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Notes, Nuances, and Novelties in the Hawaiian Flora from Herbarium Pacificum[1]

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In preparation for an updated checklist of all Hawaiian vascular plants, we found many novelties and corrections in the Hawaiian flora. We report 122 new island records, 137 corrections, 26 new naturalized species, 22 new state records, 12 questionable naturalizations, two range extensions, and one notable rediscovery of an endemic species.

Following in the tradition of Imada (2012) and Imada (2019), we first assembled an initial draft checklist entirely from literature sources. However, as part of this checklist update, we wished to ensure that a specimen exists for every species on every island in our draft checklist. This process is considered best practice for an evidence-based checklist. To do this, we subsequently assembled a large joint database from the individual databases of herbaria (BISH, PTBG, US; acronyms following Thiers (2024), continually updated) and iNaturalist, which we then cross-referenced with our draft checklist. Many island records noted in previously published floras have no corroborating specimen or iNaturalist record and are thus corrected here.

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Some of these corrections derive from specimen reidentifications without a correction being subsequently published. However, most apparently derive from assumptions about certain species occurring on all the high islands, or all the main islands, but lacking photographic or vouchered evidence. It is likely that some of the records corrected herein are legitimate (for example, perhaps these species do occur on all main islands) but lack an herbarium voucher. In that case, we eagerly invite communication from fieldworkers who can provide specimens or photos to set the record straight. The corrections presented in this manuscript also provide motivation and specific guidance on gaps in herbarium records and motivate continued fieldwork, specimen preparation, and careful curation of herbarium specimens.

We also dredged the novel combined database for any specimens that represent new naturalizations not included in our draft checklist. Most of the records reported herein were located in this manner. In addition to the many specimens we found filed away in the main herbarium collection, a small number of records were also found during recent fieldwork, principally from Oʻahu and Maui. All voucher specimens cited are deposited at Herbarium Pacificum (BISH) unless otherwise indicated.

We identified the following names, which have been misapplied in Hawaiʻi or refer to multiple species: *Ambrosia artemisiifolia, Anemone hupehensis* var. *japonica, Arctotheca prostrata, Azolla caroliniana, Boerhavia coccinea, Buddleja paniculata, Cissus rhombifolia, Ctenodon falcatus, Cyperus cyperinus, Myosotis azorica, Neomarica gracilis, Plantago rugelii, Potamogeton nodosus, Pueraria lobata* var. *lobata, Ruta graveolens, Sambucus canadensis, Schinus molle, Schoenoplectiella mucronata, Solanum americanum, Solanum nigrescens,* and *Solidago canadensis.*

In the process of dredging our database for new records, we located some holotypes, largely those named by Harold St. John between 1987 and 1989, which had not yet been synonymized. We synonymize these names for the first time or provide novel synonymy: *Cyrtandra basirotundata, C. bishopii, C. kamooaliiensis, C. kremnes, C. ovalifolia, C. ovalis, C. piaensis, C. porsiflora, C. pukeleensis, C. rotundata, C. scapiflora, C. tantalusensis, C. triados, C. triens, C. wailupeensis, Lipochaeta nesophila, Huperzia* × *medeirosii, Peperomia epihippii, P. hanaensis, P. muscorum, P. woolfordii, Pittosporum molokaiense, Solanum angustior, S. hillebrandii, S. nesophilum, S. pubinervosum,* and *Viola vanroyenii.*

Acanthaceae

Barleria lupulina Lindl. **Confirmation of naturalization**

Barleria lupulina is currently listed as questionably naturalized on Oʻahu (Imada 2019). Collections of this species made from the Mauʻumae Nature Park confirm the naturalization of this species, as 20–30 mature plants were found in an area spanning about a quarter acre.

Material examined. **Oʻahu**: Honolulu, Mauʻumae Nature Park, near 16th Ave and Claudine St, 30 Jul 2017, *A. Lau 2017073001.*

Strobilanthes alternata (Burm.f.) Moylan ex J.R.I.Wood **Correction**

This species was published as naturalized in Hawaiʻi by Wagner *et al.* (1990, as *Hemigraphis alternata*), noting that it sometimes spreads in lawns in Honolulu. It should not be considered naturalized as there is no evidence that it has formed self-sustaining populations.

Aizoaceae

Tetragonia echinata Aiton **New island record**

This species was previously documented as naturalized on Oʻahu (Faccenda 2024a). Collections made from a former nursery plot in Kohala and roadsides in Puakō document its naturalization on Hawaiʻi.

Material examined. **HAWAIʻI**: Kohala, about 100 individuals found in irrigated plot of former nursery, 100 m, 20.129797, -155.88228, 13 Jun 2024, *M. Sthreshley 3*; Puakō, found growing alongside road to electric substation across from Puakō entrance, 50 m, 11 Apr 2008, *W.A. Whistler s.n.* (BISH 732169).

Alismataceae

Limnocharis flava (L.) Buchenau **New naturalization**

Limnocharis flava is an obligate aquatic herb native to the Americas and naturalized in much of Southeast Asia (POWO 2025). Collections of this species made in a fallow pond in the Hulēʻia National Wildlife Refuge on Kauaʻi as well as ʻUkoʻa Pond and Waimea Arboretum on Oʻahu show that this species is beginning to naturalize. The Oʻahu voucher notes only one individual and should thus be considered a questionable naturalization; however, the Kauaʻi specimen describes a population of undescribed size and appears fully naturalized. This species is sometimes cultivated as an aquatic plant in Hawaiʻi (Staples & Herbst 2005). The first documentation of this species in Hawaiʻi was from Waimea Botanical Garden, where it was cultivated (*J. Lau 2804*).

Material examined. **KAUAʻI**: Hulēʻia National Wildlife Refuge, Management Unit #H1N, fallow pond, 4Q: 460136E, 2426974N, 17 Dec 2014, *K. Uyehara & M. Milinichik s.n.* (BISH 764376). **Oʻ AHU**: ʻUkoʻa Pond, 25 Feb 1995, *E. Funk s.n.* (BISH 767426); Waimea Arboretum, edge of pond, 09 Sep 1986, *J. Lau 2804.*

Amaranthaceae

Achyranthes aspera L. var. ***aspera*** **New island record**

Achyranthes aspera was previously known to be naturalized on Laysan, Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Imada 2019). Collections of this species made at Māhāʻulepū document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Māhāʻulepū, Kipu Kai, 8 m, 24 May 2006, *N. Tangalin 761* (PTBG).

Achyranthes sandwicensis (A.Gray) Di Vincenzo, Berends., Wondafr. & Borsch **Correction**

Achyranthes sandwicensis (as *Nototrichium sandwicense*) was reported as occurring on "all the main islands" by Wagner *et al.* (1990: 194). There is no evidence it ever occurred on Kahoʻolawe, as no specimens nor literature reports outside of the *Manual* exist (Warren *et al.* 1994).

Alternanthera ficoidea (L.) P.Beauv. **Correction**

Alternanthera ficoidea was published as naturalized in Hawaiʻi by Wagner *et al.* (1990: 185; as *A. tenella*), where it was noted to be "commonly cultivated and often found persisting, presumably vegetatively, around old homesites on Oʻahu." It should not be considered naturalized as no specimens or citizen science records could be found of plants definitely reproducing outside of cultivation.

Amaranthus blitum L. subsp. ***emarginatus*** (Salzm. ex Uline & Bray) Carretero, Muñoz Garm. & Pedrol **Note**

Wagner *et al.* (1990, as *Amaranthus lividus* subsp. *polygonoides*) noted that this taxon was collected once historically on Maui in the 1800s. It has still not been collected on this island, but citizen science records show that it has persisted. https://www.inaturalist.org/observations/17336502 https://www.inaturalist.org/observations/273120959

Amaranthus palmeri S.Watson **New island record**

In March 2024, one of us (JS) uploaded pictures of an unknown *Amaranthus* to iNaturalist (https://www.inaturalist.org/observations/203483364), where it was noticed by KF as unusual due to its long bracts. A specimen was obtained, which was a positive match for *Amaranthus palmeri*. The plants were found in an area where feral chickens are fed, making an introduction via birdseed quite likely. *Amaranthus palmeri* was previously reported on Oʻahu by Faccenda & Ross (2024), and one of the collection sites was also in an area where birdseed is cast. Given these two independent naturalizations of *A. palmeri* associated with birdseed, it is quite clear that imported birdseed is a mechanism of introduction of this weedy species to the Hawaiian Islands. After this collection was made, further material of *A. palmeri* was found in the BISH backlog dating from 2008, suggesting that the recent collection is not the first introduction of the species onto Maui. *Amaranthus palmeri* is a common contaminant of birdseed (Oseland *et al.* 2020), as it is an aggressive weed in row crop agriculture and found in the same fields as the grains comprising the seed. The birdseed introduction pathway is a rather direct mechanism for aggressive weeds of agriculture on the mainland to be packaged up with the crops they are infecting and then literally tossed out on the ground to sprout in Hawaiʻi.

Material examined. **MAUI**: Kīhei, E Lipoa St & Piʻilani Hwy, between Kīhei Aquatic Center and Kīhei DMV, on shaded and tended/mowed weedy lawn, only 2 plants found, 20.749571, -156.447525, 21 Mar 2024, *J. Starmer s.n.* (BISH 800606); Kamaʻole, along Piʻilani Hwy, plants to 1 m tall, 35 m, 06 Jun 2008, *R.W. Hobdy s.n.* (BISH 796738); Kaoholu, Kīhei, along Piʻilani Hwy, 3 plants found along hwy in soil recently disturbed by trenching machine that may have come from mainland, 36 m, 08 Jun 2008, *R.W. Hobdy 4295*.

Amaranthus polygonoides L. **New island record**

Amaranthus polygonoides has previously been reported as naturalized on Kauaʻi and Oʻahu (Frohlich & Lau 2020; Faccenda & Ross 2024). It has now been found on Maui at Kīhei, where it was first identified by citizen science observations from iNaturalist (https://www.inaturalist.org/observations/220038891).

Material examined. **MAUI**: East Maui, Kīhei, South Maui Community Park, Liloa Dr, 20.74544, -156.44638, 09 Jun 2024, *J. Starmer s.n.* (BISH 800609, 800610).

Charpentiera ovata Gaudich. var. ***ovata*** **New island record**

Charpentiera ovata var. *ovata* was previously reported from Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Wagner *et al.* 1990). Numerous specimens have been collected from Kauaʻi under various names (mostly *C. elliptica*) and have been redetermined by one of us (MKT) to be *Charpentiera ovata* var. *ovata*, documenting the existence of this species on Kauaʻi. Further study is needed on *Charpentiera* in the Hawaiian Islands, especially *C. elliptica* and *C. obovata*.

Material examined. **KAUA‘I**: Nā Pali coast, Hanakāpī‘ai Falls Trail, 182 m, 11 Apr 1980, *G. Clarke & C. Corn 344*; Kōke‘e State Park, Nu‘alolo Trail, 1 mile from beginning near Kōke‘e Lodge, 16 Jul 1970, *S.H. Sohmer 6497*; Hanalei, Alealau, 1109 m, 22.173979, -159.624051, 03 Sep 2020, *S. Walsh et al. SKW762*; Ho‘olulu, Kalalau Trail, 3¾ mile post, 19 Jul 1970, *S.H. Sohmer 6535*; Koai‘e Canyon, along stream, 835 m, 22.618, -159.3518, 13 Mar 2008, *C. Trauernicht & N. Tangalin 424*; Waimea, Awa‘awapuhi, 2.25 miles down trail, north-facing slope, 905 m, 22.150794, -159.671680, 28 Apr 2016, *K.R. Wood & M. Query 16819.*

Charpentiera tomentosa Sohmer var. ***tomentosa*** **New island record**

Previously only reported from O‘ahu, Moloka‘i, Maui, and Hawai‘i (Wagner *et al.* 1990), a single specimen of *Charpentiera tomentosa* var. *tomentosa* expands the range of this species to Kaua‘i. This specimen was compared to abundant material of both *C. tomentosa* and *C. obovata,* as well as descriptions in Wagner *et al.* (1990). The thick, large leaves separate this species from *C. obovata*, which has smaller, chartaceous leaves.

Material examined. **KAUA‘I**: Waimea Distr, Pōhakuao, hanging valley above falls, 588 m, 22.177875, -159.629470, 10 Aug 2016, *K.R. Wood et al. 17098.*

Amaryllidaceae

Crinum asiaticum L. **New island record**

Crinum asiaticum was previously reported as naturalized on O‘ahu (Faccenda 2024a). Collections of this species made from Niumalu Bay now document its naturalization on Kaua‘i. Despite the specimen being nearly 100 years old, it clearly shows that the species is naturalized. Furthermore, numerous observations from iNaturalist (https://www.inaturalist.org/observations/261930375 https://www.inaturalist.org/observations/205362897 https://www.inaturalist.org/observations/152910373) show that this is still naturalized in coastal situations, especially on the north shore, despite the lack of recent collections.

Material examined. **KAUA‘I**: Niumalu Bay, 14 Jun 1926, *O. Degener & H. Wiebke 2113*.

Zephyranthes minuta (Kunth) O.Dietr. **New island record**

Zephyranthes minuta was previously known to be naturalized on Lāna‘i and Maui (Imada 2019; as *Z. grandiflora*). Collections made at Kīpū Ranch document the naturalization of this species on Kaua‘i, where plants were found naturalized in a weedy, fallow area.

Material examined. **KAUA‘I**: Līhu‘e, Kīpū Ranch, weedy fallow area, 98 m, 21.93945, -159.416946, 14 Jul 2021, *N. Tangalin NT5193.*

Anacardiaceae

Mangifera indica L. **Corrections**

Mangifera indica was reported as naturalized on “all the main islands” by Wagner *et al.* (1990: 197); however, no specimens have been found to substantiate this species ever occurring on Kaho‘olawe. Furthermore, Warren *et al.* (1994) noted that any mangoes that may have occurred on the island are no longer present. Similarly, Wichman & St. John (1990) state that it only occurs in cultivation on Ni‘ihau.

Schinus areira L. **Nomenclatural note**

Following the taxonomy of Zapater *et al.* (2018) and Martínez-Crovetto (1963), the naturalized and cultivated plants formerly referred to as *Schinus molle* should now be referred to as *S. areira.* These species differ by the number of leaflets per leaf (10–15 vs 4–7), leaflet arrangement (alternate to opposite vs strictly opposite), and the presence of a rachis

wing (narrowly winged vs unwinged) for *S. areira* and *S. molle* respectively. We have seen no specimens referable to true *S. molle* in Hawai‘i using this classification.

Annonaceae

Artabotrys hexapetalus (L.f.) Bhandari **New island record**

Artabotrys hexapetalus was previously recorded as naturalized on O‘ahu, Maui, and Hawai‘i (Imada 2019). Collections made of this species in the Hulē‘ia River valley document its naturalization on Kaua‘i.

Material examined. **KAUA‘I**: Hulē‘ia River valley, Kīpū Ranch land, 41 m, 12.5640, -159.2358, 12 Apr 2008, *M. Merello & E. Bess 3251* (PTBG).

Apiaceae

Ammi majus L. **New naturalization**

A population of approximately a dozen individuals of *Ammi majus* was recently located on a roadside where they may have arrived with dumped greenwaste. *Ammi majus* was previously known in Hawai‘i from a single 1948 collection from a garden in Honolulu, where it was cultivated as an ornamental (*H. St. John 23364*). This species is native to the Mediterranean but has since naturalized at scattered localities around the world (POWO 2025). It is a ruderal weed that is expected to spread along roadsides and disturbed areas.

Material examined. **MAUI**: Kula, disturbed roadside at pullout and dumping spot, 952 m, 20.783584, -156.306738, 02 Jun 2024, *F. Starr & K. Starr 240603-01*.

Eryngium foetidum L. **New island record**

Eryngium foetidum was reported as questionably naturalized on O‘ahu (Imada 2019). Collections made of this species in Mapulehu document its naturalization on Moloka‘i and confirm its naturalization in the state.

Material examined. **MOLOKA‘I**: Mapulehu, mauka of hwy near ‘Ili‘ili‘ōpae Heiau, 76 m, 21.415, -156.4745, 10 Aug 2024, *H.L. Oppenheimer H82402*.

Petroselinum crispum (Mill.) A.W.Hill **Corrections**

Petroselinum crispum was published as naturalized on O‘ahu and Kaua‘i by Wagner *et al.* (1990). However, no specimens have been found to substantiate its naturalization on these islands.

Apocynaceae

Alstonia macrophylla Wall. ex G.Don **New island record**

Alstonia macrophylla was reported as naturalized on O‘ahu and Hawai‘i (Imada 2019). Collections made of this species in Waihe‘e document its naturalization on Maui where it likely spread from old plantings.

Material examined. **MAUI**: West Maui, Wailuku, Waihe‘e, 624 m, 20.5838, -156.3954, 28 Oct 2024, *H. Oppenheimer H102401*.

Calotropis gigantea (L.) W.T.Aiton **Confirmation of naturalization**

Calotropis gigantea was reported as naturalized on Moloka‘i and Maui, with questionable status on O‘ahu, Kaho‘olawe, and Hawai‘i (Imada 2019). Collections made of this species in Lua Makika confirm its naturalization on Kaho‘olawe.

Material examined. **KAHO‘OLAWE**: Northeast inner slope of Lua Makika, 426 m, 25 Apr 1980, *G. Clarke & W.P. Char 427*; gulch E of Lua Makika, 300 m, 19 Jun 1982, *P.K. Higashino et al. 9811*; NE part of island, Wa‘aiki Gulch, 274 m, 24 Apr 1980, *L.W. Cuddihy & G. Clarke 407*.

