

New records for Diptera in Hawai‘i¹

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In this reporting we present new distribution records for 41 species, 5 of which are new to the state. This list resulted largely from recent collecting and identification efforts that were done in connection with a survey of tephritid fruit flies of economic importance. At least 3 of the species reported here may be of medical (*Drosophila quadrilineata* and *Liohippaelates collusor*) and economic (*Liriomyza* sp. near *blechi*) concern. The majority of the new records are for Moloka‘i, where this survey work was concentrated. One of us (WDP) conducted most of the collecting activities. Yellow sticky board traps (YSBT) and the sweeping of grasses and bushes with hand-held insect nets were the principal collecting methods employed. Some unpublished records based on specimens collected by others are also included. Nishida (1997) was the primary reference used to determine whether a species had been recorded previously from a given island. Voucher specimens are deposited in the collections of the Bishop Museum.

Agromyzidae

Liriomyza sp. near *blechi* Spencer

New state record

The distinct black and yellow color pattern of the mesonotum (Spencer & Steyskal, 1986: fig. 673) is shared with two non-Hawaiian species, *L. marginalis* (Malloch) and *L. sorosis* (Williston) and is used to distinguish this species from other *Liriomyza* in Hawai‘i. Characters of the male genitalia including the presence of a single long hair on the end of the cercus separate it from *L. marginalis* and *L. sorosis* and fit it closest to *L. blechi* Spencer (Spencer & Stegmaier, 1973: 98–99), a polyphagous species described from Florida. Unfortunately, we have been unable to compare the type of *L. blechi* with the O‘ahu specimens, nor do we have any host records for this leaf miner in Hawai‘i. Spencer (1990: 386) provided a list of host plants for *L. blechi*.

Material examined. O‘AHU: Pūpūkea, 90 ft, 15–28.v.1996 (YSBT, WDP).

Anthomyzidae

Amygdalops thomasetti Lamb

New island record

An immigrant species previously recorded from Kaua‘i, O‘ahu, Moloka‘i and Hawai‘i.

Material examined. MAUI: Haleakalā Hwy, 90 ft, 18.xi–2.xii.1995 (YSBT, WDP).

Asteiidae

Loewimyia orbiculata Hardy

New island records

Previously recorded from O‘ahu, this endemic species is most commonly found in coastal areas.

Material examined. MOLOKA‘I: Honomuni Stream, ca. 10 ft, 3–17.iii.1995 YSBT WDP. KAUA‘I: Mānā, N end of PMRF [Pacific Missile Range Facility], 10 ft, 1.iv.[19]96, sweeping. D.W. Jamieson.

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Sigaloessa* sp.*New state record**

A genus of 14 described species, *Sigaloessa* (Sigaloessinae) differs from other Hawaiian asteiids, *Asteia*, *Bryania*, and *Loewimyia* (all Asteinae), by having both the hind cross vein and alula present. The testaceous-yellow colored *S. insularis* Malloch is from Tahiti. All other species of *Sigaloessa* are from the Americas.

Specimens from Hawai'i have the mesonotum polished and shining black and are strikingly sexually dimorphic with females possessing yellow legs with black banded femora and having a conspicuous yellow to yellowish white anterior thoracic spiracular protrusion. Males have legs completely yellow and the anterior thoracic area normal and lacking any distinctive protrusion. Using the key in Sabrosky (1957: 53–54), females key to *S. hillifera* Sabrosky and males with their characteristic genital forceps to *S. nigrifrons* Sabrosky. Both are Costa Rican. Notably, *S. hillifera* was described from three females and *S. nigrifrons* only from the holotype male, in both instances Sabrosky did not positively associate members of the opposite sex in the described material of either species. Based on the Hawai'i material (ca. 40 specimens), it appears that *S. hillifera* and *S. nigrifrons* are conspecific. If this proves to be true then *nigrifrons* will be the junior synonym. However, as we have not examined the type material of either species, positive species determination and a clarification of this matter will have to occur at a later date.

Material examined. MAUI: Hāna Airport Rd., 70 ft, and Ke'anae, 3 ft, 18.xi–2.xii.1995, both YSBT, WDP. O'AHU: Round Top Dr., 900 ft, 10–24.vi.1997, YSBT, WDP.

