

The large black rove-beetle *Ocypus olens* Müller (Coleoptera: Staphylinidae) (fig. 1) is established in some gardens in California. It was first introduced accidentally into California probably about fifty years ago and has since been reported in the counties of Contra Costa, Imper-

ial, Los Angeles, Modoc, Riverside, San Diego, San Francisco and San Mateo. This active predator is now being viewed as a possible biological control agent of *Helix aspersa* Müller, the brown garden snail (BGS).

Within California BGS has long been considered an economic pest in

gardens, nurseries, and orchards. It is omnivorous, eating living and decaying vegetables, flowers, ground covers, citrus leaves and fruit, and even paper labels and cardboard cartons as well as cadavers of its own species. A continuing problem in landscaping public roads is to prevent

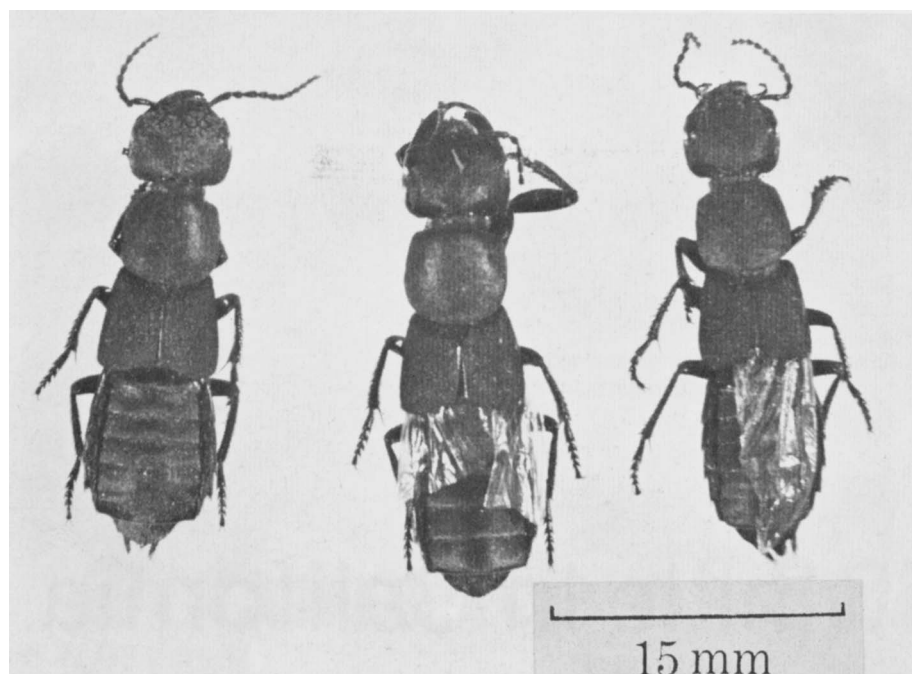


Fig. 1. Three adult *Ocypus olens*, the large black rove beetle, sometimes called "the devil's coach horse," which feeds on the brown garden snail, *Helix aspersa*.

OCYPUS A Predator

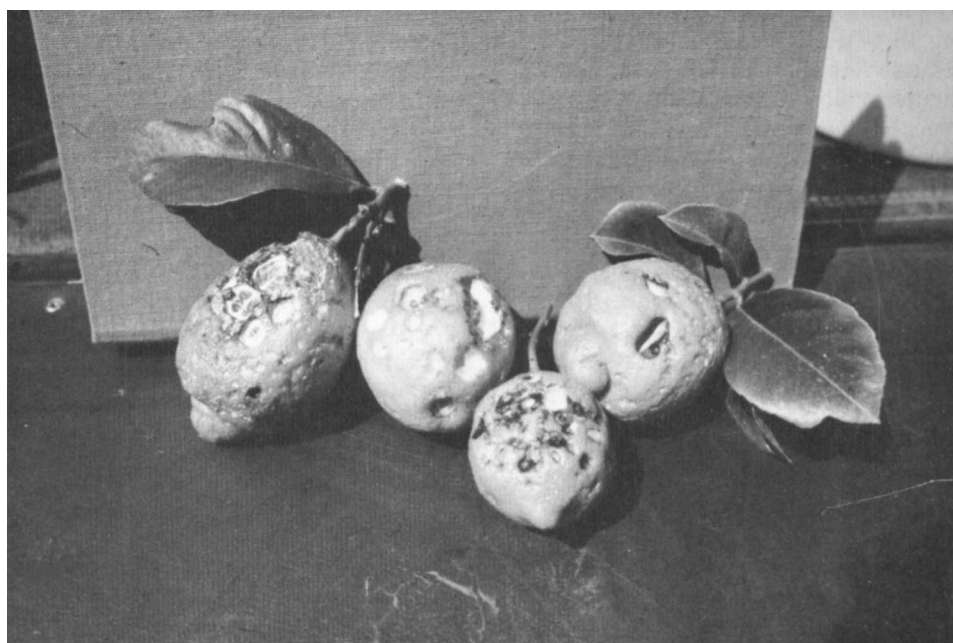


Fig. 2. Lemons from the grove of Nipomo Farming Co., Arroyo Grande, California, showing destruction by *Helix aspersa*.

