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New records of introduced Lepidoptera in the Hawaiian Islands for the year 2025

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Thirteen new island records, one new status, two revised identifications, and one note are reported for introduced or presumed introduced Lepidoptera in Hawai'i. Information regarding the formerly published distributions in Hawai'i of species discussed herein is based on Nishida (2002), Howarth & Preston (2002), and Austin & Rubinoff (2022, 2023, 2024, 2025). All identifications were made by the first author. Label data were transcribed verbatim except for corrections to Hawaiian spelling and orthography. Any other corrections to data labels are provided in brackets following the verbatim label. Identifications were based on external morphology and genitalia dissections. Specimens were compared with illustrations and figures in the published literature as well as through comparisons with material deposited at the University of Hawai'i Insect Museum (UHIM). Voucher specimens and other examined material are deposited in these collections as noted.

Autostichidae

Austosticha pelodes (Meyrick) **New island record**

Though first described from Hawai'i, this species is considered introduced and is widespread in the Pacific and southeast Asia (Zimmerman 1978). In Hawai'i, it is known from O'ahu and Maui (Zimmerman 1978, Nishida 2002, Howarth & Preston 2002). We report it from Kaua'i for the first time.

Material examined. **Kaua'i:** 1♂, 1♀, Nā Pali Coast State Wilderness Park, Kalalau Beach, 22.1727, -159.6576, 10 m, 27–29 Mar 2024, K.A. Austin, UVLED light sheet (UHIM).

Blastobasidae

Lateantenna inana (Butler) **Note**

This new combination was proposed by Ohshima *et al*. (2018), but was overlooked by Austin & Rubinoff (2022, 2023) where it was listed as *Blastobasis inana* (Butler).

Crambidae

***Psara jasiusalis* (Walker) Revised identification**

This species was previously identified as *Herpetogramma* sp. A (Austin & Rubinoff 2022, 2025) where it was reported from O'ahu, Maui, and Hawai'i island. We tentatively re-identify it here as *Psara jasiusalis* (Walker) based on the close similarities of dissected

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males to the figures in Clarke (1986). *Psara* is likely a polyphyletic genus and *P. jasiusalis* may belong to *Herpetogramma* (Alma Solis, pers. comm., 2025), but we refrain from making any taxonomic changes at present.

Cosmopterigidae

Asymphorodes triaula (Meyrick) **New island record**

This widespread introduced species was previously known from Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Nishida 2002, Austin & Rubinoff 2025). We report it from Lānaʻi for the first time.

Material examined. **Lānaʻi:** 1♀, ʻĀwehi Gulch, 20.7975, -156.8542, 730 m, 9–10 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM).

Dryadaulidae

Dryadaula terpsichorella (Busck) **New island record**

This introduced species was previously reported from Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Nishida 2002, Austin & Rubinoff 2022). We report it from Lānaʻi for the first time.

Material examined. **Lānaʻi:** 1♂, Munro Trail, 20.8199, -156.8812, 885 m, 8–9 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM). 1♂, ʻĀwehi Gulch, 20.7978, -156.8546, 715 m, 9–10 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM).

Erebidae

Galtara extensa (Butler) **New island record**

This species was deliberately released on Maui and Hawaiʻi island in 2013 to control Madagascan Fireweed (*Senecio madagascariensis*) and Cape Ivy (*Delairea odorata*) (both Asteraceae) under the name *Secusio extensa*. Austin & Rubinoff (2022) noted that the correct combination should be *Galtara extensa*; it was later reported from Oʻahu and Molokaʻi despite no deliberate releases having occurred on those islands (Austin & Rubinoff 2024, 2025). We now report males and females from Lānaʻi for the first time, adding to the evidence that *G. extensa* may be naturally dispersing between the islands.

Material examined. **Lānaʻi:** 1♂, 1♀, Munro Trail, 20.8087, -156.8679, 1020 m, 9–10 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM). 1♂, Munro Trail, 20.8155, -156.8757, 1095 m, 8–9 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM).

Gelechiidae

Mesophleps adustipennis (Walsingham) **New island record**

This recently introduced species was first collected on Oʻahu in 2020 (Austin & Rubinoff 2022). It has since been reported from Hawaiʻi island and Maui (Austin & Rubinoff 2024, 2025). We report it from Lānaʻi for the first time.

Material examined. **Lānaʻi:** 1♂, ʻĀwehi Gulch, 20.7975, -156.8542, 730 m, 9–10 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM).

Geometridae

Chloroclystis pyrrholopha Turner **New island record**

This species was only first collected in Hawai‘i in 2021 from O‘ahu (Austin & Rubinoff 2022) but has since been collected on Kaua‘i and Hawai‘i island (Austin & Rubinoff 2023, 2024). We report it from Lāna‘i for the first time. It should be expected on Maui and Moloka‘i as well.

Material examined. **Lāna‘i:** 1♂, Munro Trail, 20.8199, -156.8812, 885 m, 8–9 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM).

Disclisioprocta stellata **(Guenée)** **New island record**

This introduced species has been reported from Laysan, Kaua‘i, O‘ahu, Maui, and Hawai‘i island (Nishida 2002, Austin & Rubinoff 2022). We report it from Moloka‘i for the first time.

Material examined. **Moloka‘i:** 1♀, Moloka‘i F[orest] R[eserve], Mākolelau, 21.0982, -156.9036, 1025 m, 15–16 Apr 2024, K.A. Austin, S.L. Pote, UV bucket trap (UHIM).