Cecidomyiidae***Mycodiplosis pucciniacola* (Hardy)****New island record**

An endemic species previously recorded from O'ahu.

Material examined. MOLOKA'I: Hālawā Valley, 200 ft, 16–30.ix.1994, YSBT, WDP.

Ceratopogonidae***Forcipomyia borbonica* Clastrier****New island record**

An immigrant species previously recorded from O'ahu, this midge was collected only in the coffee fields of Moloka'i.

Material examined. MOLOKA'I: Kualapu'u, 750 ft, 31.iii–14.iv.1995, in coffee field, YSBT, WDP.

Chironomidae***Cricotopus bicinctus* (Meigen)****New island record**

An immigrant species previously recorded from Kaua'i and O'ahu.

Material examined. MOLOKA'I: Pāpio Stream, 600 ft, 2–16.ix.1994, YSBT WDP.

Goeldichironomus holoprasinus* (Goeldi)*New island record**

An immigrant species previously recorded from O'ahu.

Material examined. MOLOKA'I: Pala'au State Park, 1500 ft, 15.iv.1994, WDP.

Thalassomya setosipennis* Wirth*New island record**

An endemic marine species previously recorded from Kaua'i, O'ahu, Maui and Hawai'i.

Material examined. MOLOKA'I: Puko'o Harbor, at sea level. 17.ii.1995 WDP.

Chloropidae***Gampsocera hardyi*** Kanmiya**New island records**

An immigrant species previously recorded from Kaua'i and O'ahu.

Material examined. **MOLOKA'I:** Hälawa Valley, 200 ft, 5–19.viii.1994, in melon fly trap. **HAWAI'I:** Pāpa'ikou along the road to Onomea Bay, 150–200 ft, and Manukā nr. mile post 82, ca. 1700 ft, both 20.x–3.xi.1995, YSBT, WDP. **MAUI:** Ke'anae, 3 ft, Honomanū Bay, 5 ft, nr. Huelo, ca. 600 ft, Lo'iloa, ca. 600 ft, and nr. O'opuola, ca. 800 ft, all 18.xi–2.xii.1995, YSBT, WDP.

Liohippelates collusor (Townsend)**New island record**

First reported by Hardy (1963: 210–11) from Kure, the establishment of this pest species in Hawai'i was later questioned as possibly being erroneous (Hardy, 1980: 419). A large series was taken at Barbers Point. Fortunately no reports of this species causing irritations or conjunctivitis on O'ahu have been filed.

Material examined. **O'AHU:** Barbers Point Lighthouse, 5 ft, i.1995, YSBT, T.M. Mitomi, WDP (det. by Curtis Sabrosky).

Meromyza communis Fedoseeva**New state record**

A wide ranging Nearctic species which has been collected across the Continental United States, north to Alaska and south to Mexico (Fedoseeva, 1971: 521). The large swollen hind femur of this species serves as a good character to separated it from other Hawaiian chloropids.

Material examined. **MAUI:** Kahalui, Kanahā Pond, sea level, 6.ix.1996, in grass, WDP (det. by Curtis Sabrosky).

Neoloxotaenia gracilis (Meijere)**New island records**

An immigrant species previously recorded from Kaua'i and O'ahu.

Material examined. **MOLOKA'I:** Pala'au State Park, 1500 ft, 30.ix–14.x.1994, YSBT, WDP. **MAUI:** Ke'anae, 3 ft, and nr. O'opuola Stream, ca. 800 ft, both 18.xi–2.xii.1995, YSBT, WDP.

Rhodesiella elegantula (Becker)**New island records**

An immigrant species previously recorded from Kaua'i, O'ahu and Hawai'i.

Material examined. **MOLOKA'I:** Pala'au State Park, 1500 ft, 20.i–3.ii.1995, YSBT, WDP. **MAUI:** Lo'iloa, ca. 600 ft, 18.xi–2.xii.1995, WDP.

Chyromyidae***Gymnochiromyia hawaiiensis*** Hardy**New island record**

An immigrant species previously recorded from O'ahu, Maui and Hawai'i.

Material examined. **MOLOKA'I:** Honomuni Stream, ca. 10 ft, 30.ix–14.x.1995, YSBT, WDP.

Nannodastia horni Hendel**New island record**

An immigrant species previously recorded from O'ahu.

