



Scientific Note

***Meloe franciscanus* Van Dyke, 1928, from the central coast of Oregon: A significant range extension (Coleoptera: Meloidae)**

In early December 2010, eight specimens of *Meloe franciscanus* Van Dyke 1928, including a courting pair (Figure 1), were taken at the following sites in OREGON: Lincoln Co., Hidden Lake, near Waldport, 14 m, 44°27'18.42", -124°04'39.61", 5-XII-2010, R. L. Westcott; same except 15 m, 44°27'23.57", -124°04'45.88", 6-XII-2010, J. D. Pinto. Adults were collected during the day in the open and under clumps of dead European beach grass, *Ammophila arenaria* (L.) Link. Feeding was not observed. Several first instar larvae (triungulins) were swept from European beach grass at the second site on 4-V-2011 (JDP). These collections are the first records of *M. franciscanus* from Oregon as well as from the Pacific Northwest. They represent an approximate 640 km range extension at about 330° from the nearest verified locality at Verdi, Nevada (Pinto & Selander 1970). Specimens are deposited in the collections of the California Academy of Sciences, San Francisco; Oregon Department of Agriculture, Salem; and the University of California, Riverside (UCR).

The *Meloe* habitat (Figure 2) is in stabilized dunes less than 0.5 km from the coast, with various, mostly short, native and exotic plants, but with a few shrubs and trees from the surrounding coastal forest, including the exotic shrub *Cystisus scoparius* (L.) Link (Scotch broom) (Fabaceae). This forest is dominated by *Pinus contorta* Douglas ex Loudon var. *contorta* (shore pine) and *Picea sitchensis* (Bongard) Carrière (Sitka spruce) (both Pinaceae), with an understory mostly of *Gaultheria shallon* Pursh (salal) and *Vaccinium ovatum* Pursh (California huckleberry) (both Ericaceae). The only other collection of *M. franciscanus* from a coastal habitat is the type series taken at Lake Merced, San Francisco, in 1910 (Van Dyke 1928).

Native flora in the open sandy area where *M. franciscanus* occurs includes *Arctostaphylos uva-ursi* (L.) Spreng. (kinnikinnick), *Calystegia soldanella* (L.) R. Br. (seashore false bindweed), *Lupinus littoralis* Douglas (seashore lupine), *Polygonum paronychia* Cham. & Schldtl. (beach knotweed), *Polypodium glycyrrhiza* D.C. Eaton (licorice fern), *Pteridium aquilinum* (L.) Kuhn (western bracken fern) and *Solidago simplex* Kunth var. *spathulata* (D.C.) Cronquist (dune goldenrod). However, the dominant plants are *A. arenaria* and various small forbs and grasses.

Meloe franciscanus is known from several collections in cismontane California as well as from desert dunes in California, Nevada and Utah, but is uncommonly collected (Pinto & Selander 1970, Pinto 1982). *Astragalus lentiginosus* Douglas ex Hook (freckled milkvetch) is a known host plant for adults on desert dunes (Pinto 1982, Saul-Gershenz & Millar 2006). There are no feeding records for other populations. As in all *Meloe* spp. studied, the first instar larva of *M. franciscanus* is phoretic on bees. Bee provisions and larvae serve as food for development (Pinto & Selander 1970). Known hosts for *M. franciscanus* are *Anthophora edwardsii* Cresson, 1878 (Apidae) (Linsley & MacSwain 1941) and *Habropoda pallida* (Timberlake, 1937) (Apidae) (Saul-Gershenz & Millar 2006). The latter authors have shown that larvae of *M. franciscanus* gain access to *H. pallida* through chemical mimicry.



Figure 1. Courting pair of *Meloe franciscanus* near Waldport, Oregon.

Habropoda miserabilis (Cresson, 1878) occurs at the Oregon site although a host relationship has not been established (Leslie Saul-Gershenz, *in litt.*).

The known geographic range of *Meloe franciscanus* now encompasses northwestern coastal dunes in Oregon, chaparral in southern California, and dune systems in the Mojave and Great Basin deserts. However, such extensive habitat diversity is not unique to *M. franciscanus*. At least two other western congeners, *M. barbarus*



Figure 2. Habitat of *Meloe franciscanus* near Waldport, Oregon.

LeConte, 1861, and *M. strigulosus* Mannerheim, 1852, are known from a similar array of habitats (Pinto & Selander 1970; unpublished records, UCR).

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