Noctuidae

Peridroma saucia **(Hübner)** **New island record**

In Hawai‘i, this widespread introduced species is known from Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Kaho‘olawe, Maui, Hawai‘i island, and Laysan (Nishida 2002, Austin & Rubinoff 2022). We report it from Midway for the first time.

Material examined. **Midway:** 1♂, Eastern Island, 10 May [20]08, J.J. Le Roux, D. Rubinoff (UHIM).

Psychidae

Brachycyttarus griseus de Joannis **New island record**

This introduced species was first reported in Hawai‘i by Davis (1990) from O‘ahu and Kaua‘i. Nishida (2002) and Howarth & Preston (2002) included additional records from Hawai‘i island and Maui, respectively. We report it from Lāna‘i for the first time.

Material examined. **Lāna‘i:** 5♂♂, Lāna‘i City, Fraser Ave[nue], on picnic bench in cut grass area, 20.8187, -156.9194, 470 m, 8 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, hand collecting cases / adult[s eclosed] 7 Mar–6 May 2025 (UHIM).

Pterophoridae

Hellinsia beneficus (Yano & Heppner) **New island records**

This species was first released in Hawai‘i in 1973 for control of *Ageratina riparia* (Asteraceae) and is listed as present on O‘ahu, Maui, and Hawai‘i Island (Nishida 2002). Austin & Rubinoff (2023) reported it from Kauai, despite there being no records of it ever being deliberately introduced on that island. We now report it from Moloka‘i and Lāna‘i for the first time, suggesting that it may have colonized the remaining high islands on its own.

Material examined. **Lāna‘i:** 1♂, Munro Trail, 20.8155, -156.8757, 995 m, 8–9 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap (UHIM). **Moloka‘i:** 1♂, Moloka‘i F[orest] R[eserve], Mākolelau, below Pu‘u Kolekole, 21.1008, -156.9005, 1095 m, 15–16 Apr 2025, K.A. Austin, UV bucket trap (UHIM).

***Stenoptilodes* spp.** **Status change**

Stenoptilodes Zimmerman is represented by three subspecies in Hawai‘i: *Stenoptilodes littoralis littoralis* (Butler), *Stenoptilodes littoralis rhychophora* (Meyrick), *and Stenoptilodes taprobanes brachymorpha* (Meyrick). The latter includes two additional taxa described from Hawai‘i and synonymized by Zimmerman (1958): *Platyptilia inceptrix* Meyrick and *Platyptilia insularis* Walsingham. Zimmerman (1958) listed all of these taxa as possibly introduced, a treatment followed by Nishida (2002). We propose here that all Hawaiian *Stenoptilodes* represent a small, overlooked, endemic radiation. Several of the subspecies and synonyms likely deserve full species status and additional detailed studies are warranted. Larvae of Hawaiian *Stenoptilodes* have been reported to feed on several native (*Geranium arboreum*, *Vaccinium* spp.) and non-native plants (“English plantain,” “basil,” and “snapdragon”), but we were not able to examine vouchers of the latter and it is possible they represent misidentifications of non-native pterophorids (Zimmerman 1958).

Tortricidae

Cacocharis cymotoma (Meyrick) **New island record**

This recently introduced species was first collected in Hawai‘i from O‘ahu in 2023 (Austin & Rubinoff 2024). Photographic evidence suggests it is also present on Kaua‘i and Hawai‘i island although no voucher specimens have been collected (Austin & Rubinoff 2024). We report it from Maui for the first time.

Material examined. **Maui:** 1♂, Ha‘ikū, Kauhikoa Road, 20.9112, -156.3160, 195 m, larva coll[ected] 22 Mar 2025, adult ecl[osed] 9 Apr 2025, K.A. Austin, K. Faccenda, Z. Pezzillo / HOST: *Phyllanthus* sp. (Phyllanthaceae), leaf-roller (UHIM).

Commoneria sinuata Pinkaew & Muadsub **Revised identification**

This species was first identified in Hawai‘i as *Grapholita* nr. *mesoscia* Diakonoff by Austin & Rubinoff (2023). The genus *Commoneria* Komai & Horak was described to include one Australian species (Horak 2006); Pinkaew *et al*. (2022) later described two species from Thailand. The species present in Hawai‘i is a good match to the illustrations of *Commoneria sinuata*, including male and female genitalia.

Strepsicrates smithiana Walsingham **New island record**

This species was deliberately introduced to Hawai‘i in 1955 to control firetree (*Myrica faya*) (Zimmerman 1978). It was released on O‘ahu and Hawai‘i island, but has only been recovered recently on Hawai‘i island (KAA, pers. observ.). Similar feeding damage on firetree to that of *S. smithiana* observed on O‘ahu turned out to be caused by the native *Eccoptocera foetorivorans* (Butler). However, we report *S. smithiana* from Lāna‘i for the first time, despite no deliberate releases having been reported from the island to our knowledge. Firetree is a common species near the summit of Lāna‘ihale. Feeding damage similar to that of *Caloptilia* sp. nr. *schinella*, another biological control agent released to control firetree, was also commonly observed on Lāna‘i, but we failed to rear any adults to confirm its presence.

Material examined. **Lāna‘i:** 1♂, 1♀, Munro Trail, 20.8155, -156.8757, 995 m, 8–9 Jan 2025, K.A. Austin, S.L. Pote, C. Doorenweerd, UV bucket trap / DNA extractions KA1442, KA1443 / KAA diss. #1388(♂), #1389(♀) (UHIM).

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