

SCIENTIFIC NAME: *Lytta molesta*
COMMON NAME: Molestan blister beetle
CLASS, FAMILY: Insecta, Meloidae

ORIGINAL DESCRIPTION: Horn, G.H. 1885. Studies among the Meloidae. Transactions of the American Entomological Society 12:111 (as *Cantharis molesta*).

TYPE MATERIAL: *Lectotype:* Male – CALIFORNIA: "probably from near Visalia." 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 #34079, it does not appear to be formally designated in his revision.

RANKING/STATUS: G2S2 (NatureServe – CNDDDB).

GENERAL DESCRIPTION: Meloids are elongate beetles with soft elytra. The pronotum is narrower than the head and elytra. *Lytta molesta* is black with orange markings on the thorax, and ranges from 11-22 mm in length.

DIAGNOSTIC CHARACTERS: The pronotum is orange with a small, narrow black border on the median anterior edge and a larger, irregularly-sided black blotch extending down the posterior median two-thirds; this posterior blotch widens until it extends the entire width of the hind margin of the pronotum. Very rarely the pronotum is entirely black. The tarsal claws are moderately curved. The male hind trochanters have a spine on the ventral margin near the apex. In the female, the pale frontal spot is at least half as wide as the frontal area between the eyes, and the sixth abdominal sternum is emarginate. Van Dyke (1929) mentions confusing this species with *Lytta childi* (as *maculicollis*) and gives characters for separating the two species.

OTHER ILLUSTRATIONS: Selander (1960) illustrates the male antenna (fig. 113), the female antenna (fig. 151), the orange and black color pattern of the pronotum (fig. 190), the sixth abdominal sternum of the male (fig. 269) and female (fig. 286), and male genitalia (fig. 346). Figure 56 shows the known distribution of the species at the time of his revision. 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/mcztpepdb.htm>.

MacSwain (1956) illustrates the atria of the first abdominal spiracle of the first instar larva in Plate 15.

DISTRIBUTION: Central California.

HABITAT: Adult meloids are often found on flowers. *Lytta molesta* has been collected on *Lupinus*, feeding on its flowers and seed pods (Halstead and Haines 1992), on *Trifolium wormskioldii* in dried vernal pools (Holstein 1980), and on *Eriodium*

(Selander 1960). Holstein noted that the species was absent in nearby areas with non-vernal pool vegetation, but a lack of detailed collecting information makes it unclear whether the species is always or usually associated with dried vernal pools.

LIFE HISTORY/BEHAVIOR: Very little is known about the life history or behavior of this species. It has been collected from early April to early July. 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.

MacSwain (1956) described the first instar larva from collections taken 3 miles south of Brentwood, Contra Costa County in 1946, and 10 miles north of Blackwell's Corners, Kern County in 1950.

SELECTED REFERENCES:

- 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.
- Holstein, G. 1980. Letter to Dr. John Pinto with collection information for *L. molesta*.
- MacSwain, J.W. 1956. A classification of the first instar larvae of the Meloidae (Coleoptera). *University of California Publications in Entomology* 12:1-182.
- Selander, R.B. 1960. Bionomics, systematics, and phylogeny of *Lytta*, a genus of blister beetles (Coleoptera, Meloidae). *Illinois Biological Monographs* 28:1-295.
- Van Dyke, E.C. 1929. New species of Meloidae (Coleoptera). *Bulletin of the Brooklyn Entomological Society*. 24(3):127-133.

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