

## ACHATINA FULICA (FER.)—AN INTERESTING INTERCEPTION FROM THE PHILIPPINES (MOLLUSCA, STENOGYRIDAE)

PETER ZUK

Division of Plant Protection, Science Service, Department of Agriculture, Vancouver, B. C.

On February 4, 1949, R. D. Clemens, of the United States Department of Agriculture in San Diego, California, wrote to H. F. Olds, of the Division of Plant Protection in Vancouver, and to the men in charge of plant quarantine work in San Francisco, Portland, and Seattle, informing all of them of the interception of one live giant African snail, *Achatina fulica*, in one hold of the s.s. "Julia Luckenbach." The ship contained copra, sugar, war surplus machinery, and general cargo from the Philippines. The snail was found among used generators unloaded from the lower 'tween deck of No. 2 hold. No snails were found in the other cargo and no further information was received from San Francisco, where the general cargo was discharged.

The ship arrived in Vancouver on February 15 and the next day it was thoroughly inspected when surplus tractors and copra were discharged. Six snails, one crushed, were found on the floor and on the tractors in the two forward deep tanks of No. 2 hold. No snails were found in any other part of the ship, although the copra contained the usual infestation of red-legged ham beetle, *Necrobia rufipes*. The tractors were loaded into a barge and the barge placed under quarantine until further inspection and precautionary steps were taken. Two more snails were found, one very small, in the soil adhering to the tractors. Samples of the soil were inspected but they revealed nothing more than one sow bug. A crane lifted the tractors and they were sprayed with a fire hose to wash away attached soil into the sea, then the barge was sprayed clean of soil. The tractors had been loaded in Manila about the middle of December, 1948, so the snails were sealed in the deep tanks for two months. Fortunately, all the snails found here were dead. On further inspection of the ship by U. S. officials in Seattle and Portland no evidence of the pest was found.

The most widely travelled of the

many species of *Achatina* is *Achatina fulica*. It is native to the lowlands of tropical East Africa, including Zanzibar Island, twenty-five miles off the coast of Tanganyika. The shell is cone-shaped and grey, streaked with brown. The largest shell found on the ship was about three and one quarter inches long. During the past hundred years or more, *Achatina fulica* has been carried, in general deliberately, by human beings as food for themselves and their poultry, to most of the tropical lands of the Indian and Pacific Oceans. In 1900 it caused great damage in Ceylon. Similar reports came from Malaya in 1923, Singapore in 1928, and Hawaii in 1938. The Japanese spread *Achatina fulica* throughout their mandated islands in Micronesia. Now these snails are reported also from Java, Borneo, Amoy (China), the Philippines, Formosa and for a short time, California. In each new, lush, tropical region this snail has increased rapidly, far from its natural enemies. Imported for food, it soon eats up more food—growing young food plants—than it could ever supply, even to those with a taste for snails. Control of snails is by the use of poison bait but this method is an expensive and never-ending procedure. Great attention is now focused on the use of biological control and men are being sent to Africa to discover the enemies that keep down the numbers of the snails in their native habitat. In Africa a carabid, *Tefflus dispar*, and a drilid beetle help to keep the snails in check. According to Dr. Williams, of the Experiment Station of the Hawaiian Sugar Planters' Association, two other enemies of this snail in the same continent are the carnivorous snails *Gonaxis* and *Eduntulina*. Although it is doubtful whether *A. fulica* would become a pest in Canada, all necessary precautions were taken by the Division of Plant Protection to ensure that it would not become a hazard to agriculture.