Catharanthus roseus (L.) G.Don **Correction**

Wagner *et al*. (1990: 216) reported *Catharanthus roseus* as "naturalized on probably all of the main islands and Midway Atoll, but we have not seen specimens from Kauaʻi or Lanaʻi." We clarify upon this and note that there is also no evidence of naturalization on Kahoʻolawe. Warren *et al*. (1994) noted that the only source for reporting this species on the island was the *Manual*; thus, the species was treated as questionable by Imada (2019), as there were no supporting specimens from Kahoʻolawe at BISH.

Hoya australis R.Br. ex J.Traill **New island record**

Hoya australis was previously recorded as naturalized on Maui (Imada 2019). Collections made in 2011 on Kumukahi Lighthouse Road document its naturalization on Hawaiʻi. iNaturalist observations show that the population survived the 2018 Kīlauea eruption that flowed through the Kapoho area (https://www.inaturalist.org/observations/298764346; https://www.inaturalist.org/observations/29589185)

Material examined. **HAWAIʻI**: Puna, Kapoho, Kumukahi Lighthouse Rd, 2158113N 307832E, 20 Jun 2011, *J. Parker & R. Parsons BIED156.*

Rauvolfia sandwicensis A.DC. **Correction**

Rauvolfia sandwicensis was reported as occurring on "all of the main islands except Kahoʻolawe" (Wagner *et al.* 1990: 220); however, no specimens exist from Niʻihau, nor is this species mentioned in Wichman & St. John (1990).

Araceae

Alocasia cucullata (Lour.) G.Don **New island record**

Alocasia cucullata was recorded as naturalized on Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Imada 2019). Collections made in Kawaihau near the Wailua Homesteads document its naturalization on Kauaʻi, where several plants were found.

Material examined. **KAUAʻI**: Kawaihau, Wailua, Nounou Trail, Kuamoʻo entrance, raised bed in ʻŌpaekaʻa Stream, 85 m, 22.05266, -159.365473, 16 Apr 2021, *N. Tangalin NT5168.*

Anthurium scandens (Aubl.) Engl. subsp. ***scandens*** **New naturalization**

The native range of *Anthurium scandens* subsp. *scandens* spans from Mexico to tropical America (POWO 2025). Collections made from a forested area at the margin of Ocean View Garden at Hawaiian Memorial Park Cemetery document this species' naturalization on Oʻahu, where a single, 1.3 m diameter colony was found growing epiphytically on *Schinus*. This flowering and fruiting specimen was the only individual in the area at the time of collection. It is formerly known only from cultivation (Staples & Herbst 2005).

Material examined. **OʻAHU**: Kāneʻohe, Hawaiian Memorial Park, Ocean View Garden, forested margin, 84 m, 21.394416, -157.788981, 12 Sep 2017, *S. Montgomery & M. LeGrande s.n.* (BISH 775087).

Colocasia esculenta (L.) Schott **Correction**

Colocasia esculenta (kalo) was listed as "persisting outside of cultivation on all of the main islands except Kahoʻolawe" by Wagner *et al.* (1990: 1357); however, Wichman & St. John (1990) noted only cultivated plants occurring on Niʻihau. Furthermore, testimony of Niʻihau residents confirm that there is insufficient surface water for kalo to grow (Kapahulehua 1970).

Monstera adansonii Schott **New naturalization**

Monstera adansonii is native to the tropical wet forests of the Americas (POWO 2025) and has been in cultivation in Hawai‘i since at least 1985. It was observed in a wet, shady, invasive-dominated secondary forest where about a dozen plants, including seedlings, were found climbing into the canopy at the end of Kānealole Trail in Makiki. This area was at one point planted with several ornamentals, including other aroids that appear to have not yet naturalized; pots were also observed. It appears that this species was also planted at the site and has since naturalized.

Material examined. **O‘AHU**: Makiki Loop, Kānealole Trail, near intersection with Makiki Valley Trail, 306 m, 21.325875, -157.821696, 04 Feb 2024, *K. Faccenda 3304.*

Philodendron erubescens K.Koch & Augustin **Range extension**

Philodendron erubescens was previously published as naturalized on East Maui by Oppenheimer (2007) and has now been found on West Maui. *Philodendron erubescens* is also naturalized on Kaua‘i (Imada 2019).

Material examined. **MAUI**: West Maui, Lāhainā Distr, Honokahua, locally naturalized sprawling and climbing in secondary alien forest, apparently spreading from discarded landscaping waste, 91 m, 16 Apr 2023, *H. Oppenheimer et al. H42335*; West Maui, ca 7 km NW of Waihe‘e along hwy, edge of road, climbing up cliff ca 10 m, dominant on this hillside, only seen in this one location on road, 300 m, 20.969875, -156.539621, 22 Oct 2022, *K Faccenda 2740.5*.

Araliaceae

Hedera helix L. **Correction**

Hedera helix was published as “sparingly naturalized on Kaua‘i, O‘ahu, and Hawai‘i” by Wagner *et al.* (1990: 228). However, no specimens or citizen science records have been found to substantiate its naturalization on O‘ahu.

Araucariaceae

Araucaria columnaris (G.Forst.) Hook. **New island record**

Araucaria columnaris was recorded as naturalized on O‘ahu, Moloka‘i, Lāna‘i, and Maui (Imada 2019). Collections of this species made in the Nounou Forest Reserve now document its naturalization on Kaua‘i.

Material examined. **KAUA‘I**: Kawaihau, Nounou Forest Reserve, crest of Sleeping Giant Mountain, 335 m, 13 Sep 1987, *D.H. Lorence et al. 5551* (PTBG).

Araucaria cunninghamii Aiton ex D.Don **New naturalization**

Araucaria cunninghamii is a species native to portions of New Guinea and Australia (POWO 2025). Collections made in Waimano behind the Department of Health building document its naturalization on O‘ahu. It is spreading from nearby forestry plantings, with over 100 seedlings observed at all stages of development.

Material examined. **O‘AHU**: Waimano, forest reserve behind Dept. of Health building, 259 m, 21.42548, -157.932463, 24 Oct 2024, *M.K. Thomas et al. 882.*

Aspleniaceae

Asplenium aethiopicum (Burm.f.) Bech. **Correction**

Asplenium aethiopicum was reported as occurring on all the main islands by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Lāna‘i.

Asplenium hobdyi W.H.Wagner **New island record**

In Palmer (2003), *Asplenium hobdyi* was not listed as occurring on the island of Oʻahu. However, upon inspection of unresolved specimens of *Asplenium* at BISH, a 1931 collection from Kaʻala (*Christophersen 1777*) was found, tentatively labeled as *A. hobdyi* by the late Dan Palmer. Communication by MKT with Dan in 2020 revealed that he had not been confident of the identification and thus set it aside to be verified by other fern experts, and for this reason excluded the Oʻahu record from his 2003 book. Comparison to the holotype at MICH and other island material at BISH by MKT, this plant was found to perfectly match *A. hobdyi*. Additionally, in July 2023, a survey of the Kaʻala summit by the Oʻahu Plant Extinction Prevention Program came across a single population of roughly 20 individuals.

Material examined. **Oʻahu**: Top of Kaʻala in wet forest, 1200 m, 10–15 May 1931, *Christophersen 1777*; northern Waiʻanae Mts, Kaʻala, 1200 m, 21.507269, -158.14631, 22 Jun 2023, *M.K. Thomas et al. 586.*

Asplenium kaulfussii Schltdl. f. ***gemmiparum*** (Hillebr.) D.D.Palmer
Correction

Asplenium kaulfussii f. *gemmiparum* was reported as occurring on Lānaʻi by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Asplenium kaulfussii Schltdl. f. ***kaulfussii*** **Correction**

Asplenium kaulfussii f. *kaulfussii* was reported as occurring on all the main islands by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Asplenium × ***kokeense*** W.H.Wagner **New island records**

Asplenium × *kokeense* was reported only from Kauaʻi in Palmer (2003). Now collections from Puʻu Kaʻala and leeward Haleakalā document the existence of this species on Oʻahu and Maui.

Material examined. **Oʻahu**: Puʻu Kaʻala above Waialua on the DuPont ridge trail, 2000 ft [610 m], 20 Dec 1959, *B.C. Stone 3171*. **Maui**: East Maui, leeward Haleakalā, Nākula Natural Area Reserve, west of Camp Release, 1550 m, 20.67273, -156.2340924, 19 Jul 2022, *Z. Pezzillo 20.*

Asplenium normale D.Don **Correction**

Asplenium normale was reported as occurring on all the main islands by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Asplenium sphenotomum Hillebr. **Correction**

Asplenium sphenotomum was reported as occurring on all the main islands by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Figure 1. *Asplenium trichomanes* observed by J. Lau in 2004.

Asplenium trichomanes L. subsp. ***densum*** (Brack.) W.H.Wagner **New island record**
Asplenium trichomanes has been recorded as naturally occurring on Maui and Hawai‘i (Palmer 2003). A discovery by Joel Lau in the Wai‘anae Range at Pu‘ukūmakali‘i in Lualualei in 2004 documents this species as naturally occurring on O‘ahu (Figure 1). Only a few plants were found growing in a shady gulch bottom on a soil bank; unfortunately, no voucher was collected.

Asteliaceae
Astelia argyrocoma A.Heller ex Skottsb. **New island record**
Astelia argyrocoma was described as naturally occurring only on Kaua‘i (Wagner *et al.* 1990). A collection made in 1956 on the ridge to the east of central Makaleha in the Wai‘anae Range documents the occurrence of this species on O‘ahu. The identification was made using the key in the *Manual* (Wagner *et al*. 1999) and by comparison with *A. argyrocoma* specimens from Kaua‘i.

Material examined. **O‘AHU**: Wai‘anae Mts, ridge E of central Makaleha Valley, 15 Apr 1956, *E.T. Ozaki 1562.*

Asteraceae

Acanthospermum australe (Loefl.) Kuntze **Correction**

Acanthospermum australe was published as occurring on "all of the main islands" by Wagner *et al.* (1990: 252). However, no specimens could be found to substantiate its presence on Niʻihau.

Ambrosia artemisiifolia L. **Corrections**

All specimens of *Ambrosia artemisiifolia* from Oʻahu, Molokaʻi, and Maui have been redetermined as *A. confertiflora* (see below). Hawaiʻi is the only island where true *A. artemisiifolia* is present; the earliest specimen is cited below.

Material examined. **HAWAIʻI**: Byron Camp, Hawaiʻi Volcanoes National Park, waste grounds, 01 Oct 1929, *O. Degener 5595.*

Ambrosia confertiflora DC. **New state record**

Ambrosia artemisiifolia, as treated by Wagner *et al*. (1990), is a mixture of two species, *A. artemisiifolia* and *A. confertiflora*. Wagner *et al.* (1990) noted that much of the Hawaiian material was formerly identified as *A. confertiflora* and considered these misidentifications. We are following the treatment of *Ambrosia* by Strother (2006) and disagree with the treatment of Wagner *et al.* (1990). *Ambrosia confertiflora* is native to western North America from Texas to California, where it grows in waste places and disturbed sites (Strother 2006). See the key below for characteristics separating the species. All specimens from Oʻahu, Molokaʻi, and Maui are *A. confertiflora.* Hawaiʻi Island has both species present. Only the first record on each island is reported below.

Key to *Ambrosia* (based on Strother 2006)

1. Burs with straight spines or spines reduced to tubercles; plants annual .... *A. artemisiifolia*

1′. Burs with hooked spines; plants perennial ..... *A. confertiflora*

Material examined. **Oʻahu**: Honolulu, no date [approximately 1864], *H. Mann & W.T. Brigham 684*. **Molokaʻi**: Kaulawai, 06 May 1916, *G.C. Munro 375*. **Maui**: Paukūkalo near Halekiʻi Heiau State Park, 17 Jun 1986, *R. Hobdy 2566*. **HAWAIʻI**: Kealakekua, naturalized along small stretch of road, 23 Aug 1926, *O. Degener & H. Wiebke 2127.*

Arctotheca prostrata (Salisb.) Britten **Nomenclatural note**

Arctotheca calendula was published as naturalized on Maui by Starr & Starr (2011). The specimen has since been redetermined as *A. prostrata* based on the presence of stolons on *A. prostrata* and their absence on *A. calendula* (Hinojosa-Espinosa & Villaseñor 2015). *Arctotheca prostrata* is native to South Africa (POWO 2025). This species is naturalized in lawns in Makawao and near the grounds of Enchanting Floral Gardens of Kula.

Material examined. **Maui**: Enchanting Floral Gardens of Kula, growing with wide variety of ornamentals in upcountry Maui Botanical Garden, 716 m, 20.792976, -156.3260971, 19 Feb 2008, *F. Starr & K. Starr 080219-01*; East Maui, Makawao, Kēōkea, 908 m, 20.701870, -156.357070, 02 Apr 2016, *H. Oppenheimer H41601.*

Bellis perennis L. **Corrections**

This species was published as naturalized in Hawaiʻi by Wagner *et al.* (1990: 267), where it was considered "sparingly naturalized in high elevation, mesic areas on Kauaʻi and perhaps Hawaiʻi." However, as no herbarium or citizen science records exist to substantiate this naturalization, it should not be considered naturalized in the state.

Bidens alba (L.) DC. var. ***radiata*** (Sch.Bip.) Ballard ex Melchert **Correction**

Bidens alba var. *radiata* was reported as naturalized on Kure Atoll by Wagner *et al*. (1990). However, no specimens could be found to substantiate its occurrence, nor was it found during extensive surveys in 2001 (Starr *et al*. 2001), thus it should not be considered naturalized there.

Bidens micrantha Gaudich. subsp. ***micrantha*** **New island record**

Bidens micrantha subsp. *micrantha* was reported as naturally occurring on Maui (Wagner *et al.* 1990). We expand its range with collections from Puʻulehua in North Kona, Hawaiʻi.

Material examined. **HAWAIʻI**: North Kona, Puʻulehua, 1,524 m, 18 Jul 1987, *S.L. Montgomery s.n.* (BISH 514001).

Bidens pilosa L. **New island record**

This species is described as naturalized on Kuaihelani (Midway Atoll), Niʻihau, Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, Maui, Kahoʻolawe, and Hawaiʻi (Imada 2019). Collections made in 2006 on the south side of Lehua document its naturalization on the islet.

Material examined. **LEHUA**: Outer crescent on S side of islet, 30 m, 29 Apr 2006, *K.R. Wood 11862.*

Dubautia laxa Hook. & Arn. subsp. ***laxa*** **Correction**

Dubautia laxa subsp. *laxa* was published as present on Kauaʻi by Wood (2006). The specimen (*Wood 11425*) has since been redetermined as *D. haupuensis* B.G.Baldwin & K.R.Wood. As such, *D. laxa* subsp. *laxa* is no longer known from Kauaʻi.

Galinsoga quadriradiata Ruiz & Pav. **Correction**

Galinsoga quadriradiata was published as naturalized on "Oʻahu, Molokaʻi, Maui, and Hawaiʻi" by Wagner *et al.* (1990: 320). However, no specimens could be found to validate the Molokaʻi record. It appears this report was erroneous and that *G. parviflora* is the only member of this genus on Molokaʻi (Oppenheimer 2011).

Hypochaeris radicata L. **Correction**

Hypochaeris radicata was published as naturalized on Lehua by Wood & LeGrande (2006). However, the specimen (*Flynn 4859*) has been redetermined as *H. glabra*, making *H. radicata* no longer known from Lehua.

Lipochaeta connata (Gaudich.) DC. subsp. ***acris*** (Sherff) W.L.Wagner & H.Rob. **New island record**

Lipochaeta connata subsp. *acris* was previously known from Niʻihau and Kauaʻi (Imada 2012). Dozens of collections made from ʻĪao Valley in Wailuku and a single collection from Olowalu document its occurrence on Maui. These specimens were annotated by the *Manual* team in 1983 & 1984 but evidently their inclusion in the manuscript was forgotten.

Material examined. **MAUI**: Wailuku, ʻĪao Valley, Black Gorge, stream bed, 290 m, 18 Feb 1975, *R. Gardner 376*; Olowalu Valley, 19 May 1920, *C.N. Forbes 2431M*.

Lipochaeta integrifolia (Nutt.) A.Gray **Correction**

Lipochaeta integrifolia was reported as occurring on "all of the main islands" by Wagner *et al.* (1990: 336). Although abundant habitat is available, there is no evidence it ever occurred on Kahoʻolawe, as no specimens nor literature reports outside of the *Manual* exist (Warren *et al.* 1994).

Lipochaeta lobata (Gaudich.) DC. subsp. ***lobata*** **New synonym**

[= *Lipochaeta nesophila* H.St.John]

Lipochaeta nesophila was historically considered a synonym of *Lipochaeta rockii* Sherff by Wagner *et al.* 1990. However, examination in this study of the holotype of *L. nesophila* by MKT shows it is actually *L. lobata* (Gaudich.) DC. subsp. *lobata*.

Lipochaeta succulenta (Hook. & Arn.) DC. **Correction**

Lipochaeta succulenta was reported as occurring on "all of the main islands except Lanaʻi" by Wagner *et al.* (1990). There is no evidence it ever occurred on Kahoʻolawe, as no specimens nor literature reports outside of the *Manual* exist (Warren *et al.* 1994), thus it should not be listed as occurring there.

Picris hieracioides L. **New island record**

Picris hieracioides was previously recorded as naturalized on Molokaʻi, Lānaʻi, Maui, and Hawaiʻi (Imada 2019). Collections made of this species from various parts of Waimea now document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Waimea, Hikimoe Ridge, 21 individuals, 918 m, 22.097141, -159.689069, 02 Jan 2020, *S. Kashiwa 077* (PTBG); NW Kauaʻi, Waimea, Kōkeʻe, Trail One just off Hwy 550 north of radio tower at mile marker 9, 914 m, 22.060736, -159.666805, 27 Jul 2009, *E. Manini s.n.* (PTBG 055659).