Material examined.: **MOLOKA'I:** Kalaniana'ole Colony, 3 ft, 5–19.i.1996, YSBT, WDP.

Drosophilidae***Dettopsomyia formosa*** (Lamb)**New island record**

An immigrant species previously recorded from O'ahu, Maui and Hawai'i.

Material examined. **MOLOKA'I:** Honomuni Stream, ca. 10 ft, 16–30.ix.1994, YSBT, WDP.

Drosophila quadrilineata* (Meijere)*New state record**

A species which is attracted to ripe fruits, their exudates and animal excreta. Consumption of fruit containing the eggs of this species may result in transitory intestinal myiasis (Bohart & Gressitt, 1951: 92).

Material examined. **O'AHU:** UH Manoa Campus, ca. 80 ft, 16.iii.1995, L.T.Doescher (det. Hampton Carson).

Drosophila suzukii* (Matsumura)*New island record**

An immigrant species previously recorded from Kaua'i, O'ahu and Hawai'i.

Material examined. **MOLOKA'I:** Mapulehu nr. 'Ili'ili'ōpae Heiau, 50 ft, 30.ix–14.x.1994, YSBT WDP.

Leucophenga maculosa* (Coquillett)*New island record**

An immigrant species previously recorded from O'ahu, Lāna'i, Maui, and Hawai'i.

Material examined. **MOLOKA'I:** Moloka'i Airport, ca. 300 ft, 3.ii.1995, WDP.

Empididae***Chersodromia hawaiiensis* Melander****New island records**

A small dark endemic species previously recorded from O'ahu has been collected on both dark and light colored beach sands.

Material examined. **MAUI:** Kahalui, Maui Beach, 3–vii–[19]68, J.A. Tenorio. **MOLOKA'I:** Kamalo, sea level. 17.iii.1995, WDP.

Elaphropeza* sp.*New state record**

This species belongs a very large cosmopolitan genus. We have been unable to identify it to species.

Material examined. **MOLOKA'I:** Kalaniana'ole Colony, 5 ft, 9–23.vi.1995, YSBT placed in *Atriplex* and *Chenopodium* shrubs. J.W. Beardsley, WDP. **O'AHU:** West Loch of Pearl Harbor, 3 ft, YSBT, WDP

Ephydriidae***Donaceus nigrinotatus* Cresson****New island record**

An immigrant species previously recorded from Kaua'i, O'ahu, Maui, and Hawai'i.

Material examined. **MOLOKA'I:** Mouth of Honoulimalo'o Stream, sea level, 17.ii.1995, WDP.

Notiphila insularis* Grimshaw*New island record**

An endemic species previously recorded from Kaua'i, O'ahu, Moloka'i and Hawai'i.

Material examined. **MAUI:** Honomanu Bay, 5 ft, 2.xii.1995, WDP.

Ochthera circularis* Cresson*New island record**

An immigrant species previously recorded from Kaua'i, O'ahu and Maui.

Material examined. **MOLOKA'I:** Kipapa, 3 ft, 26.v.1995, pond of brackish water, WDP.

Heleomyzidae***Spilochroa ornata* (Johnson)****New state record**

The infuscation pattern of the wings (Williston, 1908: 297, fig. 117: 3) is unique to this species.

Material examined. **O'AHU:** Campbell Industrial Park, 5–10 ft, 6–17.ii.1997, yellow pan trap, J.W. Beardsley, WDP (det. by A. Norrbom & Curtis Sabrosky).

Lauxaniidae***Poecilominetta sexseriata* Hendel** **New island records**

An immigrant species previously recorded from Kaua'i, O'ahu, and Hawai'i.

Material examined. **MOLOKA'I:** Mapulehu, 10–40 ft, 13.v.1994, sweeping, J.W. Beardsley, WDP. **MAUI:** Honomanū Bay, 5 ft, 2.xii.1995, WDP.

Lonchaeidae***Lampronchaea metatarsata* (Kertész)** **New island record**

An immigrant species previously recorded from Kaua'i, O'ahu, Maui, and Hawai'i.

Material examined. **MOLOKA'I:** Mapulehu, 40 ft, 30.ix.1994, WDP.

