

New arthropod records from Kaho'olawe

FOREST STARR¹, KIM STARR¹, & LLOYD L. LOOPE¹ (United States Geological Survey – Biological Resources Division, P.O. Box 369, Makawao, Hawai'i 96768, USA).

The following contributions include new island records of arthropods located on the island of Kaho'olawe. Voucher specimens were collected and determined by the authors. Most specimens were confirmed by Mach Fukada. All vouchers are housed in Bishop Museum, Honolulu.

Araneae: Clubionidae

Cheiracanthium mordax Koch

New island record

Previously known from all the Northwestern Hawaiian Islands except Necker, and from all the main islands except Ni'ihau and Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWA:** 1, Pu'u Moa'ulaiki, in wiliwili (*Erythrina sandwicensis*) pod, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-1*.

Coleoptera: Bostrichidae

Amphicerus cornutus (Pallas)

New island record

Previously known from Ni'ihau, Kaua'i, O'ahu, Moloka'i, and Maui (Nishida, 2002).

Material examined: **KAHO'OLAWA:** 3, Honokanaia base camp galley, attracted to UV light, 25 ft [8 m], 22 Sep 2003, *Starr & Starr 030922-2*. 1, LZ-1, between Pu'u Moa'ulaiki and Lua Makika, boring into live tamarisk (*Tamarix aphylla*) stems, 1300 ft [396 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-1*. 1, Honokanaia, beaten from hau (*Hibiscus tiliaceus*), 25 ft [8 m], 14 Oct 2003, *Starr, Starr, & King 031014-3*. 5, same location, UV light at galley, *Starr & Starr 031014-5*. 1, same location, swept from buffel grass (*Cenchrus ciliaris*), *Starr & Starr 031014-6*.

Sinoxylon conigerum Gerstaecker

New island record

Previously known from O'ahu, Moloka'i, Maui, and Hawai'i (Nishida, 2002).

Material examined: **KAHO'OLAWA:** 1, Pu'u Moa'ulaiki, flying around, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-8*. 2, Honokanaia, flying around base camp galley, 25 ft [8 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-9*. 5, Kaukaupapa Beach, ex dead kiawe (*Prosopis pallida*) stems, 10 ft [3 m], 7 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-3*. Kaukaupapa, swept from vegetation, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-12*.

Coleoptera: Cerambycidae

Sybra alternans (Wiedemann)

New island record

Previously known from Kaua'i, O'ahu, Moloka'i, Maui, Hawai'i, and Midway (Nishida 2002).

Material examined: **KAHO'OLAWA:** 4, Pu'u Moa'ulaiki, wiliwili (*Erythrina sandwicensis*) pods, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-3*. 1, Moaulanui, swept from vegetation, 1300 ft [396 m], 16 Oct 2003, *Starr & Starr 031016-7*.

Coleoptera: Coccinellidae

Coccinella septempunctata Linnaeus

New island record

Previously known from all the main islands except Ni'ihau and Kaho'olawe (Nishida 2002).

1. Research Associate, Hawaii Biological Survey, Bishop Museum, 1525 Bernice Street, Honolulu, Hawai'i 96817-2704, USA.

Material examined: **KAHO'OLAWE:** 1, Pu'u Moa'ulaiki, on *koa haole* (*Leucaena leucocephala*) foliage, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-10*. 1, Keanakeiki Beach, dead in *kiawe* (*Prosopis pallida*) duff, 10 ft [3 m], 7 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-5*. 1, Kaukaikapapa Beach, swept from beach grasses, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-9*. 1, same location, beaten from foliage, 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-10*.

Olla v-nigrum (Mulsant)**New island record**

Previously known from Midway and all the main islands except Ni'ihau and Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 1, Kaukaikapapa Beach, swept from *Sesuvium portu-lacastrum*, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-5*.

Coleoptera: Curculionidae***Asynonychus godmanni*** Crotch**New island record**

Previously known from Midway and all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 2, LZ-1, between Pu'u Moa'ulaiki and Lua Makika, beaten from 'aweoweo (*Chenopodium oahuense*) foliage, 1,300 ft [396 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-11*. 1, Pu'u Moa'ulaiki, on ground, 1200 ft [365 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-12*. 1, Moaulanui, under *kiawe* (*Prosopis pallida*) pile, 1300 ft [396 m], 16 Oct 2003, *Starr, Starr, & Mar 031016-4*.

