

SCIENTIFIC NAME: *Lytta morrisoni*
COMMON NAME: Morrison's blister beetle
CLASS, FAMILY: Insecta, Meloidae

ORIGINAL DESCRIPTION: Horn, G.H. 1891. Proceedings of the American Philosophical Society 29:102 (as *Calospasta morrisoni*). Selander (1954) transferred *Calospasta morrisoni* and *C. moesta* to the genus *Lytta* based mostly on characters of the antennae.

TYPE MATERIAL: *Lectotype:* Male – CALIFORNIA: So. Cal. (No other data.) Selander (1960) states that the type is in the Academy of Natural Sciences, Philadelphia, but Horn's type collection has since been moved to the Museum of Comparative Zoology, Harvard. Although Selander labeled a specimen as the lectotype in 1960, now MCZ type #8295, it does not appear to be formally designated in his revision.

RANKING/STATUS: G1G2S1S2 (NatureServe – CNDDDB).

GENERAL DESCRIPTION: Meloids are elongate beetles with soft elytra. The pronotum is narrower than the head and elytra. *Lytta morrisoni* is 12-17 mm in length, with dull brown wings. The pronotum is usually orange, but can be partly to entirely black.

DIAGNOSTIC CHARACTERS: Selander (1960) separates *Lytta morrisoni* from *L. moesta* on the basis of its moderately pubescent elytra (glabrous in *moesta*), distinctly curved tarsal claws (nearly straight in *moesta*), lack of a produced male pygidium, and usually orange thorax (entirely black in *moesta*).

OTHER ILLUSTRATIONS: Horn, in his original description, provided no figures for this species. Selander (1960) illustrates the male antenna in fig. 65, the emargination of the male sixth sternum in fig. 222, male genitalia in fig. 291, and the female antenna in fig. 118. Four photographic images of the lectotype specimen are available from the MCZ online catalog, available on the web at: <http://mcz-28168.oeb.harvard.edu/mcztypedb.htm>.

DISTRIBUTION: Found in the southern Central Valley. Halstead and Haines (1992) report a 1978 record from Panoche Rd., 13.1 km west of I-5 in Fresno County. More recently the species has been collected at Carrizo Plains in San Luis Obispo County in 2003, and 4 miles west of Earlimont and at Pixley NWR in Tulare County in 2005 (CNDDDB, 2006) The species has also been recorded from Kern and San Benito counties.

HABITAT: Meloids are frequently encountered on flowers, and *Lytta morrisoni* has been recorded feeding on *Gilia tricolor* and *Linanthus liniflorus* by Haines (*in litt.*)

LIFE HISTORY/BEHAVIOR: There is no information available on the life history or behavior of this species. Horn (1891) stated that the species was found "rather

abundantly" by Morrison, the collector of the type series. Meloids are often found in large aggregations on plants near the nesting sites of their host bees.

There is some developmental information available for other species in the genus. Mating in *Lytta* species often continues for many hours. Selander (1960) observed a pair of mating *L. cyanipennis* that lasted over 11 hours. Adults mate end-to-end; they continue feeding on flowers during mating, often pulling in opposite directions, but rarely become disengaged. Females excavate shallow burrows in which to oviposit. After oviposition is complete, the female brings soil down into the burrow and covers the egg mass. Some species in the genus are known to produce 80 to 250 eggs. *Lytta* larvae are nest parasites of solitary bees; the beetle larvae feed on the pollen stores that the female bee has provided for her own larvae. Some species require only the pollen contents of one bee's larval cell to complete their development, but others need more and attack several cells. In doing so, larvae of these species frequently kill and consume the immature stages of the host bee as well as consuming their pollen stores.

SELECTED REFERENCES:

- California Natural Diversity Database. 2006. California Department of Fish and Game.
- Halstead, J.A. and R.D. Haines. 1992. New distributional records for some candidate species of *Lytta* in California (Coleoptera: Meloidae). *Pan-Pacific Entomologist* 68(1):68-69.
- Selander, R.B. 1954. Notes on the tribe Calospastini, with description of a new subgenus and species of *Calospasta*. *The Coleopterists' Bulletin*.8(1):11-18.
- Selander, R.B. 1960. Bionomics, systematics, and phylogeny of *Lytta*, a genus of blister beetles (Coleoptera, Meloidae). *Illinois Biological Monographs* 28:1-295.

Written by Sandra Shanks, California Department of Fish and Game, Natural Diversity Database.

Reviewed by John Pinto, University of California, Riverside.