Neriidae***Teleostylinus lineolatus* (Wiedemann)** **New island record**

An immigrant species previously recorded from Kaua'i, O'ahu, and Hawai'i.

Material examined. **MOLOKA'I:** Honomuni Stream, ca. 10 ft, 22.vii.1994, reared from fruits of *Passiflora* sp., WDP. **MAUI:** Lo'iloa, ca. 600 ft, 18.xi–2.xii.1995, YSBT, WDP.

Otitidae***Notogramma cimiciforme* Loew** **New island record**

An immigrant species previously recorded from Ni'ihau, Kaua'i, O'ahu, Lāna'i, and Maui.

Material examined. **MOLOKA'I:** Manawai, 10 ft, WDP.

Phoridae***Puliciphora borinquenensis* Wheeler** **New island record**

An immigrant species previously recorded from O'ahu.

Material examined. **MOLOKA'I:** Pala'au State Park, 1500 ft, 18.viii.–ix.1995, YSBT, WDP.

Piophilidae***Piophila australis* (Harrison)** **New island record**

An immigrant species previously recorded from Kaua'i and O'ahu.

Material examined. **MOLOKA'I:** Hanalililo Trail, 3300 ft, 14.ix.1994, WDP.

Sarcophagidae***Johnsonia elegans* Coquillett** **New island records**

An immigrant species previously recorded from O'ahu.

Material examined. **HAWAI'I:** Mile post 18 along Hawai'i Belt Road nr. Pu'u Anahulu, ca. 2150 ft, 20.x–3.xi.1995, YSBT, WDP. **MOLOKA'I:** Hālawa Valley, 200 ft, 26.iv–10.v.1996, YSBT, WDP.

Scatopsidae***Coboldia fuscipes* (Meigen)** **New island record**

An immigrant species previously recorded from O'ahu.

Material examined. **MOLOKA'I:** Mapulehu nr. 'Ili'ili'ōpae Heiau, 40–60 ft, 28.x–11.xi.1994, YSBT, WDP.

***Psectrosiara brevicornis* Johannsen** **New island record**

An immigrant species previously recorded from O'ahu and Maui.

Material examined. **MOLOKA'I:** Honomuni Stream, ca. 10 ft, 14–28.x.1994, YSBT, WDP.

Rhegmoclemina parvula* Hardy*New island records**

An immigrant species previously recorded from O'ahu.

Material examined. **MOLOKA'I:** Kakahai'a County Park, 2 ft, 3–17.iii.1995, YSBT, WDP. **MAUI:** Ke'anae, 3 ft, nr. Pa'akea Gulch, ca. 1250 ft, Honomanū Bay, 5 ft, all 18.xi–2.xii.1995, YSBT, WDP.

Stratiomyidae***Evaza javanensis* Meijere****New island record**

An immigrant species previously recorded from Kaua'i, O'ahu, Maui, and Hawai'i.

Material examined. **MOLOKA'I:** Hālawā Valley, 200 ft, 16–30.ix.1994, YSBT, WDP.

Odontomyia ochropa* Thomson*New island record**

An immigrant species previously recorded from O'ahu.

Material examined. **MOLOKA'I:** Kīpapa, 1 ft, 23.vi.1995, pond of brackish water, WDP.

Syrphidae***Eumerus aurifrons* (Wiedemann)****New island record**

An immigrant species previously recorded from Kaua'i, O'ahu Lāna'i, and Hawai'i.

Material examined. **MOLOKA'I:** Kalaniana'ole Colony, 3 ft. 26.iv–10.v.1996, WDP.

Tephritidae***Dioxya sororcula* Lawson****New island record**

An immigrant species previously recorded from Kaua'i, O'ahu, and Moloka'i.

Material examined. **HAWAII:** Kohala Mountain Road, ca. 3400 ft, 20.x–3.xii.1995, YSBT, WDP.

Tetreuaresta obscuriventris* (Loew)*New island record**

In 1961 this species was purposely introduced from Fiji and released on Kaua'i, O'ahu, Maui, and Hawai'i as a biological control agent for the noxious weed, elephants-foot, *Elephantopus mollis* Kunth (Asteraceae) (Hardy, 1980: 57).

Material examined. **MOLOKA'I:** Pāpio Stream, 600 ft, 19.viii–2.ix.1994, YSBT, WDP.

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