Coleoptera: Tenebrionidae***Gonocephalum adpressiforme*** Kaszab**New island record**

Previously known from Kure, Midway, and all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 8, Moaulanui, under *kiawe* (*Prosopis pallida*) pile, 1300 ft [396 m], 16 Oct 2003, *Starr, Starr, & Mar 031016-3*.

Diptera: Syrphidae***Eristalinus arvorum*** (Fabricius)**New island record**

Previously known from all the main islands except Ni'ihau and Kaho'olawe (Nishida, 2002).

Material examined: **Kaho'olawe:** 1, Kaukaikapapa Beach, visiting *kiawe* (*Prosopis pallida*) flowers near the wetland, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-1*.

Heteroptera: Pentatomidae***Eysarcoris ventralis*** (Westwood)**New island record**

Previously known from Kaua'i and O'ahu (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 13, Honokanaia, base camp, beaten from buffel grass (*Cenchrus ciliaris*) in gray water overflow near beach, 6 ft [2 m], 6 Oct 2003, *Starr, Starr, & King 031006-1*. 13, same location, 14 Oct 2003, *Starr, Starr, & King 031014-4*.

Hymenoptera: Apidae***Apis mellifera*** Linnaeus**New island record**

Previously known from all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 1, Pu'u Moa'ulaiki, visiting *uhaloa* (*Waltheria indica*)

flowers, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-4*. 1, Kaukaikapapa Beach, visiting *kiawe* (*Prosopis pallida*) flowers, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-4*.

Hymenoptera: Formicidae

***Leptogenys falcigera* Roger**

New island record

Previously known from all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: KAHO'OLAWA: 1, Hakiowa Gulch, on rocks, 200 ft [60 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-2*.

***Ochetellus glaber* (Mayr)**

New island record

Previously known from Kaua'i, O'ahu, Maui, and Hawai'i (Nishida, 2002).

Material examined: KAHO'OLAWA: 11, Keanakeiki Beach, crawling on *kiawe* (*Prosopis pallida*) branch, 10 ft [3 m], 07 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-6*. 14, Kaukaikapapa Beach, crawling on *kiawe* (*Prosopis pallida*) trunk, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-6*. 3, Moaulanui, general, 1300 ft [396 m], 16 Oct 2003, *Starr, Starr, & Mar 031016-5*.

***Paratrechina longicornis* (Latreille)**

New island record

Previously known from Midway, French Frigate Shoals, Nihoa, and all the main islands except Ni'ihau and Kaho'olawe (Nishida, 2002).

Material examined: KAHO'OLAWA: 2, Hakiowa Gulch, on rocks, 200 ft [60 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-4*. 1, LZ-1, between Pu'u Moa'ulaiki and Lua Makika, beaten from tamarisk foliage, 1300 ft [396 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-13*. 2, Keanakeiki Beach, beaten from vegetation, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-11*.

***Pheidole megacephala* (Fabricius)**

New island record

Previously known from Midway, Pearl & Hermes, Laysan, and all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: KAHO'OLAWA: 13, Pu'u Moa'ulaiki, on ground, 1200 ft [365 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-11*.

***Pseudomyrmex gracilis* (Fabricius)**

New island record

Previously known from O'ahu (Nishida, 2002).

Material examined: KAHO'OLAWA: 1, Hakiowa Gulch, on gulch wall, 200 ft [60 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-3*.

***Solenopsis geminata* (Fabricius)**

New island record

Previously known from Midway, Kaua'i, O'ahu, Moloka'i, Lāna'i, Maui, and Hawai'i (Nishida, 2002).

Material examined: KAHO'OLAWA: 10, Honokanaia, base camp, on ground behind KIRC hut, 25 ft [8 m], 22 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030922-5*. 4, Hakiowa Gulch, 100 ft [30 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-5*. 37, Kaukaikapapa Beach, forming trails on ground, 10 ft [3 m], 07 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-4*.

Technomyrmex albipes (F. Smith)**New island record**

Previously known from Kaua'i, O'ahu, Moloka'i, Maui, and Hawai'i (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 4, Hakiowa Gulch, eating dead cockroach (*Periplaneta* sp.), 200 ft [60 m], 23 Sep 2003, *Starr, Starr, LeGrande, Abbott, & Busby 030923-6*. 1, Honokanaia, galley, 10 ft [3 m], 14 Oct, 2003, *Starr & Starr 031014-1*. 2, Kaukaupapa Beach, collected on ground near wetland, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-8*.