Porophyllum ruderale (Jacq.) Cass. **New island records**

Porophyllum ruderale was previously reported as naturalized on Hawaiʻi Island by Parker & Parsons (2016). It has now additionally been found on Kauaʻi, Oʻahu, and East Maui. On Kauaʻi it is naturalized in Wailua; on Oʻahu, in Mauʻumae Nature Park, where more than 500 plants were observed forming a colony about 20 m wide, with one smaller patch seen outside of the main colony. On East Maui, hundreds of plants were found densely scattered over at least a couple of acres at Waiʻōpae, during a transect from 1,554 m to sea level, and it was only seen in this one area; it is unclear how it arrived at the site.

Material examined. **KAUAʻI**: Wailua, intersection of Puapiloa and Olohena Rds, along road-cut, locally naturalized, 183 m, 22 Nov 2000, *Nesbek s.n.* (BISH 769991). **OʻAHU**: Mauʻumae Nature Park, dry, open area from shallow soil, 91 m, 21.286592, -157.789633, 28 Dec 2023, *K. Faccenda 3249.* **MAUI**: East Maui, Waiʻōpae, ridge on W edge of Pāhihi Gulch, open, grazed dry-land scrub/pasture, rocky with lots of bare soil, in association with *Lantana camara*, *Erythrina sandwicensis*, and *Bidens pilosa*, 440 m, 20.65016, -156.206464, *F. Starr & K. Starr 240322-01.*

Silybum marianum (L.) Gaertn. **New state record**; **eradication**

Silybum marianum was found naturalized in pastures in Makawao by Bob Hobdy in 2009, and subsequently became a Maui Invasive Species Committee eradication target. Between 2009 and 2014, 2,208 plants were killed, of which 289 were mature. The last plant was killed in 2014 and annual surveys over the past 10 years have not found any further indi-

viduals (Mike Ade, pers. comm.). This species is native to portions of the Mediterranean and is naturalized on most continents (POWO 2025). It is unclear how it arrived in Hawai‘i although it may have been for medicinal usage.

Material examined. **MAUI**: East Maui, Makawao Ave, 488 m, 13 Mar 2009, *R.W. Hobdy 4308.*

Solidago altissima L. subsp. ***altissima*** **Taxonomic note**; **Corrections**

[syn. *Solidago canadensis* var. *scabra* (Muhlenberg ex Willdenow) Torrey & A. Gray]

Solidago canadensis var. *scabra* was noted as very sparingly naturalized on Kaua‘i, O‘ahu, Maui, and Hawai‘i by Wagner *et al.* (1990). Following the latest taxonomic concepts of *Solidago* by Semple & Cook (2006) where *scabra* is treated as a junior synonym of *S. altissima* subsp. *altissima*, all Hawaiian specimens have been redetermined as such (Wagner *et al.* 2023–). Furthermore, examination of the specimens and lack of observation of any truly wild populations persisting to the present, leads us to conclude that this taxon is not naturalized in Hawai‘i.

Sonchus wightianus DC. **Questionable naturalization**

Sonchus wightianus is native to Asia from Iraq through Malaysia, and is naturalized in Costa Rica (POWO 2025). It is adventive in Hawai‘i, as it was collected once along a driveway in ‘Āhuimanu. More specimens are needed to confirm whether it has fully naturalized. *Sonchus wightianus* differs from the common *S. oleraceus* in its perennial habit.

Material examined. **O‘AHU**: ‘Āhuimanu, 47-722 ‘Āhuimanu Rd, 73 m, 20 Mar 2009, *J. Beachy et al. USARMY 146.*

Sphagneticola trilobata (L.) Pruski **New island record**; **correction**

Sphagneticola trilobata was reported as naturalized on Kuaihelani (Midway Atoll), Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Maui, and Hawai‘i (Imada 2019). It is now also naturalized on Kaho‘olawe. Furthermore, although treated as naturalized on Kuaihelani by Wagner *et al*. (1990), the only specimen at BISH from the island was labeled as cultivated. This species was not found during a full survey of the island in 2008 (Starr & Starr 2008).

Material examined. **KAHO‘OLAWE**: LZ 1, 427 m, 20.33°N 156.34°W, 11 May 2004, *F. Starr et al. 040511-2.*

Tagetes minuta L. **Correction**

Tagetes minuta was published as naturalized on O‘ahu by Wagner *et al.* (1990) on the basis of a single collection in 1956 (*Uehara s.n* BISH 121535) that was “perhaps cultivated.” It has not been seen again and is not naturalized on O‘ahu.

Thymophylla pentachaeta (DC.) Small **New state record**

Collections made at Barbers Point and Campbell Industrial Park document the naturalization of *Thymophylla pentachaeta* on O‘ahu. Native to the Americas (POWO 2025), this species was found growing in a coral substrate, with ~500 plants observed. *Thymophylla pentachaeta* can be distinguished from the naturalized *T. tenuiloba* by its woodier habit and stiff, principally opposite leaves, compared to the purely herbaceous habit of *T. tenuiloba* with softer, principally alternately arranged leaves.

Material examined. **O‘AHU**: Leeward O‘ahu, Barbers Point, drainage canal that runs between Campbell Industrial Park and Barbers Point Station, 06 Aug 2003, *W. Char s.n.* (BISH 697625); ‘Ewa, Campbell Industrial Park, coral plain, 28 Nov 2005, *G. Mansker s.n.* (BISH 718803); Kapolei, empty lot E of Kamokila Blvd and Kapolei Pkwy, in shallow drainage, sprouting prolifically after abundant winter rains, 21 m, 07 Mar 2011, *R.W. Hobdy 4330, 4334, 4335.*

Thymophylla tenuiloba (DC.) B.L.Rob. **New island record**

Thymophylla tenuiloba was reported as naturalized on Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, Maui, and Kahoʻolawe (Imada 2019). A collection of a single flowering plant mauka of the highway in Puakō documents its naturalization on Hawaiʻi Island.

Material examined. **HAWAIʻI**: South Kohala, Puakō, mauka of highway, 121 m, 10 Apr 2014, *R.W. Hobdy 4352*.

Xanthium strumarium L. **New island record**

Xanthium strumarium is now known from Lehua Islet. It is now known from all the main islands from Niʻihau to Hawaiʻi as well as Kuaihelani (Wagner et al. 1990).

Material examined. **LEHUA**: Above weatherport on ridge, coastal dry shrubland, 20 m, 27 Apr 2011, *N. Tangalin 2622* (PTBG).

Athyriaceae

Diplazium arnottii Brack. **Correction**

Diplazium arnottii was reported as occurring on all the main islands by Palmer (2003). However, no specimens or literature could be found to substantiate its occurrence on Kauaʻi.

Diplazium esculentum (Retz.) Sw. **Correction**

Diplazium esculentum was reported as occurring on Lānaʻi by Palmer (2003). However, no specimens or literature could be found to substantiate its naturalization on Lānaʻi, although it is cultivated (HO, pers. observ).

Balsaminaceae

Impatiens walleriana Hook.f. **Correction**

Impatiens walleriana was reported as "documented on all of the main islands except Niʻihau and Kahoʻolawe" by Wagner *et al.* (1990: 380). However, no specimens or citizen science records substantiate its occurrence on Lānaʻi.

Begoniaceae

Begonia cucullata Willd. **New island record**

Begonia cucullata was previously reported as naturalized on Kauaʻi, Oʻahu, Molokaʻi, and Hawaiʻi (Imada 2019). It has now been found naturalized on Maui at ʻĪao Valley. iNaturalist observations also suggest that it is naturalizing in Hāna, East Maui. (https://www.inaturalist.org/observations/173368417).

Material examined. **MAUI**: West Maui, Wailuku Distr, ʻĪao Valley, Nākalaloa Stream, lowland wet forest, naturalized, all size classes on mossy bounder along perennial stream, 570 m, 08 Apr 2021, *H. Oppenheimer H42101*.

Bignoniaceae

Tabebuia heterophylla (DC.) Britton **New island record**

Tabebuia heterophylla was reported as naturalized on Oʻahu, Maui, and Hawaiʻi (Imada 2019). Collections made of this species in Hanalei and Kōloa document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Hanalei, beginning of Princeville, private land, 195 m, 22.181111, -159.45865, 12 Dec 2022, *A.M. Williams AMW774* (PTBG); Kōloa, Kalāheo, SW side of Papalina Rd between Maka Rd and Pālama St, between golf course and road, 249 m, 21.918925, -159.525422, 16 Oct 2019, *T. Flynn 9008* (PTBG).

Bixaceae

Bixa orellana L. **Extirpation**

Bixa orellana was published as naturalized on Kauaʻi, Oʻahu, Molokaʻi, and Maui (Wagner *et al.* 1990), but it appears that none of these populations (if they ever were naturalized) have persisted to the present. Although extirpated in the wild, it remains in cultivation.

Boraginaceae

Lappula occidentalis (S.Watson) Greene
var. ***occidentalis*** **Questionable naturalization**

Lappula occidentalis var. *occidentalis* is a temperate annual or biennial species native to North and South America. In North America it grows primarily from the Midwest to the West Coast and has been found naturalized in parts of the East Coast (POWO 2025). A collection made in Haleakalā National Park near the visitor center shows that the species is adventive in Hawaiʻi, as only a single individual was observed.

Material examined. **MAUI**: Haleakalā National Park, visitor's center, near parking lot, 2965 m, 2293018N, 786368E, 24 May 2014, *F. Starr & K. Starr 140502-01*.

Myosotis latifolia Poir. **Nomenclatural note**

Myosotis azorica H.C.Watson was published as naturalized on Maui by Starr *et al.* (2008). In 2024, the single naturalized specimen (*Starr et al. 060509-01*) documenting this naturalization was redetermined as *M. latifolia* by H. Schaefer (TUM). In addition, all cultivated specimens of *M. azorica* were similarly redetermined. Therefore, *M. azorica* is no longer known from Hawaiʻi.

Brassicaceae

Brassica juncea (L.) Czern. **New island record**

Brassica juncea was reported as naturalized on Hawaiʻi (Imada 2019). Collections of this species made in Wailua and Kalāheo document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Wailua, roadside at Wailua Golf Course, E side of hwy, 1 mile south of KCCC, 07 Mar 1990, *L. Hume 493* (PTBG 3369, 3370); Kalāheo, near intersection of Waha and Niho Rds, growing at edge of cane field, 19 Mar 1984, *T. Flynn 808* (PTBG).

Cardamine hirsuta L. **New island record**

Previously documented as naturalized on Kauaʻi and Hawaiʻi (Wagner *et al.* 1990), collections of *Cardamine hirsuta* from Palikea Trail document its naturalization on Oʻahu. Thousands of plants were seen forming dense colonies in the shady, moist understory.

Material examined. **Oʻahu**: Palikea Trail, 1.5 km N of trailhead, mixed native–invasive forest, locally abundant in moist, shady understory, 876 m, 21.414340, -158.099838, 01 Jul 2023, *K. Faccenda 3226.*

Rorippa sarmentosa (G.Forst. ex DC.)
J.F.Macbr. **Correction**

Rorippa sarmentosa was published as occurring "on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi" by Wagner *et al.* (1990: 412; as *Nasturtium sarmentosum*); however, no specimens have been found to substantiate its occurrence on the island of Molokaʻi.

Bromeliaceae

Tillandsia juncea (Ruiz & Pav.) Poir. **New island record**

Tillandsia juncea was reported as possibly naturalized on Oʻahu (Imada 2019). Collections from Kōloa now document its naturalization on Kauaʻi, where it escaped from cultivation and spread onto nearby trees.

Material examined. **KAUAʻI**: Kōloa, Lāwaʻi, National Tropical Botanical Garden, McBryde Garden, near Bamboo Bridge shed, 40 m, 21.5414, -159.3027, 19 May 2010, *D.H. Lorence 10195.*

Tillandsia polystachia (L.) L. **New island record**

Tillandsia polystachia was previously recorded as naturalized on Oʻahu (Imada 2019). Collections from Lāwaʻi now document its naturalization on Kauaʻi, where it is forming substantial colonies in canopies of *Ficus* and *Dracena*.

Material examined. **KAUAʻI**: Kōloa Distr, Lāwaʻi Valley, Allerton Estate, NE side of Diana Fountain, cultivated plant spreading locally, 26 Jul 2007, *T. Flynn & A.L. Vernon 7350*; Lāwaʻi, west of old Japanese cemetery off of Haʻilima Rd, below Marjorie's Kauaʻi Inn Bed and Breakfast, 159 m, 21.915000, -159.502964, 28 Apr 2014, *D.H. Lorence & G. Lorence 10452.*

Cactaceae

Selenicereus costaricensis (F.A.C.Weber)
S.Arias & N.Korotkova ex Hammel **Correction**; **taxonomic note**

Selenicereus costaricensis was published as naturalized by Lorence *et al.* (1995), but presents two issues. First, the specimen's label notes that the plant is cultivated. Second, the specimen (*Flynn 3571*) has been annotated as *S. trigonus* (Haw.) Stafford by B. Leuenberger in the year 2000. This species should be removed from the naturalized flora, as there is no evidence of naturalization and no further observation or collections of it have been made.

Selenicereus undatus (Haw.) D.R.Hunt **Corrections**

Selenicereus undatus (as *Hylocereus undatus*) was reported as cultivated on "all the main islands" by Wagner *et al.* (1990: 419). There is no evidence it ever occurred on Kahoʻolawe, as no specimens or literature reports outside of the *Manual* exist (Warren *et al.* 1994). In addition, no specimens or citizen science records substantiate its naturalization on Molokaʻi, and Wichman & St. John (1990) mention that it is found on Niʻihau only in cultivation.

Campanulaceae

Cyanea elliptica (Rock) Lammers **New island record**

[Syn. *Delissea molokaiensis* H.St.John]

Cyanea elliptica was previously reported from Lānaʻi and Maui (Wagner *et al.* 1990). It is now also known from Molokaʻi, based on type specimens of *Delissea molokaiensis* H.St.John from Pīpīwai Gulch, which were later re-annotated as *Cyanea elliptica* by T.G. Lammers in 1991 (Lammers 2005).

Material examined. **MOLOKAʻI**: Pīpīwai Gulch to Lelemākō Gulch, near ridgetop on cliff face, 490 m, 27 Oct 1979, *S. Perlman 502* [3 sheets]; no locality, *C.N. Forbes s.n.* (BISH 444267).

Hippobroma longiflora (L.) G.Don **Correction**

Hippobroma longiflora was reported as naturalized on Maui by Wagner *et al.* (1990), but no specimens or citizen science records could be found to substantiate its occurrence on the island.

Wahlenbergia gracilis (G.Forst.) A.DC. **New island record**

Wahlenbergia gracilis was previously reported as naturalized on Molokaʻi, Lānaʻi, Maui, and Hawaiʻi (Imada 2019). Collections of this species from an isolated group of three plants next to the training buildings at Schofield Barracks document its naturalization on Oʻahu.

Material examined. **Oʻahu**: Schofield Barracks, West Range, Kolekole Range, next to training building, 1500 m, UTM 592067, 2376145, 19 Jun 2019, *J. Beachy & K. Kong USARMY 516.*

Cannabaceae

Trema orientale (L.) Blume **Correction**

Wagner *et al.* (1990: 1296; as *Trema orientalis*) noted that *Trema orientale* was "cultivated on many of the main islands and naturalized in dry disturbed areas, 30–190 m, at least on Kauaʻi and Molokaʻi," which Imada (2019) interpreted as Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, Maui, and Hawaiʻi. However, no planting records (Skolmen 1980), specimens, or citizen science records could be found to substantiate its naturalization on Lānaʻi.

Caryophyllaceae

Atocion armeria (L.) Raf. **Eradication**

Atocion armeria was found by Starr & Starr (2012; as *Silene armeria*) naturalizing as a roadside weed in Olinda, East Maui in 2011, but the population has since disappeared (Forest Starr, pers. obs.). It should no longer be considered naturalized.

Cerastium fontanum Baumg.

subsp. ***vulgare*** (Hartm.) Greuter & Burdet **Taxonomic note**, **correction**

Cerastium fontanum subsp. *triviale* was reported as naturalized by Wagner *et al.* (1990), but this name is now considered a synonym of *C. fontanum* subsp. v*ulgare* (Weakley & Southeastern Flora Team 2025). This taxon is no longer known from Oʻahu, as all material at BISH has been reidentified as *C. glomeratum.*

Cerastium glomeratum Thullier **New island records**

Cerastium glomeratum was reported as naturalized on Kuaihelani (Midway Atoll), Oʻahu, and Maui (Imada 2019; Faccenda 2024b). Collections made at Kalaupapa and Kalaʻe document its naturalization on Molokaʻi, and collections in Hāmākua and Puʻuwaʻawaʻa document its naturalization on Hawaiʻi.

Material examined. **Molokaʻi**: Kalaupapa, top of trail restoration site, near cultural signage, 550 m, 03 Feb 2006, *M.L. Wysong 873*; Kalaʻe, golf course fairway, 22 Apr 1985, *R. Hobdy 2365*. **Hawaiʻi**: Hāmākua Distr, Kalaniai Rd, 1 km from Hwy 19, 359 m, 20.054118, -155.421904, 06 Mar 2022, *K. Faccenda 2345*; North Kona, Puʻuwaʻawaʻa, 1,219 m, 17 Sep 1936, *E.Y. Hosaka 1619.*

Sagina procumbens L. **New island record**

Sagina procumbens was reported as naturalized on Kuaihelani (Midway Atoll), Lānaʻi, and Maui (Imada 2019). Collections made along the driveway of the Volcano Golf and Country Club subdivision document its naturalization on Hawaiʻi.

