



Figure 1. Nettle caterpillar

Nettle Caterpillar

Darna pallivitta Moore

(Lepidoptera: Limacodidae)

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Introduction. Specimens of a stinging nettle caterpillar were first found infesting rhapsis palm at a nursery in Panaewa on the Big Island in September 2001. They were tentatively identified as *Darna pallivitta* Moore by D. Tsuda, University of Hawaii (UH) Insect Diagnostic Clinic, and B. Kumashiro, Hawaii Department of Agriculture (HDOA) and confirmed by Dr. M. Epstein formerly with the Smithsonian Institution. This species occurs in Southeast Asia where it was known to feed on palms (coconut and areca) and grasses (Cock et al. 1987).

Description. Nettle caterpillars grow to a maximum length of one inch and are covered with spines (Figure 1). A dark longitudinal stripe runs down the back of each caterpillar. The brownish cocoon is round and surrounded by a netting of silk (Figure 2). The adult moth is brown and is one-half inch in length (Figure 3).

Distribution. The nettle caterpillar can be found on much of the Big Island. In June 2007, the nettle caterpillar was found at a nursery in central Oahu, and subsequently found in Waimanalo, Oahu. Importation of infested plants from the Big Island is the most likely source of

this infestation. As of March 2011, the current distribution on Oahu appears to be limited to these areas, with the addition of Waialua.

Infestations of nettle caterpillars on residential properties in Haiku Maui were discovered in July of 2007. HDOA surveys revealed populations to be well established in Haiku, Waihee, Paia, Makawao, Wailuku and Kihei. Adult moths were captured in pheromone lure traps set at several locations on Kauai in November 2010, however, other life stages have not been found. There have not yet been reports of this pest on the remaining Hawaiian Islands.

Damage. The caterpillars have been found feeding on over 45 species of plants in 22 families including Agavaceae, Apocynaceae, Arecaceae, Bromeliaceae, Caryophyllaceae, Commelinaceae, Costaceae, Euphorbiaceae,



Figure 2. Nettle caterpillar, larva (left) and cocoon (right).



Figure 3. Nettle caterpillar adult.

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Fabaceae, Hypoxidaceae, Iridaceae, Liliaceae, Melastomataceae, Musaceae, Myrtaceae, Oxalidaceae, Poaceae, Polypodiaceae, Rubiaceae, Urticaceae, and Zingiberaceae. They appear to prefer monocots over dicots. Feeding by the caterpillars (Figure 1) results in heavily damaged leaves. Fecal pellets on the leaves are indications that the caterpillar is present. Some of the common preferred host plants of the nettle caterpillar in Hawaii include palms, various grasses, ti leaf, iris, and most lilies, including mondo grass (lily turf).

Health concern. In addition to causing plant damage, the caterpillars are a health concern due to their stinging spines which cause burning and itching sensations to the skin. Noticeable swelling may occur and welts or blisters may form that can last for several days, followed by a persistent rash lasting for weeks. If there are any severe symptoms such as difficulty breathing, or if any spines get into the eyes, seek medical help immediately.

Biological Control. Exploration for natural enemies to control the nettle caterpillar was undertaken. In 2004, a beneficial parasitic wasp that attacks the caterpillar stage of this pest was collected from Taiwan, this species' native range. This particular wasp lays its eggs on the immature caterpillar, immobilizing it within two days. The wasp larvae hatch from their eggs and migrate to the belly of the nettle, where they feed externally. The wasp larvae continue on to pupation, and after several days, emerge from the dead nettle caterpillars as adult wasps. The new generation of adults will continue the same life cycle.



Figure 4. *Aroplectrus dimerus* preparing to lay its eggs on a nettle caterpillar



Figure 5. Dead nettle caterpillars due to *A. dimerus* parasitism.

Following six years of host specificity testing in the HDOA Quarantine Facility and a lengthy permitting process, *Aroplectrus dimerus* Lin was released to begin its fight against this invasive pest. The parasitic wasp has been liberated on Oahu and neighbor islands in commercial plant nurseries, natural (wild) habitat, as well as private residences where sizable infestations of nettle caterpillar have been detected.

Aroplectrus dimerus is now established in the field, and has caused a decline in populations of the nettle caterpillar. *A. dimerus*, working in concert with a naturally-occurring larval disease, suppressed the nettle caterpillar populations by as much as 60-90%. HDOA's field evaluation on the effectiveness of this biocontrol agent is currently on-going.

Sightings. Big Island- This pest is widespread in Hilo and Puna districts, so infestations need not be reported. Other districts may call **HDOA** at **974-4146** for control options.

Encounters with the nettle caterpillar on other islands should be reported to **HDOA** at **(808) 973-9525** or email hdoa.ppc@hawaii.gov.

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