

Recent Introductions for Biological Control in Hawaii—II

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BOARD OF AGRICULTURE AND FORESTRY
HONOLULU, HAWAII*(Presented at the meeting of December 10, 1956)*

The following new introductions or releases on other islands of beneficial organisms have been made by the Board of Agriculture and Forestry since the last listing was published ("PROCEEDINGS," 16(1):162-164, 1956). Only the first release on each island is given. All liberations were made in 1956 except as noted.

Harmonia arcuata (F.) (INS. GUAM 1:158, 1942)

This coccinellid beetle was introduced from Canton Island to feed on aphids, scales, and aleurodids. It was released in several localities in Honolulu in March. The species was introduced from Guam in 1936 but is not known to be established.

Apanteles agonoxenae Fullaway (PROC. HAW. ENT. SOC. 11(1):48, 1941)
Bracon sp.

These two braconids were introduced from Fiji for the control of the coconut moth *Agonoxena argaula* Meyrick. The *Bracon* was released at Puna, Hawaii, in July and Kailua, Oahu, in August; the *Apanteles* was liberated at Kailua, Oahu, in October.

Brachymeria agonoxenae Fullaway (PROC. HAW. ENT. SOC. 14(1):63, 1950)

Introduced to the Territory from Samoa in 1948 by the Hawaiian Sugar Planters' Association for the control of *Agonoxena argaula*, this chalcid wasp was sent to Puna, Hawaii, in May, 1955.

Gonaxis vulcani (Thiele) (JOUR. CONCH. 20(9):270, 1936)**Ptychotrema walikalense** Pilsbry (BULL. AMER. MUS. NAT. HIST. 40:203, 1919)**Ptychotrema** sp.**Gulella wahlbergi** (Krauss) (TRANS. R. SOC. S. AFRICA 12:120, 1925)**Oleacina oleacea straminea** (Deshayes) (MAN. CONCH. 19:138, 1907)**Oleacina** sp.

Tefflus tenuicollis (Fairmaire) (ANN. SOC. ENT. BELG. 38:314, 1894)

Tefflus jamesoni Bates (PROC. ZOOL. SOC. LONDON, p. 481, 1890)

Scaphinotus striatopunctatus (Chaudoir) (INSECTS WESTERN N.A., p. 375, 1926)

Scaphinotus sp.

Ten new predators of the giant African snail were introduced to Hawaii during 1956. Six of these are carnivorous snails, the others carabid beetles. Of the snails, *Gonaxis* and two small species of the genus *Ptychotrema* were introduced from the Belgian Congo; the former was released at Waiahole, Oahu, in October, and the *Ptychotrema* at Kaneohe, Oahu, in November. *Gulella wahlbergi* was introduced from South Africa; it was liberated at Kaneohe, Oahu, and Haiku, Maui, in December. The two *Oleacina* were introduced from Cuba and released at Kualoa, Oahu; *oleacea* in January and an unidentified species in July.

Two species of carabids of the genus *Tefflus* were also introduced from the Belgian Congo. They were liberated at Kaneohe, Oahu; *tenuicollis* in October and *jamesoni* in November. The two species of *Scaphinotus* were obtained from California; they were released at Kahana Bay, Oahu, in November.

Syngamia haemorrhoidalis Guenée (DELT. AND PYRAL., p. 201, 1854)

This pyralid moth was collected in Florida and Cuba and was introduced to Hawaii for the control of lantana. It was released on Round Top, Oahu, in April; Hookena, Hawaii, in May; Lawai Valley, Kauai, in June; and Haiku, Maui, and Puu Lua, Molokai, in September.

Strepsicrates smithiana (Walsingham) (TRANS. AMER. ENT. SOC. 74:176, 1948)

Also found in Florida, this olethreutid moth was introduced for the control of *Myrica faya* Aiton, a plant pest of pasture lands. It was released on Kukaiau Ranch, Hawaii, in July.

In 1953 and 1954 some histerid beetles were introduced from Trinidad as general predators, principally on scarabaeid larvae. These have been identified as *Hololepia quadridentata* F. and *H. minuta* Erichson (ANN. SOC. ENT. FRANCE (3)1:212, 217, 1853). They have been referred to in these "PROCEEDINGS" as *Leionota* spp.