Material examined. **HAWAIʻI**: Volcano Golf and Country Club subdivision, 99-1884 Pukeawe Circle, driveway, 30 May 2023, *F.R. Warshauer 7050.*

Schiedea diffusa A. Gray subsp. ***diffusa*** **New island record**

The endemic *Schiedea diffusa* subsp. *diffusa* was reported as naturally occurring on Molokaʻi and Maui (Imada 2012). Collections of this species made in Kohala now document its presence on Hawaiʻi.

Material examined. **HAWAIʻI**: Kohala Mts, Waimea, Sep 1911, *C.N. Forbes 484.H*; North Kohala, Kahuā, Puʻu Pili, 1400 m, 01 Oct 2021, *J. VanDeMark 53.*

Cleomaceae

Cleome houtteana Schltdl. **Questionable naturalization**

Native to South America (POWO 2025), *Cleome houtteana* is an annual cultivated on Oʻahu since at least 1939 (*M.C. Neal 1179*). A collection of this species made along the shore of Lake Wilson where water had receded document its presence on Oʻahu. This should be considered a questionable naturalization, as the population size is not provided on the specimen label.

Material examined: **Oʻahu**: Shores of Lake Wilson, 12 Jul 1992, *E. Funk s.n.* (BISH 767438).

Cleome rutidosperma DC. **New island record**

Cleome rutidosperma was previously reported as naturalized on Oʻahu (Faccenda 2024a), but is now also known from Maui, where a single plant was found along a roadside in Kīpahulu. An iNaturalist observation from Hāna shows a population in that area. (https://www.inaturalist.org/observations/266030062).

Material examined. **MAUI**: Haleakalā National Park, Kīpahulu section, roadside outside visitor center, sunny, wet area, 1 plant seen, flower purple, 44 m, 20.661294, -156.046406, 19 Sep 2023, *K. Faccenda & K. Akamine 3236.*

Convolvulaceae

Calystegia soldanella (L.) R.Br. ex Roem. & Schult. **New state record**

Calystegia soldanella is native to many coastal ecosystems across the globe (POWO 2025). Collections made from Turtle Beach on Sand Island document the first record of this species on Kuaihelani (Midway Atoll). It likely floated to the island naturally.

Material examined. **Kuaihelani** (**Midway Atoll**): Sand Island, Turtle Beach, 3 m, 28.215514, -177.3678, 25 Jun 2022, *F. Starr et al. Starr-220625-22.*

Camonea umbellata (L.) A.R.Simões & Staples **New island record**

Camonea umbellata was previously reported as naturalized on Oʻahu (Imada 2019). Collections made in Keaʻau document this species on Hawaiʻi, where it was found on the edges of macadamia nut fields.

Material examined. **HAWAIʻI**: Puna, Keaʻau, Puna Sugar Co. [probably cultivated], 04 Mar 1964, *R. Kami s.n.* (BISH 47739, 776049); Keaʻau, borders of macadamia nut fields, 05 Feb 1996, *D.M. Westcott s.n.* (BISH 777974).

Cuscuta sandwichiana Choisy **New island record**

The published native range of *Cuscuta sandwichiana* spans seven of the eight main Hawaiian Islands (Imada 2012). Collections made of this species at ʻAleʻale now extend its native range to include Kahoʻolawe.

Material examined. **KAHOʻOLAWE**: ʻAleʻale, 30 m, 11 Mar 1996, *K.R. Wood et al. 5046* (PTBG).

Ipomoea littoralis Blume **Correction**

Ipomoea littoralis was noted as occurring "on Oʻahu, Molokaʻi, Maui and also reported by Hillebrand (1888) from Hilo Hawaiʻi" by Wagner *et al.* (1990: 557), but no specimens could be found to substantiate its occurrence on Molokaʻi.

Ipomoea tuboides O.Deg. & Ooststr. **Correction**

Ipomoea tuboides is listed as occurring on "all of the main islands" by Wagner *et al.* (1990: 560), but no specimens are known from Niʻihau, nor is it reported from there by Wichman & St. John (1990).

Poranopsis paniculata (Sweet) Roxb. **New island record**

Poranopsis paniculata was reported as naturalized on Kauaʻi, Maui, and Hawaiʻi (Imada 2019; Brock *et al.* 2023). Collections made in Nuʻuanu, Heʻeia, and Haleʻiwa document the naturalization of this species across Oʻahu.

Material examined. **Oʻahu**: North Shore, Leftover's, parking lot, 21.6283763, -158.0737973, 29 Nov 2020, *S. Ching Harbin 20201129-01*; lower Nuʻuanu, Nuʻuanu Stream, 21.1932, -157.5044, 20 Dec 2014, *G. Staples 1615*; Heʻeia State Park, 27 Jan 2007, *A. Lau s.n.* (BISH 725988).

Cucurbitaceae

Momordica charantia L. **Correction**

Momordica charantia was reported as naturalized on "all of the main islands" by Wagner *et al.* (1990: 572). However, there is no evidence that it ever occurred on Kahoʻolawe, as no specimens or literature reports outside of the *Manual* exist (Warren *et al.* 1994).

Sicyos erostratus H.St.John **Correction**

This species was reported as occurring on Oʻahu by Wagner *et al*. (1990); however, the specimen (*Gagne 671*) has now been redetermined as *S. pachycarpus* by MKT, making *S. erostratus* only known from Molokaʻi.

Sicyos herbstii (H.St.John) I.Telford **Correction**

Wagner *et al.* (1990: 577) recorded *Sicyos herbstii* from leeward Kauaʻi, but also noted that "a single collection from Molokaʻi may also represent this species." This Molokaʻi specimen could not be located, and has presumably been reidentified; therefore, its possible presence on Molokaʻi should be removed.

Sicyos pachycarpus Hook. & Arnott **Correction**

Sicyos pachycarpus was reported from "all of the main islands" by Wagner *et al.* (1990: 579), but no specimens from Niʻihau exist, nor is it mentioned by Wichman & St. John (1990).

Sicyos waimanaloensis H.St.John **New island record**

Sicyos waimanaloensis was reported as naturally occurring on Kauaʻi, Oʻahu, and Molokaʻi (Wagner *et al.* 1990). The holotype of *Sicyocarya protusa* H.St.John was determined to be *Sicyos waimanaloensis* by W.L. Wagner in 1995, expanding the range of this species to Lānaʻi.

Material examined. **LĀNAʻI**: Maunalei Gulch, on dry basalt, 152 m, 12 Apr 1938, *H. St. John et al. 18818.*

Cyperaceae

Carex meyenii Nees **Corrections**

Carex meyenii was reported as occurring on "all of the main islands, but no longer found on Kahoʻolawe" by Wagner *et al.* (1990: 1390). However, there is no evidence that it had ever occurred on Kahoʻolawe, as no specimens nor literature reports outside of the *Manual* exist (Warren *et al.* 1994). Similarly, there are no specimens from Niʻihau, nor is it mentioned from there by Wichman & St. John (1990).

Carex montis-eeka Hillebr. **New island record**

Carex montis-eeka was reported as occurring on Kauaʻi, Molokaʻi, and Maui by Wagner *et al.* (1990). Collections of this species made in South Hilo document its presence on Hawaiʻi.

Material examined. **HAWAIʻI**: South Hilo Distr, Upper Waiākea Forest Reserve, Power Line Rd, pole 27, transect 26, 2 miles S of junction with Saddle Rd, 1615 m, 21 Jul 1981, *R. Gustafson 2387*; Upper Waiākea Forest Reserve, 1,600 m, 23 Jun 1981, *J. Davis 537.*

Cyperus compressus L. **Correction**

Cyperus compressus was published as naturalized on Molokaʻi by Oppenheimer (2006) and Wood (2006), but all specimens (*Wood 9832; Oppenheimer H40402*) have since been reidentified as *C. polystachyos*.

Cyperus cyperinus (Retz.) Suringar **Corrections**

Cyperus cyperinus was first reported in Hawaiʻi by Wagner *et al.* (1990; as *Mariscus cyperinus*), where it was considered an indigenous species present on Kauaʻi, Oʻahu, and Molokaʻi. Critical examination of the specimens held at BISH found that this "species" (in the sense of Hawaiian botanists) is actually a hodge-podge of several different species, including *C. phleoides* and *C. fauriei.* No authentic *C. cyperinus* could be found in the BISH Hawaiian collection; as such, it should be removed from the Hawaiian flora.

Cyperus cyperoides (L.) Kuntze **Correction**

Cyperus cyperoides was reported from Hawaiʻi Island by Herbarium Pacificum Staff (1996), but the sole specimen (*Hosaka 1558*) has now been redetermined as *C. phleoides.* It is still known from Lānaʻi.

Cyperus esculentus L. **Correction**

The specimen of *Cyperus esculentus* (*Clarke et al. ESP 321*) cited by Wagner *et al.* (1990) for Kauaʻi was misidentified and actually represents *C. polystachyos*. *Cyperus esculentus* is now known only from Hawaiʻi Island.

Cyperus fauriei Kük. **New island record**

The range of the endemic *Cyperus fauriei* is now expanded to Maui, based on material formerly identified as *C. cyperinus*.

Material examined. **MAUI**: Kanaio Natural Area Reserve, soil pockets in ʻaʻā lava, above road, in remnant dry shrubland, uncommon, 549 m, 24 Dec 2002, *H. Oppenheimer & F. Duvall H20207*; Kanaio National Guard lower exclosure, 122 m, 31 Mar 2004, *F. Starr & K. Starr 040331-1*; Līhau Natural Area Reserve, dry ridge top, 460 m, 19 Mar 2025, *Z. Pezzillo & K. Faccenda 1119.*

Figure 2. *Cyperus iria* spikes from *Faccenda 3576.5*.

Cyperus iria L. **New state record**

Cyperus iria is now naturalized on Hawaiʻi Island, where it is scattered around Hilo. It was first discovered by Kyle Kashner on iNaturalist (https://www.inaturalist.org/observations/197767947). Hundreds of individuals were seen along road margins and at disturbed sites. This species is native to much of Africa, Asia, Australia, and the western Pacific, and has also naturalized across much of North and South America (POWO 2025). In China, its habitat is described as "forest margins, under shrubs or forests, grasslands by water, mountain slopes, along trails in valleys, river margins, wet places, paddy fields" (Dai *et al.* 2010). It is an especially serious weed in rice crops (Awan *et al.* 2022). This sedge is readily recognizable by its round, scarcely overlapping pistillate scales (Figure 2).

Material examined. **HAWAIʻI**: Pepeʻekeo, Old Māmalahoa Hwy & Kulaʻimano Homestead Rd, uncommon, 122 m, 19.829544, -155.096419, 07 Jul 2024, *K. Faccenda 3576.5*; University of Hawaiʻi at Hilo, greenwaste dumping area off Nowelo St, wet, sunny, disturbed site, 100 m, 19.70181, -155.084989, 27 Jan 2024, *K. Kashner s.n.* (BISH 797026).

Cyperus laevis R.Br. **New state record**

Cyperus laevis, an eastern Australian endemic, is now naturalized on Lānaʻi, where it is assumed to have been imported with hay from Australia, like many other Australian weeds unique to Lānaʻi. This is the first report of this species outside of its native range. This species was initially identified using the *Flora of New South Wales* (2025), after which photos were shared with Karen Wilson (NSW), who confirmed the identification. In New South Wales, *C. laevis* grows in forests, mostly in shady, moist situations (Flora of New South Wales 2025). This species differs from the closely related *C. gracilis* by not producing plantlets and having scales without conspicuous lateral veins, whereas *C. gracilis* is often proliferous, forming plantlets in the inflorescence, and having scales with conspicuous raised lateral veins.

Material examined. **LĀNAʻI**: Lopa Gulch, middle tributary, a few plants on rocky ledge along an intermittent stream, mixed with a clump of *Cymbopogon refractus*, 750 m, 20.809048, -156.859215, 26 Jun 2018, *H. Oppenheimer* & *K. Bogner H618009*; cultivated material from *H. Oppenheimer H618009*, 14 Dec 2018, *H. Oppenheimer & A. Palomino H121802*.

Cyperus melanospermus (Nees) Valck.Sur. **New state record**

Identified by Mark Strong (US), *Cyperus melanospermus* is now naturalized on Maui, where it was found at Puakea. It is native across Africa, Asia, Malesia, and Australia and has become naturalized in Fiji and Vanuatu (POWO 2025). It is most like *Cyperus brevifolius* but differs by having black achenes and culms 30–120 cm tall, whereas *C. brevifolius* has brown achenes and rarely surpasses 40 cm in height.

Material examined. **MAUI**: Hāna Distr, Puakea, near Hāna Hwy, in wet ground, 384 m, N 20° 48′, W 156° 07′, 22 Jun 2003, *H. Oppenheimer H603220*.

Cyperus pennatiformis Kük. var. ***pennatiformis*** **Correction**

Cyperus pennatiformis var. *pennatiformis* was noted as occurring "on Laysan, Kauaʻi, Oʻahu, Maui, and Hawaiʻi" by Wagner *et al.* (1990: 1421; *as Mariscus pennatiformis* subsp. *pennatiformis*); however, no evidence could be found to substantiate its occurrence on Hawaiʻi Island.

Cyperus pilosus Vahl **New island record**

Previously reported from Kauaʻi (Imada 2019), *Cyperus pilosus* is now known from Hawaiʻi, based on the collection of a single individual at the University of Hawaiʻi at Hilo campus. Given the weediness of this species, it is unlikely that this is the only individual present on the island and it is therefore considered naturalized, with more localities expected to be found with further fieldwork.

Material examined. **HAWAIʻI**: Hilo, University of Hawaiʻi at Hilo campus, green waste dump area off of Nowelo St across from Haleʻōhelo, disturbed, wet, sunny area, 1 plant seen, annual, 51 m, 19.701919, -155.085096, 09 Jul 2024, *K. Faccenda et al. 3589.*

Cyperus sesquiflorus (Torr.) Mattf. & Kük. subsp. ***sesquiflorus*** **New state record**

Cyperus sesquiflorus has been present in Hawaiʻi since at least 1987, but has historically been misidentified as *C. mindorensis* until recent fieldwork and iNaturalist observations showed that this species is widespread on Hawaiʻi Island around Hilo, with a population also in Volcano, where it is a weed of lawns, roadsides, and gardens. A voucher from Molokaʻi, where it is common in pastures, was identified by Mark Strong (US).

Figure 3. Inflorescence of *Cyperus sesquiflorus* subsp. s*esquiflorus* with secondary head visible on left.

Cyperus sesquiflorus is very similar to *C. mindorensis* in that they both have white heads, but *C. sesquiflorus* has pistillate scales with smooth keels and often produces smaller secondary heads below the main head, whereas *C. mindorensis* has small spines on its keels and rarely produces secondary heads (Figure 3). *Cyperus sesquiflorus* has a pantropical distribution, with POWO considering it native across its entire current range (POWO 2025). In China it is found in wet places along trails, river margins, and ditch margins from near sea level to 2000 m (Dai *et al.* 2010). Much of the literature regarding this species uses the synonyms *Kyllinga odorata* Vahl or *K. cylindrica* Nees.

Material examined. **MOLOKA‘I**: Lūpehu, naturalized and common in pastures, 330 m, 07 Nov 2007, *H.L. Oppenheimer H220719*. **HAWAI‘I**: Hilo, Hilo Veterans Cemetery, occasional in lawn, 53 m, 23 Jul 1996, *K.M. Nagata 4430*; University of Hawai‘i-Hilo, occasionally naturalized in Hilo and Puna lawns and roadsides, 06 Jul 1987, *L. Stemmermann 7175*; Hilo, University of Hawai‘i at Hilo campus, edge of volleyball court, mowed lawns, moist, sunny areas, common, 49 m, 19.701323, -155.082358, 09 Jul 2024, *K. Faccenda et al. 3587*; Hilo, Lahi St near Waiānuenue St, weed in lawn, common, 245 m, 19.711536, -155.130564, 07 Jul 2024, *K. Faccenda et al. 3575*.

Cyperus virens Michx. **New island record**

Cyperus virens was previously reported on Hawai‘i Island (Wagner *et al.* 1990). It has now also been found on Maui at Honokahua, where it was locally naturalized in a waste area and emerging in asphalt cracks, associated with *C. polystachyos* and weeds.

Material examined. **MAUI**: West Maui, Lāhainā Distr, Honokahua, 61 m, 19 Mar 2023, *H. Oppenheimer H32365*.

Figure 4. Inflorescence of *Fimbristylis complanata.*

Fimbristylis complanata (Retz.) Link **New state record**

Fimbristylis complanata is now naturalized along Kaūmana Drive near its intersection with Saddle Road, where thousands of plants were seen on sunny, wet roadsides in mowed and infrequently mowed areas. This species has a pantropical distribution, and POWO considers it to be native across most of the planet except for Fiji, where it was introduced (POWO 2025). In China it grows from wet places in valleys, grasslands, stream sides, open fields, slopes, ditches, swampy places, and along ravines from 100–3000 m (Dai *et al*. 2010). *Fimbristylis complanata* can be identified by being much larger than other *Fimbristylis* found in Hawai‘i, in addition to its trigonous (3 stigmas), white, tuberculate achenes (Figure 4).

Material examined. **HAWAI‘I**: Hilo, Kaūmana Dr & Nolemana St, annual, leaves flattened, central branch of most inflorescences bent, possibly due to wind, 571 m, 19.682886, -155.178572, 09 Jul 2024, *K. Faccenda et al. 3585.*

Schoenoplectiella triangulata (Roxb.) J.Jung & H.K.Choi **Nomenclatural note**

Schoenoplectiella mucronata was reported as naturalized on Maui and Hawai‘i (Strong & Wagner 1997; Oppenheimer & Pezzillo 2024). However, specimens from a recently returned loan were annotated by Eisuke Hayasaka (FUK) as *S. triangulata*. Using the key in Ohwi (1984), all Hawaiian holdings formerly identified as *S. mucronata* were found to match *S. triangulata*.

