tarsomeres pale grayish brown. *Forewing* (Fig. 1-2): Length 7.4-9.0mm (n = 18); ground color of area of cell mostly with pale brownish-gray scales intermixed with few pale brownish-gray scales tipped with brown; scales outside area near cell mostly with brown scales tipped with pale grayish brown, intermixed with few pale grayish-brown scales; submedian fascia with mostly brown scales intermixed with pale grayish-brown scales tipped with pale grayish-brown and pale grayish-brown scales; a single large subrectangular spot of mostly brown scales near distal part of cell; inner fringe scales mostly pale grayish brown with a median brown band, outer fringe scales pale grayish brown; undersurface grayish brown; venation with

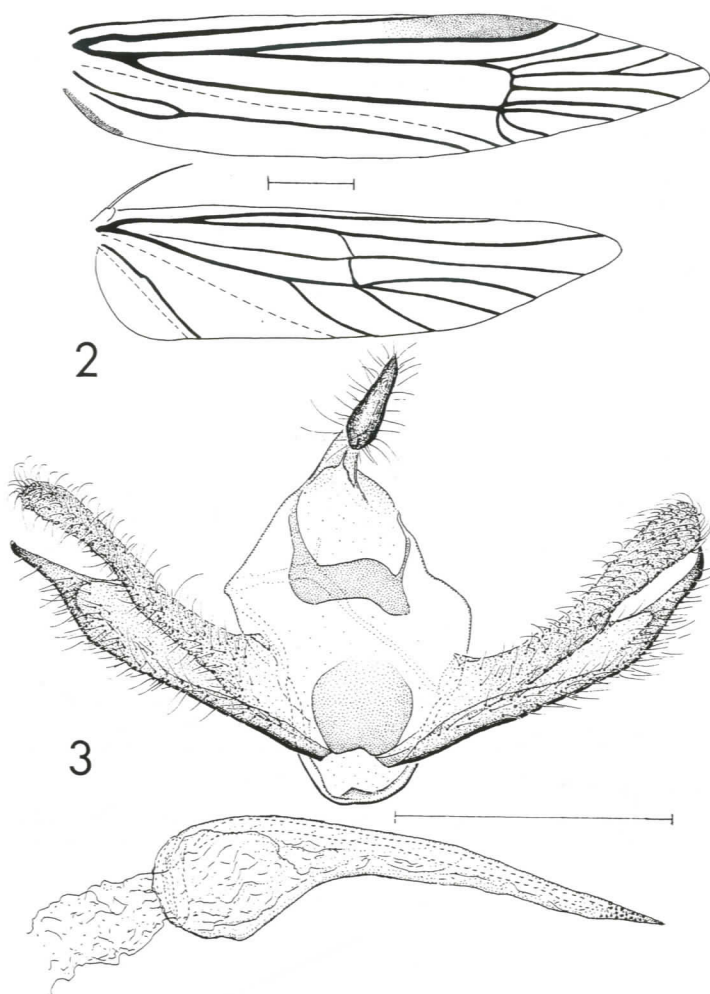


Fig. 2-3. Wing venation and male genitalia of *Calosima munroei* Adamski. Line scales = 1.0mm and 0.5mm respectively.

M_2 and M_3 approximate; M_3 and CuA_1 and CuA_2 fused basally. *Hindwing* (Fig. 2): Pale grayish brown; venation with M_2 and M_3 fused basally with CuA_1 ; cubitus 4-branched. *Abdomen*: Pale grayish brown. *Male genitalia* (Fig. 3): Uncus posteriorly projecting, slightly dilated, ventrally keeled; posterolateral arms of ganthos narrow, median lobe present; dorsal strut not reaching base of uncus; vinculum narrow; upper part of valva setose, fused with lower part of valva at base; lower part of valva distally narrowed into an elongate process with a somewhat rounded apex, ventral margin setose; juxta, a weak rounded plate; aedeagus bulbous at base gradually narrowed to a pointed apex; anellus slightly sclerotized, and with microsetae. *Female genitalia* (Fig. 4): Telescopic ovipositor with two subsegments; eighth sternum setose to near apex of notch; ostium approximate to eighth sternum; antrum slightly denticulate; posterior part of ductus bursae narrow, anterior part slightly wider; anterior part of ductus bursae and corpus bursae denticulate; ductus seminalis anterior to seventh segment; signum absent.

Types.—*Holotype* ♂, "Carson Ridge, Marin Co[unty], Calif[ornia], II-10-[19]57, J. Powell", "Emerged III-17-[19]57, Reared from *Cupressus goveniana* cones". The holotype is not dissected, and is deposited in Essig Museum of Entomology, University of California, Berkeley, California.

