A New Exotic Noctuid for the Hawaiian Archipelago: Feltia subterranea (Fabricius) (Lepidoptera: Noctuidae: Noctuinae)

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A NEW EXOTIC NOCTUID FOR THE HAWAIIAN ARCHIPELAGO: *FELTIA SUBTERRANEA* (FABRICIUS) (LEPIDOPTERA: NOCTUIDAE: NOCTUINAE)

Additional key words: island, introduced species, new record, Hawaii

The archipelago of Hawaii has a rich endemic biota. As the most isolated group of islands on earth, Hawaii is characterized by a disharmonic and highly endemic fauna and flora. As elsewhere, humans have been heavily modifying its natural habitats since Polynesians first arrived to the islands. Relative to other terrestrial taxa, the Noctuidae of Hawaii represent a rich and interesting fauna. There are 73 described native species in 14 genera (Riotte 1991; Mitchell 1997). On the other hand, the exotic fauna is substantial with 45 species from 35 genera (Riotte 1991). The exotic noctuid fauna can be frequently encountered, both at low or high elevations, and species such as *Mythimna unipuncta* (Haworth) or *Athetis thoracica* (Moore) are often abundant. It is not certain if exotic species are displacing and competing with the natives. But since they are closely related, with similar life histories and ecological affinities, disruption might be expected to some degree. An important conservation factor in the relationship between exotics and natives is the sharing of natural enemies, and there is already evidence of natural enemies introduced to control exotic species predating natives (Henneman & Memmott 2001). Also, closely related exotic species might hybridize with native species causing serious disruption in the species' integrity, where it might potentially lead to the extinction of the native populations (Hardwick 1965). Exotic species can have a negative economic impact, and may cause serious impacts to crops, quickly becoming pests and widespread. In this context, one more exotic noctuid species has been found in the islands of Hawaii.

Members of the Daniel Rubinoff Laboratory at the University of Hawaii in Honolulu collected 4 specimens of *Feltia subterranea* (Fabricius) from three different islands in the past seven years. There are two samples from Maui, one from Lanai, and one from Hawaii, all of them collected after 2006.

Feltia subterranea was formerly placed in *Agrotis*, but Lafontaine's monograph (2004) included an unambiguous morphological character for identification of *Feltia*: a doubly biserrate male antenna with the enlarged apical seta being on a third process. *Feltia subterranea* can be recognized by "the double biserrated male antennae, the small round orbicular spot connected to the reniform spot by a narrow black bar, and the translucent pearly white hindwing in both sexes" (Lafontaine 2004). The highly polyphagous larvae, commonly known as granulated cutworm, feeds on bean, beet, cabbage, corn, lettuce, peas, potato, tobacco, tomato, and turnip, among others. The larvae are easily recognized by the presence of scattered, raised, conical skin granules (Lafontaine 2004). To my knowledge, the caterpillars have not yet been found on Hawaiian crops, although three of the samples are near disturbed and agricultural lands.

The moth is widespread and common in North America. It is a migratory species, which also occurs in Central and South America, as far south as Peru and Brazil (Lafontaine 2004). As a species with a broad range, including tropical areas, and great mobility, it is possible that Hawaii may become a favorable place to spread and establish. As possible routes of introduction to the islands, the larvae might have travelled in the roots of its hostplants or as adults on a ship (Lafontaine, personal communication).

More information about the species can be found in Lafontaine (2004) or in the website http://entnemdept.ufl.edu/creatures/veg/granulate_cutworm.htm#dist.

Material examined (at University of Hawaii Insect Museum, UHIM): 1 male, 1 female, USA: HI, East Maui, Makawao Forest Reserve, near banana patch, 762m, 20-21.Jun.2006, W. Haines; 1 male, USA: HI, Hawaii, Waimea, 720m, N20 04 16.2 W155 34 56.8, 31.Out.2008, Rubinoff lab.; 1 male, USA: HI, Lanai, Kanepu'u Reserve, near outplanting, 18-19.Sept.2009, D. Rubinoff, C. King, W. Haines.

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LITERATURE CITED

LAFONTAINE, J. D. 2004. The Moths of North America: Noctuoidea, Noctuidae (Part). Fascicle 27.1. The Wedge Entomological Research Foundation, 385 pp.

HARDWICK, D. F. 1965. The corn earworm complex. Mem. Entomol. Soc. Canada 248 pp.

HENNEMAN, M.L. & MEMMOTT, J. 2001. Infiltration of a Hawaiian community by introduced biological control agents. Science 293:1314-1316.

MITCHELL, A. 1997. The first endemic Hawaiian *Heliothis* (Lepidoptera: Noctuidae): *H. melanoleuca*, a new species from Riparian forest. Occas. pap. Bernice P. Bishop Mus. 48: 78-81.

RIOTTE, J.C.E. 1991. Reassessment of the Noctuoidea of the Hawaiian Islands. Occas. pap. Bernice P. Bishop Mus. 31: 139-151.

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