Schoenoplectus californicus (C.A.Mey.) Palla **Correction**

Schoenoplectus californicus was noted by Wagner *et al.* (1990: 1431) as occurring on "all of the main islands except Kahoʻolawe," yet no records could be found to substantiate its occurrence on Lānaʻi.

Schoenoplectus tabernaemontani (C.C.Gmel.) Palla **New island record**

Schoenoplectus tabernaemontani was recorded as indigenous on Niʻihau, Kauaʻi, Oʻahu, Molokaʻi, and Hawaiʻi (Imada 2012). Collections made in ʻĪao Valley now document its presence on Maui.

Material examined. **MAUI**: West Maui, Wailuku, ʻĪao Valley, in open, swampy, muddy ground, 542 m, 02 Apr 2014, *H.L. Oppenheimer et al. H41402.*

Dennstaedtiaceae

Hypolepis dicksonioides (Endl.) Hook. **New state record**

Hypolepis dicksonioides is now naturalized at Palikea, Oʻahu; Haleakalā, Maui; and is widespread on Hawaiʻi above 1000 m. This species is native to Norfolk Island, Kermadec Islands, New Zealand, Samoa, Tahiti, and the Marquesas Islands, and is apparently adventive in southwestern Australia (Flora of Australia 2024). It is unclear how it first arrived in Hawaiʻi. *Hypolepis dicksonioides* has a high weed risk assessment in Hawaiʻi and has been observed to colonize areas infested with gorse (*Ulex europaeus*) above 1,500 m on Mauna Kea, as well as forest openings in the Hakalau Forest National Wildlife Refuge and at Kīlauea Iki in Hawaiʻi Volcanoes National Park. This species is easily differentiated from the endemic *H. hawaiiensis* by its large size (often over 2 m tall; see Figure 5), thick fiddleheads, and abundantly hairy stipes, rachises, and costae (see key).

1. Plants often 2 m or more tall (shorter in exposed, rocky areas); stipes and costae covered with abundant sticky hairs up to 5 mm long, young fronds densely hairy and sticky, mature fronds hairy, stipe base 1.5–2 cm diam.; sori often covered by a well-developed marginal flap (most apparent on young sori) ..... *H. dicksonioides*
1′. Plants typically 1 m tall (much shorter in var. *mauiensis*); stipes and costae with sparse short hairs up to 2 mm long (usually 1 mm long), young fronds sparsely to moderately hairy, mature fronds glabrous or glabrate (hairs may be present on rachis grooves), stipe base 0.4–0.8 cm diam.; marginal flap not as above ..... *H. hawaiiensis*

Material examined. **Oʻahu**: Palikea, on slope facing Honouliuli, southern Waiʻanae Mts, along fence line on border of thicket of *Psidium cattleianum,* 883 m, 21.41629, -158.099, *M.K. Thomas et al. 698*. **MAUI**: East Maui, Makawao Distr, Haʻikū Uka, Koʻolau Forest Reserve, Waiohiwi, several mature plants and numerous immature sporophytes observed, 902 m, 30 Jan 2024, *H. Oppenheimer & R. Henderson H12418*; *loc. cit.,* remote, overgrown location precludes any possibility this occurrence is or has been under cultivation, 840 m, 29 Jan 2024, *H. Oppenheimer et al. H12415.* **HAWAIʻI**: Puna, Kahaualeʻa, Nalehua Rd, 19.443892, -155.177377, 1,000 m, 20 Apr 2022, *K. Lynch s.n.* (BISH 783666, 783667); Puna, Keauhou, forest belonging to Jeff McCall, Haunani Road, 1,230 m, 19.44526, -155.246, 13 Apr 2022, *K. Lynch s.n.* (BISH 783665, 783668, 783669); Puna, Hawaiʻi Volcanoes National Park, 1,250 m, 19.429125, -155.260232, 19 Apr 2022, *H. Quintana & K. Lynch s.n.* (BISH 783673, 783674); cultivated at Kay Lynch's nursery, wild sporeling collected from forest land of Jeff McCall's flower farm, 1,219 m, 20 Apr 2021, *K. Lynch s.n.* (BISH 782295).

Figure 5. *Hypolepis dicksonioides* habit in the Kahuku unit of Hawai‘i Volcanoes National Park. These plants are over 3 m tall.

Hypolepis hawaiiensis Brownsey

var. ***hawaiiensis*** **Correction**

Hypolepis hawaiiensis var. *hawaiiensis* was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lāna‘i.

Microlepia setosa (Sm.) Alston

var. ***mauiensis*** (W.H.Wagner) M.K.Thomas **New island record**

Microlepia setosa var. *mauiensis* was previously only reported from Hawai‘i, Maui, and O‘ahu (Palmer 2003; Imada & Kennedy 2020). Though there is a continuum of hairiness in *Microlepia setosa*, a Kaua‘i specimen from Wai‘oli matches the variation found on Hawai‘i and Maui and is indistinguishable from the O‘ahu population. In his protologue of the taxon, W. H. Wagner stressed the importance of a zig-zag rachis, but this feature has been found to be variable and sometimes appears on typical *M. setosa*.

Material examined. **KAUA‘I**: Wai‘oli Valley, hanging gulch above main waterfall, N-facing slope of Nāmolokama, growing in patches on low slopes between drainages, exceptionally hairy, 833 m, 22.151149, -159.498941, 09 May 2022, *S. Deans & S. Heintzman KP05092202*.

Figure 6. *Drosera burmanni* habitat.

Droseraceae

Drosera burmanni Vahl **New naturalization**

Drosera burmanni is native to tropical and subtropical Asia, Australia, and the West Pacific (POWO 2025). Collections from the junction of Stainback Hwy and Kūlani Road on Hawaii Island document the second naturalization of this species outside of its native range, besides Florida (https://www.inaturalist.org/observations/106696665). Over 100 plants were growing from a sunny, boggy, frequently mowed roadside (Figure 6) during a brief visit to the site in 2024, although the area was not surveyed thoroughly. The plants were feeding on *Wasmannia auropunctata* (little fire ants). This species was surely imported as a horticultural plant, although there are no specimens at BISH, nor is this mentioned in Staples & Herbst (2005).

Material examined. **HAWAIʻI**: Intersection of Stainback Hwy and Kūlani Rd on open roadside, 515 m, 19.3557, -155.0812, 08 Dec 2022, *A.V. Freire & E.J. Judziewicz 2022-975*; Mountain View, intersection of Stainback Hwy and Kūlani Rd, 516 m, 19.599114, -155.136573, 06 Jan 2024, *K. Faccenda & E. Judziewicz 3280.*

Dryopteridaceae

Dryopteris crinalis (Hook. & Arn.) C.Chr. var. ***crinalis*** **Correction**

Dryopteris crinalis var. *crinalis* was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Dryopteris mauiensis C.Chr. **Correction**

Dryopteris mauiensis was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Euphorbiaceae

Codiaeum variegatum (L.) Blume **New naturalization**

Codiaeum variegatum is native from the Philippines to Malesia to Queensland and Melanesia, and has naturalized in scattered location across the tropics (POWO 2025). Collections of this species made in the southern Koʻolau Range document its naturalization on Oʻahu, where scattered plants are found in moist to wet, shady understories in invasive-dominated forests. How it is dispersing to these locations, many hundreds of meters away from houses, is unclear. Seedlings are found in association with the mature naturalized individuals. *Codiaeum variegatum* has been cultivated in Hawaiʻi since at least 1926 (*Ball 26*) and is still widely found in modern gardens.

Material examined. **Oʻahu**: Southeast Koʻolau Mts, Kuluʻī Gulch, 2 trees, 200 m, 21.297658, -157.748762, 15 Dec 2021, *M.K. Thomas et al. 208*; Kailua, 209 Oneawa Kai Pl, seedlings appearing next to cultivated plants, 21.24 N 157.44 W, 10 Oct 1999, *G. Staples 1188*; Waimānalo, Maunawili Contour Trail, 132 m, 21.345406, -157.747505, 21 Feb 2025, *K. Arthur et al. 69*; Pālolo Valley, 290 m, 21.311956, -157.776922, 13 Jan 2025, *K. Arthur & K. Faccenda 9.*

Croton glandulosus L. var. ***lindheimeri*** Müll.Arg. **New state record**

Croton glandulosus var. *lindheimeri* is native from Kansas to northern Mexico (POWO 2025). Collections of this species made at Puʻu o Hoku Ranch document its naturalization on Molokaʻi. The population size or extent of this naturalization is unclear. This appears to be the first report of this variety outside of its native range, although other varieties have naturalized in Australia and Indonesia (POWO 2025).

Material examined: **Molokaʻi**: Puʻu o Hoku Ranch, 17 May 2005, *F. Starr & K. Starr 050517-12.*

Euphorbia celastroides Boiss. var. ***amplectens*** Sherff **Correction**

Wagner *et al*. (1990: 606) reported *Euphorbia celastroides* var. *amplectens* (as *Chamaesyce celastroides* subsp. *amplectens*) as present on "all of the main islands," but there are no specimens nor evidence in the literature that it occurred on Niʻihau (Wichman & St. John 1990).

Euphorbia heterophylla L. **Correction**

Euphorbia heterophylla was reported as naturalized on "all of the main islands except Molokaʻi" by Wagner *et al.* (1990: 619). There is no evidence it ever occurred on Kahoʻolawe, as no specimens or literature reports outside of the *Manual* exist (Warren *et al.* 1994).

Euphorbia hypericifolia L. **New island record**

Euphorbia hypericifolia is now known from Kahoʻolawe. It has previously been reported from Kure, Kuaihelani (Midway Atoll), French Frigate Shoals, and all the main islands except Niʻihau and Kahoʻolawe (Wagner et al. 1990; Oppenheimer 2003).

Material examined. **Kahoʻolawe**: Upper Hakioawa, near outplantings, lowland scrub with *Dodonaea viscosa*, 290 m, 754,155 e, 2,277,356 N, 12 Dec 2015, *F. Starr & K. Starr 151212-01.*

Euphorbia hyssopifolia L. **Correction**

Euphorbia hyssopifolia was reported as naturalized on Kahoʻolawe by Starr & Starr (2017), but was based on a misidentification of *E. hypericifolia* (see above).

Euphorbia maculata L. **Correction**

Euphorbia maculata was reported as naturalized on Kure by Wagner *et al.* (1990); however, all specimens have been redetermined as *E. serpens* (see below).

Euphorbia serpens Kunth **New island record**

Euphorbia serpens was previously documented as naturalized on Kuaihelani (Midway Atoll), Kauaʻi, Oʻahu, and Maui (Imada 2019; Ross & Faccenda 2023). Collections from Green Island around the LORAN buildings document its naturalization on Kure Atoll.

Material examined. **KURE**: Around LORAN buildings, common prostrate herb, 04 Jan 1979, *D.R. Herbst 6286;* [no locality], Aug 1993, *DLNR staff s.n*. (BISH777908)*;* Around houses, 03 Jan 1979, *C. Corn s.n.* (BISH667495).

Fabaceae

Acacia cincinnata F.Muell. **New naturalization**

Acacia cincinnata is now naturalized in Hawaiʻi, as a sizable patch of over 100 mature trees intermixed with *Acacia koa* was discovered in May 2024 by Bishop Museum botanists. Plants of all life stages were found, with mature trees producing seedlings and abundant root suckers along an eroded section of ridgeline west of the Mānana Trail. It was later discovered that in 1991 an experimental planting of 12 *Acacia* species was done in Waiʻawa, Oʻahu (Cole *et al.* 1996), which is the next major valley over from the recorded naturalization site. It is hypothesized that these trees originated from the 1991 planting, as this species is not mentioned in the planting lists of Skolmen (1980). The young trees may resemble *Acacia mangium*, but can be differentiated by following key.

1. Branch tips weakly angular/winged; phyllode tips acuminate; fruit 5–6 mm wide and tightly spiraled, resembling radiatori pasta ..... *A. cincinnata*
1′. Branch tips conspicuously angled/winged; phyllode tips broadly acute; fruit less than 3–6 mm wide and loosely coiled, resembling angel hair pasta ..... *A. mangium*

Material examined: **OʻAHU**: Ridge west of Mānana Trail, central Koʻolau Mts, growing in open scrubland on border of forest with *Acacia koa*, etc., 340 m, 21.437821, -157.936791, 20 May 2024, *M.K. Thomas 661.*

Albizia lebbeck (L.) Benth. **Corrections**

Wagner *et al.* (1990) reported *Albizia lebbeck* as naturalized on Hawaiʻi Island, but no specimens or citizen science records could be found to substantiate its naturalization on the island. Furthermore, this species was reported as naturalized on Kuaihelani (Midway Atoll) by Wagner *et al*. (1990), but both specimens at BISH are clearly labeled as cultivated and no naturalized plants were found during recent surveys (Starr & Starr 2008). *Albizia lebbeck* is now known as naturalized on Niʻihau, Kauaʻi, Oʻahu, Molokaʻi and Maui (Imada 2019).

Alysicarpus ovalifolius (Schumach.) J.Léonard **New state record**

While botanizing along Hanauma ridge near ʻIhiʻihilauākea, about 25 individuals of *Alysicarpus ovalifolius* were observed growing in dry rocky tuff. The native range for this

species is Africa and the Indian subcontinent, but it has been introduced to the southeastern U.S., Australia, and Taiwan (POWO 2025). It is known to grow in open pinelands and margins, roadsides, urban waste areas, and lawns (Ohashi 2023a). *Alysicarpus ovalifolius* can be most readily distinguished from the more common *A. vaginalis* by having loments that are non-septate and ridged at the joints, while those of *A. vaginalis* are septate and furrowed at the joints. Additionally, *A. ovalifolius* is an erect or ascending annual herb (Figure 7), while *A. vaginalis* is a sprawling or ascending perennial.

The following description is from the Flora of North America (Ohashi 2023a):

> "Herbs annual. Stems erect or ascending, usually much branched, sometimes woody at base, 20–100 cm, puberulent or pubescent, glabrescent. Leaves unifoliolate; stipules 5–20 mm; petiole 2–8 mm; leaflet blades: proximals usually orbiculate, elliptic, or oblong, distals often lanceolate, 1–10 × 0.6–3 cm, base subcordate, apex acute to emarginate and mucronulate, abaxial surface finely puberulent, with some hairs on veins. Inflorescences 6–20-flowered, terminal or leaf-opposed, usually racemes, sometimes panicles, usually 5–15 cm. Pedicels 1–2 mm. Flowers: calyx 5–6 mm, tube 1.5–2 mm, lobes valvate at base, narrowly triangular, 3–4 mm, acuminate; corolla orange-buff to reddish violet or pink, 5–6 mm. Infructescences lax, internodes longer than 1/2 loment length. Loments subterete, oblong or linear, 10–25 × 2 mm, much longer than calyx, margins straight, not constricted between segments, uncinulate-puberulent; segments (2–)4–6(–8), broadly oblong or quadrate, 2.5–4 mm, lateral surfaces coarsely reticulate, obscurely sculpted, ridged between segments, puberulent; septa without internal cross partitions, except sometimes present at distal joints. Seeds brown, oblong, 2 × 1 mm. 2n = 16."

Figure 7. *Alysicarpus ovalifolius* showing the erect to ascending habit. Inset showing non-septate loment.

KEY TO *ALYSICARPUS* IN HAWAIʻI (ADAPTED FROM OHASHI 2023a)

1. Loments ridged, without internal cross-partition between segments, sometimes with partitions distally; inflorescences laxly flowered; infructescences lax, internodes longer than 1/2 loment length; plants annual; stems much branched, erect or ascending .... *A. ovalifolius*

1′. Loments furrowed, with internal cross-partition between segments; inflorescences densely flowered; infructescences much crowded, internodes much shorter than loments; plants perennial; stems diffuse, ascending or sprawling ..... *A. vaginalis*

Material examined. **OʻAHU**: Honolulu, Hanauma Ridge, growing in dry rocky tuff with *Cynanchum gerrardii* and *Cenchrus ciliaris,* ca 25 plants seen, 80 m, 21.154696, -157.415830, 08 April 2024, *M.C. Ross 1988*.

Biancaea decapetela (Roth) O.Deg. **New island record**; **correction**

Biancaea decapetela was reported as naturalized on Niʻihau, Kauaʻi, Oʻahu, Lānaʻi, Maui, and Hawaiʻi (Imada 2019). Collections of this species made in a dry ʻauwai near old Hawaiian house sites in Kalamaʻula document its naturalization on Molokaʻi. No evidence in either the herbarium or Wichman & St. John (1990) substantiate its occurrence on Niʻihau.

Material examined. **MOLOKAʻI**: Kalamaʻula, dry ʻauwai near old Hawaiian house site, 244 m, 23 Jun 1927, *G.C. Munro 128.*

Calliandra haematocephala Hassk. **New naturalization**

Calliandra haematocephala is native to Bolivia (POWO 2025), but has been widely cultivated in Hawaiʻi since the 1800s (Staples & Herbst 2005). It is now escaping cultivation on Oʻahu near Schofield Barracks and Waimea Valley.

Material examined. **OʻAHU**: Schofield Barracks, East Range, near OISC's coqui site, ~10 plants observed, 304 m, 24 Feb 2005, *Oʻahu Invasive Species Committee OISC 001*; upper Waimea Valley, Drum Road, mixed disturbed wetland forest, Dec 2004, *K. Kawelo USARMY 7.*

Crotalaria juncea L. **Corrections**

Crotalaria juncea was published as naturalized on Kauaʻi, Oʻahu, Maui, and Hawaiʻi (Imada 2019), but only the Kauaʻi record appears to be truly naturalized. The Maui and Hawaiʻi reports appear to be adventive populations, based on examination of herbarium specimens, while the record from Oʻahu (*Sasakawa s.n*. BISH 457141) was likely cultivated.