Tetramorium simillimum (F. Smith)**New island record**

Previously known from Midway, Kaua'i, O'ahu, Lāna'i, Maui, and Hawai'i (Nishida, 2002, Nishida & Beardsley 2002).

Material examined: **KAHO'OLAWE:** 9, Honokanaia, base camp, at UV light, 10 ft [3 m], 14 Oct 2003, *Starr & Starr 031014-2*.

Lepidoptera: Lycaenidae***Brephidium exilis*** (Boisduval)**New island record**

Previously documented from Kaua'i, and O'ahu (Nishida, 2002) and commonly observed on Maui.

Material examined: **KAHO'OLAWE:** 1, Kaukaupapa Beach, flying above saltbush (*Atriplex semibacatta*) foliage next to wetland, 10 ft [3 m], 15 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031015-2*.

Odonata: Aeshnidae***Anax junius*** (Drury)**New island record**

Previously known from all the main islands except Ni'ihau and Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 1, Keanakeiki Beach, resting on kiawe (*Prosopis pallida*) foliage behind sand dune, 10 ft [3 m], 07 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-2*.

Odonata: Libellulidae***Pantala flavescens*** (Fabricius)**New island record**

Previously known from Kure, Midway, French Frigate Shoals, and all the main islands except Kaho'olawe (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 1, Kaukaupapa Beach, flying near wetland at north end of beach, 10 ft [3 m], 07 Oct 2003, *Starr, Starr, King, Tokishi, & Busby 031007-1*.

Scorpiones: Buthidae***Isometrus maculatus*** (DeGeer)**New island record**

Previously known from Midway, Kaua'i, O'ahu, Maui, and Hawai'i (Nishida, 2002).

Material examined: **KAHO'OLAWE:** 1, Moaulanui, crawling on ground, 1300 ft [396 m], 16 Oct 2003, *Starr, Starr, & Mar 031016-1*.

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First report of the Asian sea anemone *Diadumene lineata* from the Hawaiian Islands

CHELA J. ZABIN (Zoology Department, University of Hawai'i, 2538 The Mall, Honolulu, Hawai'i 96822, USA; email:chela@hawaii.edu); JAMES T. CARLTON¹ (Maritime Studies Program, Williams College—Mystic Seaport, Mystic, Connecticut 06355, USA); and L. SCOTT GODWIN (Hawaii Biological Survey, Bishop Museum, 1525 Bernice St., Honolulu, Hawai'i 96817, USA)

Anthozoa: Actiniaria Diadumenidae

Diadumene lineata (Verrill)

New state record

The intertidal sea anemone *Diadumene lineata* [= *Haliplanella luciae* (Verrill, 1898)] may be one of the most widely distributed asexually reproducing marine species (Minasian, 1982). Its generic junior synonym, *Haliplanella* (“sea wandering”) is an apt reference to its cosmopolitan distribution. A native of Japan, *D. lineata* has spread throughout temperate and tropical regions of the world, including Indonesia, New Zealand, the Pacific, Atlantic, and Gulf coasts of North America, Brazil, and Europe, where it has been recorded from various locations from the North Sea to the Mediterranean (da Costa-Belem & da Cruz Monteiro, 1977; Schick & Lamb, 1977; Dunn, 1982; Kuhne & Rachor, 1996). Surprisingly, given its far flung wanderings, *D. lineata* has not been previously reported from the Hawaiian Islands.

A common member of the fouling community (on pilings, floats, and boat hulls) in many locations, *D. lineata* is also frequently found on both Atlantic and Japanese oysters (*Crassostrea virginica* and *C. gigas*, respectively). Thus ship hull-fouling and the movement of oysters have been thought to be the most likely modes of introduction of *D. lineata* (Verrill, 1898; Stephenson, 1935; Gollasch & Riemann-Zurneck, 1996) around the world.

Diadumene lineata was first found by CJZ and JTC in the Hawaiian Islands in Kāneʻohe Bay, Oʻahu, in February 1999. About 20 individuals, 4 to 6 mm in diameter, were observed living on and among Japanese oysters fouling the remnant pilings of an old former dock, near the low tide mark behind the Kokokahi Young Women's Christian Association (YWCA) building on Kāneʻohe Bay Drive, on the southern shore of the Bay. No anemones were found in Kāneʻohe Bay during subsequent searches, but the YWCA population was still thriving 4 years later, being present in March 2003, in about the same numbers.

¹ Research Associate, Hawaii Biological Survey, Bishop Museum, 1525 Bernice Street, Honolulu, Hawai'i 96817-2704, USA.