BGS from crawling onto the pavement in numbers large enough to create a skid hazard to passing vehicles. Many California home gardeners spend more money to control BGS than all other garden pests combined. Prepared metaldehyde-bran baits are the most common backyard

and commercial control methods. Recent laboratory studies by Fisher and Orth (see June 1975 *California Agriculture*) indicate that local populations of BGS which have been subjected to a systematic baiting program over the past several years are less susceptible to metaldehyde

baits than are populations rarely or sporadically treated.

BGS is a serious pest especially in many coastal and interior citrus orchards in southern California where its control with poison baits is not always effective and can be a production cost item of significance. Not only do the snails cause damage by feeding on the foliage, even to the tops of mature trees in some groves, but they do extensive cosmetic damage to the fruit by scarring the rind. Such fruit is not acceptable for the retail market. Lightly scarred fruit may be suitable for juice or by-products, but heavily scarred fruit (fig. 2) can only be discarded.

O. olens has been reported feeding on slugs in England. When it was found to be present in numbers in a garden in Riverside, it was observed that the snail population in that garden was much lower than in nearby gardens where the beetle was absent.

An adult female *O. olens* was maintained in our laboratory at U.C. Riverside for several weeks on an exclusive diet of BGS. She ate an average of one 12 mm snail per day during this period, or about her own body weight each 24 hours, until she died of unknown causes. The snails were attacked from the posterior surface of the body whorl; pieces were broken from the shell where entry was made and feeding began (fig. 3), indicating the probability that this is a natural mode of attack for the beetle. On other tests mature larvae of the beetle were maintained in the laboratory on an exclusive diet of BGS. They fed as voraciously as the adult and later pupated in individually constructed cells in the soil-covered bottoms of their rearing jars.

It is our intention to culture large numbers of this predator so that it can be distributed to areas with serious snail problems to further investigate this possibility of biologically controlling BGS.

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OLENS: of Brown Garden Snail

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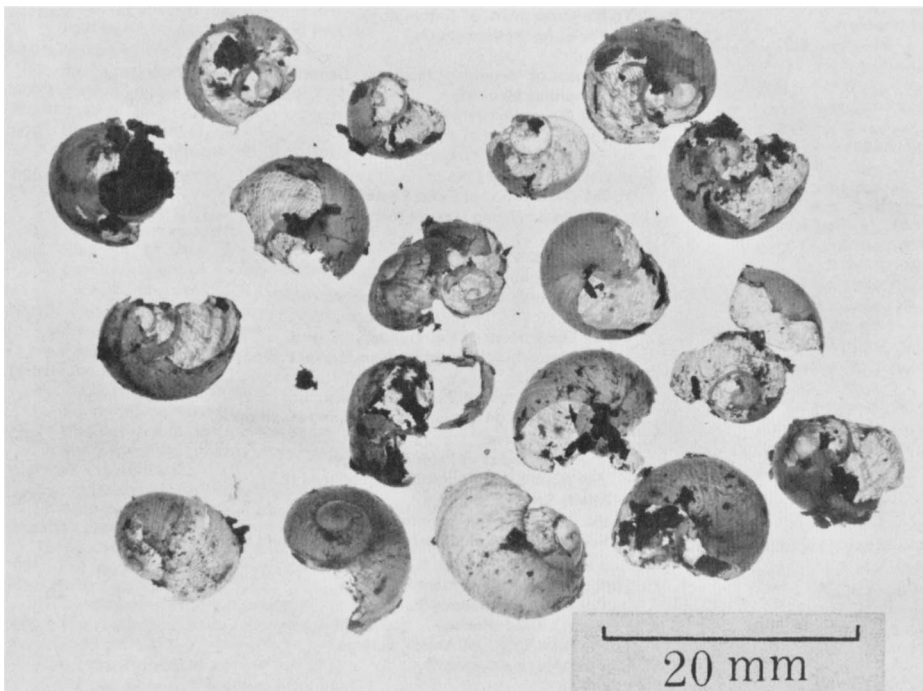


Fig. 3. Shell remains of *Helix aspersa* which were eaten by a single specimen of *Ocyrops olens* between April 15 and May 6, 1974.