Crotalaria longirostrata Hook. & Arn. **Correction**

Crotalaria longirostrata was reported on Hawaiʻi Island by Wagner *et al.* (1990), but no specimens or citizen science records could be found to substantiate its naturalization on that island.

Crotalaria trichotoma Bojer **New island record**

Crotalaria trichotoma was previously documented as naturalized on Maui (Imada 2019). A specimen collected from a large population at the Poamoho Research Station in Waialua, where over 500 plants were seen, documents its naturalization on Oʻahu.

Material examined. **OʻAHU**: Waialua, Poamoho Research Station, growing along dirt road leading to farm plots, 186 m, 21.322411, -158.530221, 29 Mar 2023, *M.C. Ross & K. Faccenda 1923*.

Ctenodon elegans (Schltdl. & Cham.)
D.B.O.S.Cardoso & A.Delgado **Taxonomic note**

Aeschynomene falcata (Poir.) DC. (syn. *Ctenodon falcatus* (Poir.) D.B.O.S.Cardoso, P.L.R.Moraes & H.C.Lima) was published as naturalized on Molokaʻi by Oppenheimer & Pezzillo (2024). However, examination of the specimens using the key in Rudd (1955), as well as the photographed types of both *C. falcatus* and *C. elegans*, revealed that all Hawaiian material is misidentified and corresponds to *C. elegans*, based on fruit size and shape.

Ctenodon paniculatus (Willd. ex Vogel)
D.B.O.S.Cardoso, P.L.R.Moraes & H.C.Lima **New island record**

Ctenodon paniculatus was previously documented as naturalized on Molokaʻi (Hughes 1995; as *Aeschynomene paniculata*). It has since been moved to the genus *Ctenodon* based on molecular evidence (Cardoso *et al.* 2020). Collections made from disturbed pastureland on Pōhākea Ranch in Kunia document its naturalization on Oʻahu.

Material examined. **Oʻahu**: Kunia, Pōhākea Ranch, disturbed pastures, 357 m, 21.27, -158.4, 25 Nov 2003, *S. Ching-Harbin et al. 027.*

Desmodium psilocarpum A.Gray **New state record**

The native range of *Desmodium psilocarpum* is Arizona, New Mexico, and northern Mexico, and it has also been reported as naturalized in Zimbabwe and Zambia (POWO 2025). This species is now also naturalized in North Kona on Hawaiʻi Island, and on Lānaʻi. On Lānaʻi it was found naturalized in a fenced area inaccessible to deer or sheep, where it had been mowed and resprouted. This species may have been accidentally imported with hay, as we could find no records of intentional introduction. This species is quite similar to *D. tortuosum* and would key to it in Wagner *et al.* (1990); as such, the following key is provided here to distinguish the two (adapted from Ohashi 2023b).

1. Loments 6–10 × 5–7 mm, sparsely pubescent ..... *D. psilocarpum*
1′. Loments 3.0–4.5 × 3.0–3.5 mm, densely uncinate pubescent ..... *D. tortuosum*

Material examined. **Lānaʻi**: SW end of Hiʻi Flats, near Kapohaku Gulch, 550 m, 3 Oct 2023, *H. Oppenheimer et al. H102301*. **Hawaiʻi**: Kona, Kamoa State Historical Park, 03 Sep 1985, *C. Corn* (BISH 668256); North Kona, Kailua-Kona, roadside, 6 m, 15 Jul 1984, *K.M. Nagata 2991.*

Grona heterophylla (Willd.) H.Ohashi
& K.Ohashi **New island record**

Grona heterophylla (syn. *Desmodium heterophyllum* (Willd.) DC.) was previously documented as naturalized on Maui, Hawaiʻi, and questionably on Molokaʻi (Imada 2019). Collections from the Kuilau Moalepe Trail document its naturalization on Kauaʻi, where it formed mats along the shaded portion of the trail.

Material examined. **Kauaʻi**: Kuilau Moalepe Trail, secondary vegetation in a mixed native-invasive forest, 220 m, 19 Apr 1997, *T. Flynn et al. 6124.*

Lathyrus oleraceus Lam. **New naturalization**

Lathyrus oleraceus, the domestic pea, has been found naturalized on the west slope of Mauna Kea, Hawaiʻi Island. This species was formerly called *Pisum sativum* L., but molecular evidence now places it in the genus *Lathyrus* (Rix *et al.* 2023). *Lathyrus oleraceus* is native to the Mediterranean and widely introduced across most of the world (POWO 2025).

Material examined. **HAWAI‘I**: W slope of Mauna Kea, outside of sandalwood enclosure, downslope of Pu‘u Lā‘au state cabin, 2255 m, 248964 E, 2192173 N, UTM zone 5Q, 1998, *S. Dougill s.n.* (BISH 778207); W slope of Mauna Kea, cinder mining area, Pu‘u Lā‘au, 2,258 m, 19.49 N, 155.35 W, 18 Dec 2000, *S. Dougill s.n.* (BISH 667716).

Leucaena leucocephala (Lam.) de Wit **New island record**

Leucaena leucocephala was documented as naturalized on Kuaihelani (Midway Atoll), Ka‘ula Rock, Ni‘ihau, Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, Maui, Kaho‘olawe, and Hawai‘i (Imada 2019). Collections made in 2007 now document its naturalization on Lehua. There were a few plants found on the outer crescent; the specimen plant was 1.75 m tall, with flowers and fruit.

Material examined. **LEHUA**: Outer crescent, 50 m, 04 Apr 2007, *K.R. Wood & J.F. Butaud 12325.*

Macrotyloma axillare (E.Mey.) Verdc. **New island record**

Macrotyloma axillare has previously been reported as naturalized on O‘ahu (Imada 2019). Collections made of this species made in Hāmākua now document its naturalization on Hawai‘i Island.

Material examined. **HAWAI‘I**: Hāmākua, Pōhakuloa, Ke‘āmuku, old pasture land, UTM 5 N215344 E2195122, 26 Jun 2021, *C. Morrison & P. Martin s.n.* (BISH 786323).

Mezoneuron kauaiense (H.Mann) Hillebr. **New island record**

Mezoneuron kauaiense was not reported from Lāna‘i in Wagner *et al*. (1990), but was later added in Wagner, Herbst, *et al*. (1999). We elaborate on this addition as follows: a single *Mezoneuron kauaiense* tree was discovered by botanist Joel Lau from Puhi‘elelū on Lāna‘i in October 1990 and had one living branch where a seed pod was collected before the tree died (Joel Lau, pers. comm). No herbarium specimen was made of this, however. The seeds were then planted at his residence in Mānoa, O‘ahu where the tree produced hundreds of seeds, some of which are now seed-banked at Lyon Arboretum.

Neltuma pallida (Humb. & Bonpl. ex Willd.) C.E.Hughes & G.P.Lewis **Correction**

Kiawe, formerly *Prosopis pallida*, was reported as occurring on Kuaihelani (Midway Atoll) by Wagner *et al*. (1990). However, this species had never naturalized there (Starr & Starr 2008) and there are no specimens documenting its naturalization.

Peltophorum pterocarpum (DC.) Backer ex K.Heyne **New island record**

Peltophorum pterocarpum was previously reported as naturalized on Kaua‘i (Imada 2019). A population of around 50 young trees 4–6 m tall at the Kahuku Training Area now document its naturalization on O‘ahu.

Material examined. **O‘AHU**: Ko‘olau Mts, Kahuku Training Area, 15 m, 21.69092, -157.97536, 30 Jun 2020, *K. Kawelo et al. USARMY 536.*

Pterocarpus indicus Willd. **Questionable naturalization**

Pterocarpus indicus has been cultivated in Hawai‘i since at least 1916 (*J.F. Rock s.n.*, BISH 55869) and is now showing signs of naturalization, as many seedlings were found

under a mature tree (unclear if the mature tree was planted or wild) around Schofield West Range. This species is often planted as a shade tree in Hawai‘i and was also used as a forestry planting (Staples & Herbst 2005). *Pterocarpus indicus* is native to Southeast Asia and the western Pacific and has been reported as naturalized in areas of Africa, Australia, and India (POWO 2025).

Material examined. **O‘AHU**: Schofield West, Trimble Road, 21.488852, -158.090113, 28 Nov 2011, *J. Beachy & K. Kawelo USARMY 242.*

Pueraria montana (Lour.) Merr. var. ***thomsonii*** (Benth.) M.R.Almeida **Taxonomic note**

In Wagner *et al*. (1990) two varieties of *Pueraria montana* (treated as *P. lobata* vars. *lobata* and var. *thomsoni*) were considered present in Hawai‘i, with *P. m.* var. *thomsonii* limited to Kaua‘i and *P. m.* var. *montana* as present on O‘ahu, Maui, and Hawai‘i. The identification of the Kaua‘i specimen was confirmed by van der Maesen (1985). Comparison to the Kaua‘i specimens of several fertile specimens collected after publication of the *Manual* suggests that *P. montana* var. *thomsonii* is the only variety currently present in Hawai‘i. However, as the majority of Hawaiian specimens are sterile and cannot be positively identified to variety, further collections may yet find *P. montana* var. *lobata* to be present in Hawai‘i. Only fertile material which can be confidently identified is cited below.

Material examined. **O‘AHU**: Pauoa Valley, roadside along cultivated field, 26 Sep 1925, *D. Topping* s.n. (BISH55880); **MAUI** Hana Distr., lower Nāhiku, Honoulunui, disturbed secondary wet forest, 19 Sep 2012, *H. Oppenheimer H91209*; Honomanu, Hana Hwy, side of road, lowland wet jungle, vine forming dense mats on steep wet valley wall, 10 Oct 2002, *F. Starr et al. 021012-1.*

Senna occidentalis (L.) Link **New island record**

Senna occidentalis was previously documented as naturalized on Ni‘ihau, Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i (Imada 2019). Collections made from a single colony in a gulch on the outer crescent of Lehua now document its naturalization on the island.

Material examined. **LEHUA**: Outer crescent, gulch E of camp, 70 m, 02 May 2009, *K.R. Wood & M. Query 13712.*

Senna surattensis (Burm.f.) H.S.Irwin & Barneby **New island record**

Senna surattensis was documented as naturalized on Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, and Maui (Imada 2019). Collections made on a road to the lighthouse at Kauhola Point now document its naturalization on Hawai‘i, where there is a well-established population.

Material examined. **HAWAI‘I**: Kohala, Hala‘ula, E of Kapa‘au, along road to lighthouse at Kauhola Pl, 26 Apr 2006, *C. Murray s.n.* (BISH 726209).

Stylosanthes guianensis (Aubl.) Sw. var. ***guianensis*** **New island record**

Stylosanthes guianensis var. *guianensis* was reported as naturalized on Kaua‘i and Moloka‘i (Imada 2019; Oppenheimer & Pezzillo 2024). Collections made in the Pāhole Natural Area Reserve along the Mokulē‘ia Trail now document its naturalization in the mesic forest. A population is also found in Makua-Ke‘eau Valley in dry, disturbed shrubland and pastureland near sea level, where its population is likely in the thousands (https://www.inaturalist.org/observations/82810727). Similarly, this species was also observed growing abundantly on the Ka‘ala road suggesting it is widely distributed in the northern Wai‘anae mountains.

Material examined. **O‘AHU**: Pāhole Natural Area Reserve, Mokulē‘ia Trail, 21.535749, -158.180141, 29 Feb 2024, *M.K. Thomas et al. 634.*

Vigna unguiculata (L.) Walp.
subsp. ***unguiculata*** **New naturalization**

Vigna unguiculata, commonly known as cow pea, is native to much of Africa and reported as naturalized in many parts of the world with a seasonally dry tropical biome (POWO 2025). Collections of this species made in Po‘ipū now document its naturalization on Kaua‘i, where it was rather common along roadsides. It has formerly been cultivated as a forage legume in Hawai‘i.

Material examined. **KAUA‘I**: Po‘ipū, 1 mile E of Makawehi Point, roadside at edge of cane field, 25 May 1988, *L. Hume et al. 346.*

Vigna vexillata (L.) A.Rich **Correction**

Vigna vexillata was published as naturalized on Kaua‘i by Wagner *et al.* (2012). The specimen (*Lorence 9071*) has since been redetermined as *Sigmoidotropis speciosa* based on its glabrous habit.

Geraniaceae

Erodium cicutarium (L.) L’Hér. **Note**

A recent collection of *Erodium cicutarium* in Kapolei marks the first documented occurrence of this species on O‘ahu in over a century. The last known collection was made by Charles Forbes in Kalihi Valley in 1909.

Material examined. **O‘AHU**: Kapolei, growing adjacent to abandoned railroad tracks in *Pithecellobium dulce–Cenchrus cilaris*-dominated scrub, dry, ca 15 m NW of FDR Ave, near intersection with Coral Sea Rd, ca 10 plants seen, 16 m, 21.194172, -158.328481, 11 Mar 2024, *M.C. Ross 1985.*

Erodium moschatum (L.) L’Hér. **New state record**

Erodium moschatum is native to the Mediterranean and has widely naturalized across the globe (POWO 2025). It is now naturalized both on Moloka‘i (where it was “rare”) and Maui, where plants were locally abundant (approximately dozens of plants were seen) on a disturbed roadside but not seen elsewhere in the neighborhood. Furthermore, the specimen referred to by Wagner *et al.* (1990) as “*Erodium* sp.” from Moloka‘i has been identified as *E. moschatum*. In California, this species is found in open, disturbed sites (Jepson Flora Project 2025). It differs from *E. cicutarium* by having glands on pits of the mericarp and less dissected leaves, while *E. cicutarium* lacks glands on pits of the mericarp and has more dissected leaves (Jepson Flora Project 2025).

Material examined. **MOLOKA‘I**: Kalama‘ulu Game Management Area, rare, 11 May 1992, *G.D. Hughes 40*. **MAUI**: Kula, corner of Ikea Dr and Old Kula Hwy, dry, disturbed weedy corner, roadside, 755 m, 20.790425, -156.325097, 11 Jun 2023, *F. Starr & K. Starr 230111-01.*

Gesneriaceae

Cyrtandra calpidicarpa (Rock) H.St.John & Storey × ***C. hawaiiensis*** C.B.Clarke. **New synonymy**

[= *Cyrtandra triens* H.St.John & Takeuchi]

Examination of the holotype of *Cyrtandra triens* by MKT suggests that it is a hybrid between *C. calpidicarpa* and *C. hawaiiensis.*

Cyrtandra calpidicarpa (Rock) H.St.John & Storey × ***C. propinqua*** C.N.Forbes. **New synonymy**

[= *Cyrtandra bishopii* H.St.John & Takeuchi]

[= *Cyrtandra triados* H.St.John & Takeuchi]

Examination of the holotypes of *Cyrtandra bishopii* and *C. triados* by MKT suggests that these are hybrids between *C. calpidicarpa* and *C. propinqua*.

Cyrtandra cordifolia Gaudich. × ***C. garnotiana*** Gaudich. **New synonymy**

[= *Cyrtandra pukeleensis* H.St.John & Takeuchi]

Examination of the holotype of *Cyrtandra pukeleensis* by MKT suggests that it is a hybrid between *C. cordifolia* and *C. garnotiana* Gaudich. It is also possible that the second parent is *C. grandiflora* instead of *C. garnotiana*.

Cyrtandra cordifolia Gaudich × ***C. grandiflora*** Gaudich. **New synonymy**

[= *Cyrtandra basirotundata* H.St.John & Takeuchi]

[= *Cyrtandra ovalis* H.St.John & Takeuchi]

[= *Cyrtandra rotundata* H.St.John & Takeuchi]

Examination of the holotype of *C. basirotundata, C. ovalis,* and *C. rotundata* by MKT suggests that these are hybrids between *C. cordifolia* and *C. grandiflora.* In the case of *C. ovalis,* it is also possible that the first parent is instead *C. macraei* instead of *C. cordifolia.* In the case of *C. rotundata*, it is also possible that the second parent is *C. garnotiana instead of C. grandiflora.*

Cyrtandra cordifolia Gaudich. × ***C. macraei*** A.Gray. **New synonymy**

[= *Cyrtandra wailupeensis* H.St.John & Takeuchi]

Examination of the holotype of *Cyrtandra wailupeensis* by MKT suggests that it is a hybrid between *C. cordifolia* and *C. macraei*. It is also possible that the second parent is *C. garnotiana* instead of *C. macraei*.

Cyrtandra garnotiana Gaudich. × ***C. propinqua*** C.N.Forbes. **New synonymy**

[= *Cyrtandra ovalifolia* H.St.John & Takeuchi]

Examination of the holotype of *Cyrtandra ovalifolia* by MKT suggests that it is a hybrid between *C. garnotiana and C. propinqua.*

Cyrtandra gracilis Hillebr. ex C.B.Clarke. × ***Cyrtandra paludosa*** Gaudich. **New synonymy**

[= *Cyrtandra piaensis* H.St.John & Takeuchi]

Examination of the holotype of *Cyrtandra piaensis* suggests that it is a hybrid between *C. gracilis* and *C. paludosa.* It is also possible that the first parent is *C. grandifolia* instead of *C. gracilis*.

Cyrtandra grandiflora Gaudich.
× ***C. laxiflora*** H.Mann. **New synonymy**
[= *Cyrtandra kamooaliiensis* H.St.John & Takeuchi]
[= *Cyrtandra kremnes* H.St.John & Takeuchi]
[= *Cyrtandra porosiflora* H.St.John & Takeuchi]
[= *Cyrtandra scapiflora* H.St.John & Takeuchi]
Examination of the holotypes of *Cyrtandra kamooaliiensis*, *C. porosiflora* and *C. scapiflora* by MKT suggests that these are hybrids between *C. grandiflora* and *C. laxiflora.* In the case of *C. kremnes*, it is also possible that the second parent is instead *C. garnotiana* instead of *C. laxiflora*.

