

SCIENTIFIC NOTE

**A New Host Record for *Lius poseidon* Napp
(Coleoptera:Buprestidae)**

Patrick Conant and Clyde Hirayama

Hawaii Department of Agriculture, PPC Branch, 16 E. Lanikaula St., Hilo, HI 96720, USA

Abstract. *Lius poseidon* Napp was first released in Hawaii by the Hawaii Department of Agriculture (HDOA) in 1988 for control of the weed *Clidemia hirta* (Melastomataceae). It has now been found to reproduce also on *Tibouchina herbacea* (Melastomataceae) in the wild where the two host plants are sympatric on the island of Hawaii. Both plants are on the official HDOA noxious weed list.

Observations of larval mines of *Lius poseidon* Napp on *Tibouchina herbacea* (DC) Cogn. were first observed in the field by Clinton Campbell, formerly of the Hawaii Department of Agriculture (HDOA), in 1990 on the island of Hawaii (C. Campbell, pers. comm.). However, he did not determine that the beetle could complete its life cycle on this host. This beetle was first released in Hawaii in 1988 as part of an ongoing classical biological control program for *Clidemia hirta* (L.) D. Don (Melastomataceae), also known as Koster's curse (Conant 1992). Smith (1992) gives a thorough account of the invasiveness of this weed in Hawaiian forests. *Lius poseidon* is now established on the islands of Oahu, Maui, Hawaii and possibly Kauai. On February 1, 1998, larval mines of *L. poseidon* were observed on the leaves of *Tibouchina herbacea* along Stainback Highway, in the Puna District, at 380 m elevation. This site is near the original release site of this beetle for the island of Hawaii. A total of 139 leaves with visible mines were collected along Stainback Highway on February 11, 1998, and taken into the laboratory to rear out adult *L. poseidon*. Results indicated that this plant is a true host of this beetle as demonstrated by the emergence of 49 adults from the mines. All the adults appeared normal in size. It is noteworthy that *T. herbacea* leaves are smaller than those of *C. hirta* so the blotch mines created by the beetle on *T. herbacea* prior to pupation appear to damage a larger proportion of the leaf.

Former HDOA exploratory entomologist Robert Burkhart performed exhaustive host specificity tests with *L. poseidon* in Trinidad, West Indies in 1984–1985 and found larval mines in the field on only three genera of melastomes: *Clidemia*, *Miconia*, and *Leandra*. He did not include any species in the genus *Tibouchina* in those tests. According to W. Judd of the University of Florida (pers. comm.), only one species in this genus, *T. longifolia* (Vahl) Baill. ex Cogn., is known to occur in Trinidad.

This new host record is a fortuitous discovery because *T. herbacea* is a plant species that is designated as a noxious weed for eradication or control by the HDOA, as is *C. hirta*. Both belong to the family Melastomataceae, which has no native species represented in Hawaii and virtually all of the introduced species have naturalized to some extent. Some of these are Hawaii's worst forest weeds.

Literature Cited

- Conant, P. 1992. Notes and exhibitions. Proc. Hawaii. Entomol. Soc. 31:2.
Smith, C.W. 1992. Distribution, status, phenology, rate of spread, and management of clidemia in Hawaii. pp. 241–253. In C.P. Stone, C.W. Smith, and J.T. Tunison (eds.), Alien plant invasions in native ecosystems of Hawai'i: management and research. Univ. of Hawaii, Coop. Natl. Park Resour. Stud. Unit, Honolulu.