

# COLLECTING AND HANDLING THE CONVERGENT LADY BEETLE (*Hippodamia convergens*)

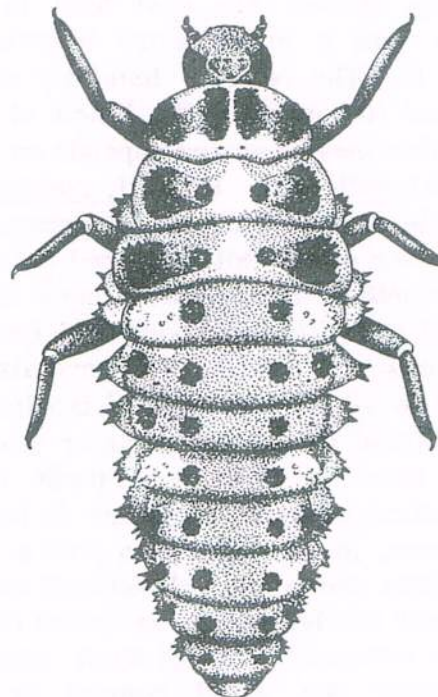
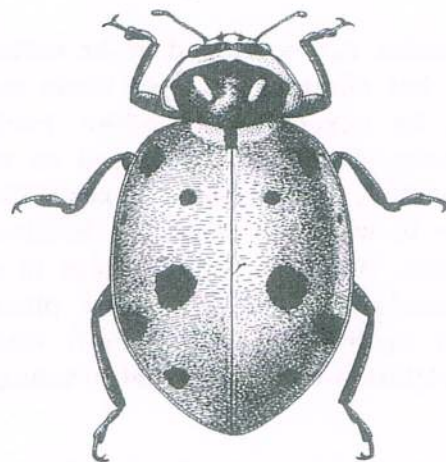
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Even though present data indicate that controlling aphids by releasing H. convergens collected from aggregations is not economically feasible, many growers are still anxious to try releases. Also, people who discover large aggregations of beetles in the mountains believe that it may be worthwhile trying to sell or release the lady beetles themselves. For these reasons the following information on collecting, storing, and shipping is included. However, it is emphasized that H. convergens collected from mountain aggregations cannot be relied upon to control aphid populations, and actually more harm than good may be done to the beetles if they are released under adverse conditions.

## COLLECTING

The commercial collectors gather the beetles during December, January, February, and perhaps March before the beetles disperse from their aggregations. Collecting may begin again in May when the first beetles have migrated into the canyons. Aggregations along creeks can be found through the summer and into the fall. During the middle of October, there is a consolidation of smaller summer aggregations after the first rain. These new aggregations are usually large and found a little further up slope from the creeks, and usually at about snowline in the Sierra.

Aggregations are also formed in the coastal ranges of California. The beetles will remain until the end of February, at which time they take off on their migratory flight back to the valley.



Above—Convergent lady beetle adult. 8x.  
Below—Convergent lady beetle larva. 10x.

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Beetles are collected by hand scooping them in masses along with debris. The material is generally placed in cloth or plastic-screen sacks (burlap sacks are poor). About 2 gallons of the material is placed in a sack about the size of a 100-pound flour sack. At no time should the sacks be left exposed to the direct sun.

### STORING

The beetles can be stored in the collecting sacks, but commercial men clean out the debris by screening or other methods. The sacks should not be placed on top of one another, so screened boxes with excelsior in which to place the beetles are desirable. Or they may be kept in sacks with excelsior, and the sacks placed in wooden crates that will permit stacking for ventilation and to prevent crushing.

The lady beetles are best held in cold storage with a temperature between 35 and 45 F. The relative humidity should be around 70 percent. The length of time the beetles may be stored depends on when they were collected. If the H. convergens are collected in January, February, or March, they should not be stored for more than 2 months. Beetles held much longer than this period become weak and mortality increases, for these adults are already about 9 to 10 months old. If the beetles are collected during the summer months, storing them for at least a month, if not two, before releasing appears to be advantageous, for they seem to feed a little faster than those not cold-stored and so the stored beetles will be in better condition for release. But, it must again be emphasized that aphid control by this means is not dependable. The summer-collected H. convergens can be held for about 3 months, if necessary. During

storage the sacks of beetles should be taken out of cold storage periodically and sprinkled with water to permit the beetles to drink. Keep the beetles in the shade during this process and allow the sacks to become nearly dry before returning them to storage.

### SHIPPING

Before shipping the beetles within California, permission must be obtained from the State of California, Department of Agriculture, by writing to the Bureau of Plant Quarantine, 1220 N Street, Sacramento 95814. These authorities issue a California insect-shipping permit. The permit must be plainly visible on the package. Also a complete record should be kept of all insect shipments made under the provisions of the permit. The records for the reports should include the names and quantities of the species moved, their origin, and destination. One copy of the report is to be furnished upon request to the Director of Agriculture, and a copy should be sent to the Agricultural Commissioner of the county in which the releases are to be made.

If the shipments are to be made interstate, it is advisable to write to Plant Quarantine Branch, Agricultural Research Service, U.S. Department of Agriculture, Washington, D.C. 20025. Specify the number of proposed shipments, scientific name (Hippodamia convergens), destination, and purpose of shipment. It is not against the federal laws to ship beneficial insects, and a permit is not actually required for shipping Hippodamia convergens, but a shipment may sometimes be held up temporarily while postal or quarantine authorities determine whether the insect being shipped is beneficial or not.