Cyrtandra grandiflora Gaudich.
× ***C. sandwicensis*** (H.Lév.) H.St.John & Storey. **New synonymy**
[= *Cyrtandra tantalusensis* H.St.John & Takeuchi]
Examination of the holotype of *Cyrtandra tantalusensis* by MKT suggests that it is a hybrid between *Cyrtandra grandiflora* and *C. sandwicensis.*

Cyrtandra kalichii Wawra **New island record**; **extirpation**
Treated as an O‘ahu endemic by Wagner *et al*. (1990), two specimens of *Cyrtandra kalichii* were found in the BISH collection labeled as being from Moloka‘i. The Lydgate specimen is strange in that the locality is written on a scrap of lined paper rather than on the label, which is blank. It reads [in pencil] “Molokai, 1st exc. June 18 [no year] *Cyrtandra triflora* [and, in pen, different hand] *Cyrtandra kalichii* Wawra.” There are no other Lydgate specimens in the BISH database from Moloka‘i, which strongly suggests that Lydgate did not collect it. The Forbes specimen also bears an annotation by W.L. Wagner: “Island locality surely incorrect,” apparently based on the assumption that *C. kalichii* was an O‘ahu endemic. During the course of dredging the BISH database for new island records, no other cases of swapped Forbes labels were observed. Furthermore, there are 41 instances of species for which Forbes was the only observer on a particular island. While there has been doubt cast upon these records in the past, it seems most parsimonious to assume that this species was once on Moloka‘i but is now extirpated from there, as the odds of two separate collectors switching labels seems unlikely.

Material examined. **MOLOKA‘I**: 1st exc. Jun 18, *J.M. Lydgate s.n.* (BISH 702461); Mapulehu Valley, Jun 1912, *C.N. Forbes 308.Mo.*

Hydrangeaceae
Philadelphus karwinskyanus (Willd.) A.Gray **New island record**
Philadelphus karwinskyanus has previously been reported as naturalized on Kaua‘i and Maui (Imada 2019). It now also appears to be naturalizing at Waikoloa Stream on Hawai‘i, but it is unclear whether it is reproducing vegetatively or via seed.

Material examined. **HAWAI‘I**: Kamuela Town, Waikoloa Stream next to Waimea-Kawaihae Rd bridge, sparingly naturalized, 655 m, 20.01, -155.40, 23 Jul 2000, *D.R. Herbst 9876.*

Hydrocharitaceae
Elodea densa (Planch.) Casp. **Correction**
Elodea densa was published as naturalized on Moloka‘i by Wagner *et al.* (1990); however, no specimen has been found to substantiate its occurrence on the island.

Hymenophyllaceae

Crepidomanes draytonianum (Brack.) Ebihara & K.Iwats. **Correction**

Crepidomanes draytonianum was reported as occurring on all the main islands by Palmer (2003; as *Vandenboschia draytoniana*). However, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Hymenophyllum obtusum Hook. & Arn. **Correction**

Hymenophyllum obtusum was reported as occurring on Lānaʻi by Palmer (2003; as *Sphaerocionium obtusum*); however, no specimens or literature could be found to substantiate its occurrence on the island.

Hypoxidaceae

Curculigo capitulata (Lour.) Kuntze **New island record**

Curculigo capitulata was previously reported as naturalized on Kauaʻi (Imada 2019). A large population along ʻĀhuimanu Stream found during restoration work at the old Kahaluʻu loʻi complex now documents its naturalization on Oʻahu. Hundreds of plants were pulled out, but naturalized pockets along the stream bank and near houses remain extant. Hundreds of seedlings were seen germinating on concrete slabs, between buttress roots, and along stream banks. Evidently, some colonies of *C. capitulata* are more fertile or better pollinated than others, as another colony along the Judd Trail in Nuʻuanu was examined thoroughly and found to be entirely clonal, with no seedlings observed.

Material examined: **Oʻahu**: ʻĀhuimanu, within old loʻi complex near bridge along Hui Kelu St, 61 m, 21.431700, -157.838262, 27 Apr 2025, *M.K. Thomas 1047.*

Iridaceae **Nomenclatural note**; **new island record**

Neomarica candida (Hassl.) Sprague

Neomarica gracilis was published as an adventive on West Maui by Oppenheimer & Pezzillo (2024), and was also treated as occurring in cultivation in Hawaiʻi by Staples & Herbst (2005). This name, however, has been misapplied both in Hawaiʻi and worldwide to plants that are truly *N. candida* (Capallari 2000; Gil 2012). Keying out the Hawaiian plants places them all as *N. candida*; this species is further noted as cultivated in Hawaiʻi by Capallari (2000). The naturalized range of this species is also now expanded to Oʻahu. Besides the locality cited below, additional populations on Oʻahu have been observed by the authors on Tantalus.

Material examined. **Oʻahu**: Poamoho Stream, in limited locations along stream trail, 320 m, 18 Dec 2018, *T. Takahama s.n.* (BISH 775066).

Juncaceae

Juncus acuminatus Michx. **Corrections**

Juncus acuminatus was previously noted as naturalized on Oʻahu, Maui, and Hawaiʻi (Wagner *et al.* 1990; Frohlich & Lau 2020). All specimens from Oʻahu and Maui have now been redetermined as *J. prismatocarpus. Juncus acuminatus* now only occurs on Hawaiʻi Island.

Juncus ensifolius Wikstr. **Correction**

Juncus ensifolius was previously published as naturalized on Molokaʻi by Faccenda & Daehler (2024). The sole specimen has now been redetermined as *J. prismatocarpus.*

Juncus prismatocarpus R.Br.

subsp. ***prismatocarpus*** **New state record**

Juncus prismatocarpus is native to portions of East Asia through Australia, and naturalized in Great Britain and Mauritius (POWO 2025). This species was first noted as naturalized in Hawai‘i by Kirschner (2002). It is currently known from O‘ahu, Moloka‘i, Maui, and Hawai‘i, and is also apparently present on Kaua‘i, based on citizen science reports (https://www.inaturalist.org/observations/239841230). As this species is quite similar to *Juncus acuminatus* (and may grow side-by-side with it), a revised key to *Juncus* was prepared to aid in identification of this species.

Material examined. **O‘AHU**: Waimea Valley, Kamananui Stream, 21.629306, -158.041757, 03 Jun 2013, *A. Lau & D. Frohlich 2013060301*. **MOLOKA‘I**: Kamakou Preserve, 1,120 m, 21.117153, -156.912707, 28 Dec 2022, *K. Faccenda 2936.* **MAUI**: West Maui, Hana‘ula, S slope, along trail margin between pasture and forest, 1,220 m, 08 Mar 1988, *W.L. Wagner et al. 5859*; West Maui, Hana‘ula, 1,219 m, 24 May 1985, *R. Hobdy 2398.* **HAWAI‘I**: Hāmākua, Waimanu Valley, W side of valley, 45 m, 24 Sep 1988, *K.M. Nagata 3893*; North Kohala Distr, Hāwī, Parker Ranch, stock ponds near Kehena Reservoir, 731 m, 20.10 N, 155. 48 W, 08 Jun 1992, *A. Engilis Jr. & F.A. Reid 92-03*; Hawai‘i Volcanoes National Park, Hwy 11, 19.461981, -155.247976, 13 Aug 2022, *K. Faccenda 2663.*

KEY TO *JUNCUS* IN HAWAI‘I (ADAPTED FROM WAGNER *ET AL.* 1990)

1. Leaves bladeless; inflorescence appearing lateral on cylindrical stem
   2. Stems and leaf bases reddish brown to purple; pith solid; perianth equaling or longer than capsule ..... *J. effusus*
   2′. Stems and leaf bases dark brown; pith interrupted; perianth distinctly shorter than capsule ..... *J. polyanthemos*

1′. Leaves with well defined blades; inflorescence appearing terminal
   3. Flowers solitary or nearly so
      4. Annual; stems branched from base ..... *J. bufonius*
      4′. Perennial; stems unbranched from base ..... *J. tenuis*
   3′. Flowers clustered in glomules of >10
      5. Leaves only from basal rosette, red or purple-colored at base .... *J. planifolius*
      5′. At least some leaves cauline
         6. Branching equitant (leaves all in one plane), heads densely spherical, usually having >30 flowers; blades flattened ..... *J. ensifolius*
         6′. Branching not equitant, heads hemispheric, usually 10–20-flowered; blades flattened to round
            7. Septae of leaves complete, spanning entire width of leaf approximately every centimeter; leaves round or approximately so ..... *J. acuminatus*
            7′. Septae of leaves incomplete, uniformly distributed along length of leaf and not spanning entire leaf width; leaves flattened ..... *J. prismatocarpus*

Luzula hawaiiensis Buchenau

var. ***hawaiiensis*** **Correction**

Luzula hawaiiensis was noted as occurring on Lāna‘i by Wagner *et al.* (1990), but no specimens or citizen science records could be found to substantiate its occurrence on the island.

Lamiaceae

Coleus cylindraceus (Hochst. ex Benth.)
A.J.Paton **New island records**

Coleus cylindraceus was previously reported as naturalized on Hawai‘i Island (Imada 2019; as *C. montanus*). Now recent collections document the apparent naturalization of this species on O‘ahu and Maui. At Palehua, O‘ahu, *C. cylindraceus* was found in a fenced area a reasonable distance from the nearest garden, while at Pu‘u Māhoe, Maui, sprouting plants were collected possibly from discarded lawn trimmings.

Material examined. **O‘AHU**: Wai‘anae Mts, Palehua, 731 m, 21.23568, -158.61518, 14 Feb 2020, *M. Walker & L.S. Reynolds s.n.* (BISH 779152). **MAUI**: East Maui, Makawao, Pu‘u Māhoe, 725 m, 20.632722, -156.386359, 06 Mar 2015, *H. Oppenheimer H31503*.

Lamium amplexicaule L. **Correction**

Lamium amplexicaule was reported from Moloka‘i by Wysong *et al.* (2007), but the sole specimen (*Wood 10599 PTBG*) has since been reidentified as *Stachys arvensis*. It is no longer known from Moloka‘i.

Mesosphaerum suaveolens (L.) Kuntze **Correction**

Mesosphaerum suaveolens was published as naturalized on Lāna‘i by Oppenheimer & Pezzillo (2024); however, the specimen (*Oppenheimer et al. H112216*) was misidentified and is actually *M. pectinatum*. No other records of *M. suaveolens* are known from Lāna‘i.

Stenogyne angustifolia A.Gray **Correction**

Wagner *et al.* (1990) followed Hillebrand (1888) in reporting the presence of *Stenogyne angustifolia* on Moloka‘i. This record seems dubious, as Hillebrand described these as the “γ” variety, noting several differences from other islands and stating that it was found at Kalaupapa. As Wagner *et al.* (1990) noted that *S. angustifolia* occurs in subalpine habitats, a record from such a lowland area is highly suspicious. Hillebrand’s γ variety likely represents an extinct, undescribed species or a case of switched labels.

Lauraceae

Cinnamomum camphora (L.) J.Presl **Correction**

Cinnamomum camphora (camphor) was noted as occurring on Lāna‘i by Wagner *et al.* (1990), but no specimens or citizen science records have been found to substantiate its naturalization on the island.

Cinnamomum verum J.Presl **Corrections**

Cinnamomum verum was published as “cultivated and naturalized on Kaua‘i, O‘ahu, and Maui” by Wagner *et al.* (1990: 846), but no specimens or citizen science records could be found to substantiate its naturalization on the last two islands so it is best treated as only naturalized on Kaua‘i.

Figure 8. *Micranthemum glomeratum.* **A**, habit with dumped aquarium. **B**, closeup of plant.

Linderniaceae

Micranthemum glomeratum (Chapm.) Shinners **New naturalization**

Micranthemum glomeratum is endemic to Florida and has now become naturalized on Oʻahu in Nuʻuanu, at a dam at the Judd Trail trailhead, where a colony consisting of many unconnected colonies covered over 4 m^2. The majority of plants were found growing on the dam surface or spillway, where a thin film of water overflows down the dam. The DLNR Division of Aquatic Resources surveyed and found more unconnected populations downstream. The upstream section has not yet been surveyed. It is unclear whether this species is principally reproducing via fragmentation or by seed. This population was first detected by iNaturalist user Jon Ehrenberg (https://www.inaturalist.org/observations/164572314) and is further testament to the use of iNaturalist for early detection of new naturalizations.

This is the first report of *Micranthemum glomeratum* being naturalized anywhere in the world. While this species has not formally been recorded in cultivation in Hawaiʻi, we assume that this species was imported for use as an aquarium plant, as the related species *M. umbrosum* (J.F.Gmel.) S.F.Blake was observed for sale at PetCo in Honolulu in 2023. Furthermore, at the site of the naturalized *M. glomeratum*, both a dumped aquarium and hamster cage were observed submerged off of the dam. This species is similar to *Pilea microphylla* in habit and habitat, but differs in having opposite leaves, whereas *Pilea microphylla* has alternate leaves (Figure 8).

Material examined. **OʻAHU**: Nuʻuanu, in thin layer of running water at top of spillway near Judd Trail, colony covers approximately 2 m^2 as several unconnected colonies, 221 m, 21.347076, -157.821199, 08 Jun 2023, *K. Faccenda & M. Ross 3114.*

Torenia crustacea (L.) Cham. & Schltdl. **Correction**

Torenia crustacea was published as naturalized on Oʻahu by Wagner *et al.* (1990), citing *Hosaka 1321*, but that specimen is actually *Stellaria media*. No other specimens of *T. crustacea* from Oʻahu are known.

Lindsaeaceae

Lindsaea repens var. ***macraeana*** Hook. & Arn.) C.Chr. **Correction**

Lindsaea repens var. *macraeana* was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Lycopodiaceae

Huperzia erosa Beitel & W.H.Wagner **Correction**

Huperzia erosa was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Huperzia erubescens (Brack.) Holub **Taxonomic note**

Huperzia erubescens (Brack.) Holub and *H. somae* (Hayata) Ching are currently listed as separate taxa, according to Plants of the World Online (POWO 2025). No obvious differences could be found to separate the two when comparing descriptions and specimens; thus, they are viewed here as conspecific. Since *Huperzia erubescens* [as *Lycopodium erubescens* Brack. in U.S. Expl. Exped., Filic. 16: 320. 1854] has priority, *H. somae* [as *Lycopodium somae* Hayata, Icon. Pl. Formosan. 5: 255 (f.91). 1915] is treated here as a heterotypic synonym.

*"**Huperzia** × **erubescens*** W.H.Wagner" **Taxonomic note**

In 1854, *Lycopodium erubescens* Brack. was described from a collection made on Haleakalā, Maui during the U.S. Exploring Expedition of 1838–1842. Holub (1985) transferred the species to *Huperzia*, making the combination *Huperzia erubescens* (Brack.) Holub. Subsequently, W.H. Wagner *et al.* (1999) interpreted the type of *H. erubescens* as a hybrid between *H. haleakalae* (Brack.) Holub and *H. somae* (= *H. erubescens* (Brack.) Holub, sensu Palmer 2003). This taxonomic treatment by W. H. Wagner *et al.* (1999) was erroneously interpreted as publishing the name "*Huperzia* × *erubescens* W.H.Wagner" by Palmer (2003), who then included the name in his flora. This name is not validly published (Turland *et al*. 2018: Art 50.1) and must be abandoned from any future floras. Furthermore, the isotype of *Lycopodium erubescens* Brack. at BISH was examined by the late pteridologist Daniel Palmer in 1991, who had reviewed the spores and concluded that the plant was not a hybrid, making the hybrid combination "*Huperzia* × *erubescens*" doubly unnecessary.

Huperzia haleakalae (Brack.) Holub **Correction**

Huperzia haleakalae was collected during the U.S. Exploring Expedition, under the command of Captain James Wilkes, in the 1840s. William Brackenridge and other botanists were sent to collect specimens on Maui, where they climbed Haleakalā. Immediately afterward, they returned to Honolulu on a smaller vessel to meet up with the main ship, which continued on to the island of Hawaiʻi for collecting on Mauna Kea and Mauna Loa. After leaving Hawaiʻi, Wilkes and his crew set off immediately for British Columbia. The problem is that *H. haleakalae* has only been attributed to the Hawaiian Islands by one specimen—the type specimen—and has never since been collected there. This sole col-

lection was distributed to two herbaria: the holotype at the U.S. National Herbarium (US) and the cotype at the Bishop Museum in Honolulu (BISH). In British Columbia, *H. haleakalae* had been abundantly collected and is still found there today. In Hawai‘i, though, despite the efforts of many competent field botanists, the species has evaded recollection. It is likely that a mixup of the Hawaiian and West Coast (British Columbia, Washington, etc.) collections occurred somewhere along the line. The preponderance of evidence suggests that *H. haleakalae* has never been collected in Hawai‘i and does not belong in any future Hawaiian flora.

Huperzia* × *carlquistii Beitel & W.H.Wagner **New synonymy**
[= *Huperzia* × *medeirosii* Beitel & W.H.Wagner]
Formerly considered a hybrid between *Huperzia haleakalae* and *H. subintegra* (Palmer 2003), after careful review of literature and specimens, *H.* × *medeirosii* is now considered to be conspecific with *H.* × *carlquistii* (*H. erubescens* × *H. subintegra* (Hillebr.) Beitel & W.H.Wagner).

Huperzia serrata (Thunb. ex Murray) Trevis. **New island record**
Huperzia serrata was previously known from Kaua‘i, O‘ahu, Moloka‘i, Lāna‘i, and Hawai‘i (Palmer 2003). Collections made of this species on Pu‘u Kukui now document its presence on Maui.