Paratypes, 9♂, 4♀: Same label data as holotype except, "♂ Genitalia Slide D. Adamski 1865" [green label], "*Calosima* Sp - 6, voucher; Adamski & Brown [19]89" [green label]; "♂ Genitalia Slide by D. Adamski 1864" [green label], "♂ Wing Slide by D. Adamski 2282" [green label], "*Calosima* Sp - 6, voucher; Adamski & Brown [19]89" [green label]; "JAP [♂] Genitalia 4058"; "JAP [♀] Genitalia 4059"; "♀ Genitalia Slide by D. Adamski 1867" [green label], "*Calosima* Sp - 6, voucher; Adamski & Brown [19]89" [green label]; "♀ Genitalia Slide by D. Adamski 1866"

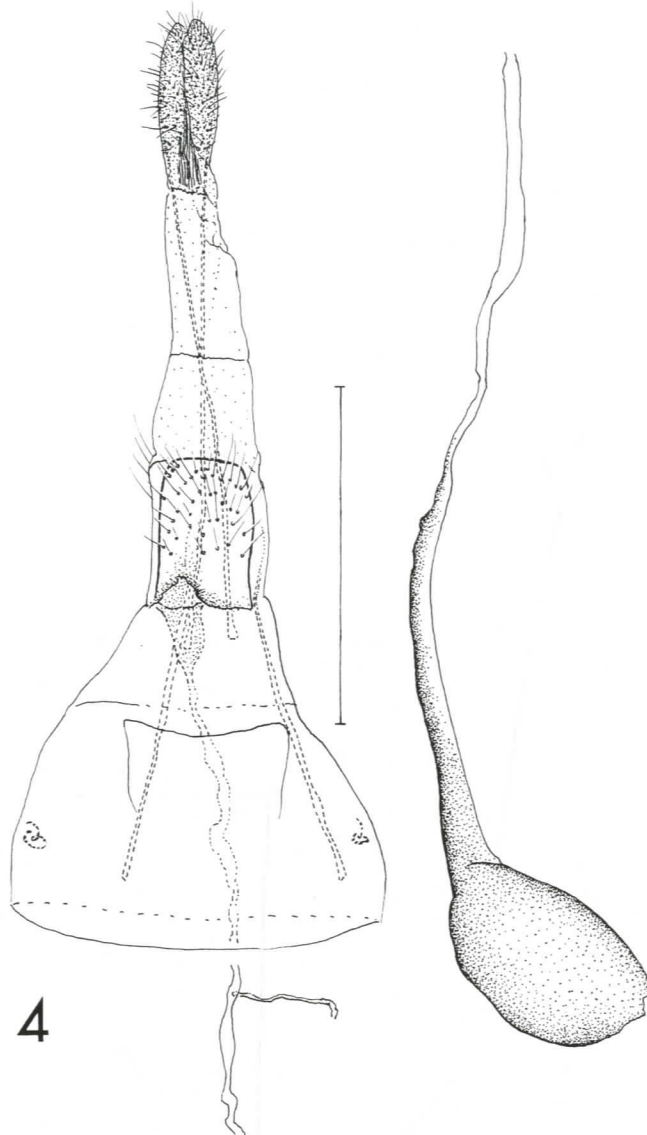


Fig. 4. Female genitalia of *Calosima munroei* Adamski (line scale = 1mm).

[green label], "♀ Wing Slide by D. Adamski 2283" [green label], "*Calosima* Sp - 6 voucher, Adamski & Brown [19]89" [green label]; 3♂: Same label data as above except, "II-3-[19]57"; 1♀: Same label data as above except, "IV-16-[19]61", "J. Powell No. 61D11"; 1♂: Same label data as above except, "III-30-[19]66", "J. Powell No. 66C28"; 1♂: "Pittsburgh, 2 mi. W C[ontra] Costa Co., Calif[ornia], III-21-[19]57", "Reared from dead willow", "J.A. Chemsak Collector", "♂ Genitalia Slide by D. Adamski 1979" [green label], "*Calosima* Sp - 6 voucher, Adamski & Brown [19]89" [green label]. Other specimens examined: Two ♂ specimens missing abdomens, same data as above except, "Reared from cones of *Cupressus sargentii*", "J. Powell No. 61D11", "J. Powell No. 60E3". All emergence data for the above specimens include: "III-27 - VII-18". Two male and one female paratypes are deposited in the U.S. National Museum.

Distribution.—Marin and Contra Costa counties of coastal California.

Hosts.—*C. munroei* was reared from cones of *Cupressus goveniana* Gordon, *Cupressus sargentii* Jepson [Cupressaceae], and one specimen from dead willow [Salicaceae].

Remarks.—Specimens of *Calosima munroei* are generally larger than most specimens of other species within the genus. In addition, most other species tend to be paler in maculation, but this could be a result of age and exposure to light.

Etymology.—This species is named in honor of Eugene Munroe,

whose encouragement when I was a graduate student, and later when I became a member of the Systematic Entomology Laboratory, USDA, at the Smithsonian Institution, was greatly appreciated.

DISCUSSION

Calosima munroei is closely related to an eastern species, *Calosima elyella*. Although *C. munroei* is distinctly larger, both species have distinct wing maculation, and genitalia. *Calosima elyella* and *C. munroei* have forewings paler on the area of the cell, but the former species has an incomplete submedian fascia and two distinct small spots near the distal part of the cell. *C. munroei* has a complete and wider submedian fascia and the two discal spots appear to have merged into one large spot. This discal spot is nearly as distinct as the submedian fascia.

The male genitalia of *C. elyella* differ from *C. munroei* in having an uncus more laterally flattened, and ventral margin of the distal portion of the lower part of the valva more emarginate.

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