

the male, four very distinct rings. The mature or adult male is a small, dark brown moth, measuring 64/100 inch across the extended wings. The female is wingless and does not emerge as a moth, but fills her sac or basket with eggs and then dies. The caterpillars are dirty brown or gray in color. When a basket worm wants to move from one place to another, it pushes forth the front end of its body and creeps along, carrying its house with it. The first three joints which bear the legs and are protruded from the case when the caterpillar moves about, are protected by horny shields. In the young the case is carried erect by the upturned rear end of the body, whereas the older worms carry it horizontally, or pendant when on the underside of a leaf or twig. When full grown, the sac is fastened to a twig and the caterpillar changes to a pupa within it.

Whenever these worms appear in a grove in considerable numbers they may be controlled by spraying with a stomach poison, such as arsenate of lead. Basic arsenate of lead may be added safely to an oil-emulsion spray, but acid arsenate of lead must be applied separately.

## A SERIOUS PEST OF THE GRAPE IS NOW PRESENT IN FLORIDA

BY JEFF CHAFFIN\*

BAKER'S MEALY-BUG

(*Pseudococcus maritimus* Ehrh.)

This insect has recently been collected on cedar in the vicinity of Hudson and Port Richey by Messrs. O. D. Link and W. M. Tillman, Inspectors of the State Plant Board. It had previously been collected from avocado, sweet potato and tomato on Dry Tortugas Island near Key West, but this is the first record we have of its presence on the mainland of Florida.

It is reported that this particular mealy-bug will thrive on almost any wild or cultivated plant, and it thus seems probable that it may become a serious menace to the grape and other horticultural industries of this state. An extremely wide diversity of taste is, furthermore, indicated by the few hosts so far listed for Florida. (See previous paragraph.) The climatic conditions of Florida appear to be unusually favorable for the development of this mealy-bug. The first brood appears here the

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latter part of March and first of April, while in California the first brood does not appear until June. It seems desirable to give a brief outline of its history and habits, and warn the growers of its presence.

This mealy-bug was first noticed in California on *Eriogonum latifolium* and described by Ehrhorn in 1900. Nothing more was heard of it until 1910, when it was reported as doing slight damage in every walnut grove and many apple and pear groves in several counties in California. The seriousness of this pest and its economic importance were not fully realized until several years later when it became well established in the grape growing sections.

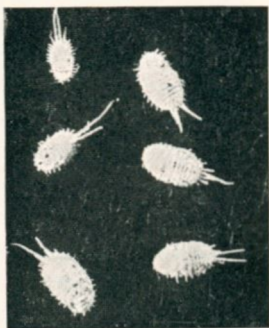


Fig. 9.—*Pseudococcus maritimus* Ehrh. Greatly enlarged (original).

The U. S. Bureau of Entomology and the California Experiment Station have carried on experiments in its control for some years, but so far are unable to recommend any reliable or satisfactory method. The best they have done is to offer suggestions for checking its spread. After it becomes well established in a vineyard its eradication or control is almost impossible. The damage caused by this insect is not so much the result of any injury to the grapevine itself, but rather to the fruit, by reducing its market value. The honey dew, sooty mold, egg masses and cast off skins of the various molts when scattered through a bunch of grapes render it unfit for use. The presence of only a few insects will give a bunch a sticky, repulsive appearance.

We know what this mealy-bug will do to the grape and it is quite probable that if the insect gains foothold in Florida and becomes well established it will become a serious pest on many of our tropical fruits.