Material examined. **MAUI**: West Maui, Pu‘u Kukui, 24–25 Jul 1938, *L.M. Cranwell et al. 2649.*

Phlegmariurus filiformis (Sw.) W.H.Wagner **Correction**
Phlegmariurus filiformis was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lāna‘i.

Malvaceae
Abutilon incanum (Link) Sweet **New island record**
Abutilon incanum was previously known from all of the main islands except Hawai‘i (Wagner *et al.* 1990). It has now been recorded from Hawai‘i Island.

Material examined. **HAWAI‘I**: Waimea, Kawaihae Rd corridor, segment 1, 31 Dec 1980, *P.H. McEldowney s.n.* (BISH 794028); Ka‘awaloa, 19.28, -155.56, 04 October 1984, *W. Souza s.n.* (BISH 770316).

Abutilon menziesii Seem. **Note**
Abutilon menziesii (ko‘oloa ‘ula) was recorded as present on Lāna‘i, Moloka‘i, and Hawai‘i (Wagner *et al.* 1999). Its status on O‘ahu has been uncertain, as when it was first discovered on O‘ahu, the populations were considered to represent escapes from cultivation (Herbarium Pacificum Staff 1999). They are now accepted as naturally occurring wild populations and managed as a federally listed endangered species (USFWS 2011). Since it was first observed on O‘ahu, ko‘oloa ‘ula has been documented from several sites on the ‘Ewa Plain and Lualualei. The remaining wild populations on O‘ahu include a total of 65 mature individual plants, so are smaller than those on Lāna‘i, where there are estimated to be 500, and Maui with fewer than 200 individual mature plants. On O‘ahu, conservation efforts by the Hawai‘i Division of Forestry and Wildlife are underway to protect wild populations from threats and secure propagules *ex situ*.

Material examined. **O‘AHU**: ‘Ewa, mauka of Varona Village, east of Kalo‘i Gulch, 23 m, 27 Sep 1996, *K.M. Nagata 4433*; Lualualei, Hālona, Navy facility, 61 m, 27 Jul 2023, *S. Ching et al. 20230727-01*.

Gossypium tomentosum Nutt **New island record**; **extirpations**

Gossypium tomentosum (ma‘o) was listed as occurring “on all the main islands except Hawai‘i” by Wagner *et al*. (1990: 867). It was last seen on Kaua‘i in 1870 (Wawra 1873) and is now extirpated. Furthermore, a specimen collected by David Nelson on Cook’s 3rd voyage suggests this species was formerly found on Hawai’i island and that it was last seen on Hawai‘i in 1779 (St. John 1978) and is also considered extirpated.

Hibiscus brackenridgei A.Gray
subsp. ***brackenridgei*** **New island record**; **extirpation**

Hibiscus brackenridgei subsp. *brackenridgei* was historically known from Kaho‘olawe but has not been seen since the 1850s, and is now surely extirpated.

Material examined. **KAHO‘OLAWE**: 1851–1855, *M.J. Remy 559* (P 06587810). https://mediaphoto.mnhn.fr/media/1441389813906mRCPm8hYTzoE9cud

Hibiscus tiliaceus L. **Correction**

Wagner *et al*. (1990) reported hau as naturalized on French Frigate Shoals. However, this plant was intentionally planted on the island, with no evidence of naturalization, and all plants were furthermore destroyed by 1942 (Amerson 1971).

Hibiscus trionum L. **Questionable naturalization**

Commonly known as the flower-of-an-hour or bladder hibiscus, *Hibiscus trionum* was observed growing on O‘ahu in an overgrown lot along Kalākaua Avenue in Waikīkī, just north of Fort DeRussy and across from the David Kalākaua statue. Only a single plant was noted. Given that *H. trionum* is a highly invasive weed (Swearingen 2005), and considering the location in a busy tourist area, it seems plausible that a seed may have adhered to a tourist’s shoe and been dislodged while visiting. This species is an annual or biennial herb native to regions spanning from central and eastern Europe to the Mediterranean and western Himalayas (POWO 2025). However, it has been introduced into many parts of the world, including the U.S., Canada, New Zealand, China, Taiwan, Chile, Uruguay, and southern Europe, where it has become a widespread weed (POWO 2025).

Material examined. **O‘AHU**: Waikīkī, Kalākaua Ave, growing near sidewalk in weedy, unkempt lot adjacent to Fort DeRussy Park, only 1 plant observed, 3 m, 21.170101, -157.495415, 03 Feb 2024, *M.C. Ross 1971*.

Malachra alceifolia Jacq. **Correction**

Wagner *et al*. (1990: 891) reported *Malachra alceifolia* as “naturalized in disturbed places at low elevations on Kaua‘i, O‘ahu, and Maui.” However, no evidence could be found to substantiate the occurrence of this species on Maui.

Sida planicaulis Cav. **Correction**

Sida planicaulis was formerly treated as the synonym *S. acuta* subsp. *carpinifolia* in Hawai‘i (Fryxell & Hill 2015). Wagner *et al*. (1990: 897; as *Sida acuta* subsp. *carpinifolia*) reported this species as “naturalized in open and shaded sites, from near sea level up

to ca. 790 m, on Kauaʻi, Oʻahu, Maui, and Hawaiʻi." However, we could find no specimens or citizen science records to support its naturalization on Maui.

Sida spinosa L. **New island record**

Sida spinosa was previously recorded as naturalized on Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, Maui, and Hawaiʻi (Imada 2019). Collections made of this species below Lua Makika now document its naturalization on Kahoʻolawe.

Material examined. **KAHOʻOLAWE**: Below Lua Makika, 21 Feb 1988, *W.L. Wagner et al. 5776* (PTBG).

Sidastrum paniculatum (L.) Fryxell **Correction**

Sidastrum paniculatum was reported as naturalized on Lānaʻi by Oppenheimer (2011). This determination was erroneous, as the specimen (*Oppenheimer H30917*) actually represents *Sidastrum micranthum*.

Molluginaceae

Mollugo verticillata L. **New island record**

Mollugo verticillata has previously been reported as naturalized on Oʻahu, Molokaʻi, Lānaʻi, and Hawaiʻi (Imada 2019; Faccenda & Strong 2024). It is now known from East Maui, where a few scattered plants were observed. Given the behavior of this species on other islands, it is expected that larger populations exist but were unobserved, or they will soon form larger populations.

Material examined. **MAUI**: Kīhei, Kūlanihākoʻi Gulch, dry pasture, wash area, 61 m, 20.769223, -156.434362, 25 Apr 2024, *F. Starr & K. Starr 250424-01*.

Moraceae

Ficus obliqua G.Forst. **New naturalization**

Ficus obliqua is native from Maluku to the southwestern Pacific (POWO 2025), has been cultivated in Hawaiʻi since at least 1938 (*Judd s.n*., BISH 464471), and planted as a forestry tree. Collections made of this species in a gully off the ʻAiea Loop Trail document the naturalization of this species on Oʻahu. The plant was found on a steep cliff and this habit and was of smaller size than would be expected for a forestry planting. Another plant was found as an epiphyte on a dead ʻŌhiʻa lehua in Nuʻuanu. This is apparently the first reported naturalization of *F. obliqua* in the world (POWO 2025).

Material examined. **OʻAHU**: Central Koʻolau Mts, ʻAiea Loop Trail, 365 m, 21.403046, -157.890824, 15 Aug 2023, *M.K. Thomas & R. Chang 597*. Side ridge in Nuʻuanu valley off Judd trail. ~465 m from trail head, full sun wet uluhe forest on slope, epiphytic on dead ʻŌhiʻa, 21.344931, -157.8172, 04 Mar 2025, *K. Arthur 91*.

Ficus religiosa L. **New island record**

Ficus religiosa was reported as naturalized on Oʻahu, Maui, and Hawaiʻi (Imada 2019; Frohlich & Lau 2020). Collections made of this species on Wailapa Road now document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Kawaihau, Kīlauea, Wailapa Rd to Kāhili Beach, 65 m, 22.212118, -159.384312, 03 Jun 2016, *K. Brock 846* (PTBG).

Ficus rubiginosa Desf. ex Vent. **New island record**

Ficus rubiginosa is now naturalized on Oʻahu, where it has escaped from forestry plantings. In addition to the 1977 collection below, many plants have been observed naturalizing during recent surveys but were not collected, as we had never realized that this was a not documented as naturalized.

Material examined. **OʻAHU**: Hālawa Trail, 1/3 mile E of quarry, 18 Dec 1977, *F.G. Howarth & O. Bussen s.n.* (BISH 420033).

Myrtaceae

Eucalyptus paniculata Sm. **New island record**

Eucalyptus paniculata was previously recorded as naturalized on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Imada 2019). Collections made of this species east of Mānele Road now document its naturalization on Lānaʻi.

Material examined. **LĀNAʻI**: Southern Lānaʻi, E of Mānele Rd, along former plantation road, 521 m, 20.778910, -156.874431, 23 Jun 2023, *K. Faccenda & J. Sprague 3208.*

Metrosideros polymorpha Gaudich.
var. ***incana*** (H.Lév.) H.St.John **New island record**

Metrosideros polymorpha var. *incana* was treated as native to Oʻahu, Molokaʻi, Lānaʻi, Maui, and Hawaiʻi (Wagner *et al.* 1990). Numerous collections were made from across Kauaʻi and determined to be var. *incana* by the authors of the *Manual,* but the Kauaʻi specimens were apparently inadvertently excluded in their publication.

Material examined. **KAUAʻI**: Halemanu, 14–26 Feb 1909, *J.F. Rock s.n.* (BISH 443940); Kahōluamanu, Oct 1916, *J.F. Rock s.n.* (BISH 449932); Waimea, Nā Pali-Kona Forest Reserve, Kumuwela Rd, near gate 5, 1,127 m, 23 Aug 1953, *A.K. Chock 1016*; Waimea, Nā Pali–Kona Forest Reserve, Kumuwela Rd, 1,127 m, 10 Aug 1953, *A.K. Chock 893.*

Metrosideros polymorpha Gaudich.
var. ***pumila*** (A.Heller) J.Wyndham Dawson
& Stemmermann **New island record**

Metrosideros polymorpha var. *pumila* was treated as native to Kauaʻi, Oʻahu, Molokaʻi, and Maui (Wagner *et al.* 1990). Collections made of this species in the Puʻu o ʻUmi Natural Area Reserve now extend its native range to include Hawaiʻi Island.

Material examined. **HAWAIʻI**: Kohala, Puʻu o ʻUmi Natural Area Reserve, 1,335 m, 20.052066, -155.41332, 28 Jun 2005, *M.E. Wright & T.A. Ranker s.n.* (BISH 718062).

Nephrolepidaceae

Nephrolepis falcata (Cav.) C.Chr. ‘**Furcans**’ **Corrections**

Nephrolepis falcata was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its naturalization on Lānaʻi or Hawaiʻi.

Nyctaginaceae

Boerhavia acutifolia (Choisy) J.W.Moore **Correction**

Boerhavia acutifolia was reported on Pearl & Hermes Atoll by Staples *et al*. (2003; as *B. glabrata*); however, the specimen at BISH (*Conant 142*) has since been redetermined as *B. repens.*

Boerhavia diffusa L. **Nomenclatural note**; **new island record**

The name *Boerhavia coccinea* has long been misapplied to plants in Hawai‘i belonging to the species *B. diffusa.* The key in Wagner *et al.* (1990) mistakenly lists *B. coccinea* as having leaves restricted to the basal half of the plant; however, in true *B. coccinea* the leaves are well distributed throughout the plant, and the inflorescences are both axillary and terminal (Spellenberg 2004). In *B. diffusa* the leaves are restricted to the basal half of the plant and the inflorescences are almost always terminal, as seen in the Hawaiian material. *Boerhavia coccinea* should therefore no longer be considered present in Hawai‘i. *Boerhavia diffusa* is now also known to be naturalized on Lisianski.

Material examined. **LISIANSKI**: West coast, central, 2 m, 08 Aug 1983, *S. Conant 189.*

Boerhavia herbstii Fosberg **New island record**; **corrections**

Boerhavia herbstii was reported in Wagner *et al*. (1990) from Pearl & Hermes, Lisianski, O‘ahu, Lāna‘i, Maui, Kaho‘olawe, and Hawai‘i. It is now known from Moloka‘i, where it was last seen in 1916. However, no specimens have been found to substantiate any record from Pearl & Hermes, and the voucher from Lisianski (*Conant 189*) appears to more closely match *B. diffusa*, making *B. herbstii* no longer known from any of the Northwestern Hawaiian Islands.

Material examined. **MOLOKA‘I**: Central Moloka‘i, stony gulch near ranch house, 13 Oct 1916, *A.S. Hitchcock 15147* (US).

Nymphaeaceae

Nymphaea nouchali Burm.f.

var. ***caerulea*** (Savigny) Verdc. **New island record**

Nymphaea nouchali var. *caerulea* has been reported as naturalized on Hawai‘i Island (Imada 2019; as *N. caerulea*). Collection made of this species in Olowalu now document its naturalization on Maui. It was found growing in a drainage channel where the population extends over 100 m. A resident reported that the infestation started as just a couple of plants.

Material examined. **MAUI**: West Maui, Lāhainā, Olowalu, stagnant drainage S of Luawai St, 6 m, 20.5829, -156.4041, 22 Jun 2024, *H.L. Oppenheimer H62401.*

Ochnaceae

Ochna serrulata (Hochst.) Walp. **New island record**

Ochna serrulata was previously recorded as naturalized on O‘ahu and Hawai‘i (Imada 2019). Collection made from the Kula Agricultural Station further document its naturalization on Maui. The area has a few cultivated plants as well as a few naturalized plants that are beginning to escape from the site.

Material examined. **MAUI**: Kula Agricultural Station, 945 m, 20.45 N 156.19 W, 15 Aug 2002, *F. Starr & K. Starr 020815-4.*

Ochna thomasiana Engl. & Gilg **New island record**

Ochna thomasiana was previously recorded as naturalized on Kaua‘i, O‘ahu, Lāna‘i, and Maui (Imada 2019). Collection made of this species east of the Kainalu Stream now document its naturalization on Moloka‘i.

Material examined. **MOLOKA‘I**: Kainalu Stream, E side of stream, near archeological site, 25 m, 21.091737, -156.776110, 05 Jun 2009, *H. Oppenheimer et al. H60912.*

Oleaceae

Noronhia emarginata (Lam.) Poir. **Confirmation of naturalization**

Daehler & Baker (2006) previously noted *Noronhia emarginata* as adventive on O‘ahu at Lyon Arboretum. We have now found further populations and confirm the naturalization of this species on O‘ahu. In addition to the population at Pūpūkea below, another was observed but uncollected at Kahana Valley, where many seedlings were observed.

Material examined. **O‘AHU**: Gated road above Pūpūkea, not far from trailhead, naturalizing in moist, invasive-dominated forest, forming a rather small but dense stand with hundreds of individuals seen, patch ca 15 m wide, 265 m, 21.640827, -158.023248, 02 Sep 2023, *K. Faccenda & K. Austin 3228.*

Onagraceae

Epilobium billardiereanum Ser.
subsp. ***cinereum*** (A.Rich.) P.H.Raven
& Engelhorn **New island record**; **correction**

Epilobium billardiereanum subsp. *cinereum* was previously recorded as naturalized on Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i (Imada 2019). Collection of this species made from the summit ridge along the Munro Trail document its naturalization on Lāna‘i. The Moloka‘i record published by Oppenheimer (2016) has since been redetermined as *Epilobium ciliatum* subsp. *ciliatum* and is no longer known from the island.

Material examined. **LĀNA‘I**: Summit ridge along Munro Trail, between Ha‘alelepa‘akai and summit of Lāna‘ihale, 1,000 m, 20.809971, -156.870919, 01 Dec 2022, *H. Oppenheimer et al. H122201.*

Epilobium ciliatum Raf. subsp. ***ciliatum*** **New island record**

Epilobium ciliatum subsp. *ciliatum* was previously recorded as naturalized on Maui and Hawai‘i (Imada 2019), and has now been found on Moloka‘i at scattered locations, where it was clearly naturalized.

Material examined. **MOLOKA‘I**: Pua‘ahala ahupua‘a, upper drainage of Kua Gulch, west of Kalapamoa Ridge, *Metrosideros* montane forest, single mature plant with many seedlings, all pulled, 1180 m, 19 May 2015, *H. Oppenheimer & R. Kallstrom H51516*; Wailau Valley, tributary of Pūlena Stream on S side, along perennial stream, 380 m, 14 Jul 2015, *H. Oppenheimer H71515.*

Ophioglossaceae

Ophioderma pendula (L.) C.Presl
subsp. ***falcata*** (C.Presl) R.T.Clausen **Correction**

Ophioderma pendula subsp. *falcata* was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lāna‘i.

Orchidaceae

Cymbidium dayanum Rchb.f **New island record**

Cymbidium dayanum was previously recorded as naturalized on Hawai‘i Island (Imada 2019). A Collection made near the Peacock Flats campsite along the Mokulē‘ia Trail now document its naturalization on O‘ahu.

Material examined. **O‘AHU**: Mokulē‘ia Trail, along road ca 2 km from Peacock Flats campsite, epiphyte on a ~2 inch diam. stick which had fallen from the canopy, only 1 plant seen but area not thoroughly searched, 698 m, 21.538297, -158.183917, 21 Apr 2024, *K. Faccenda 3382.*

Dendrobium discolor Lindl. **New naturalization**

Although not mentioned in Staples & Herbst (2005) nor in the BISH database as occurring in cultivation, *Dendrobium discolor* has most likely escaped from cultivation. The collection of this species, growing on a ridge crest dominated by native species on Mau‘umae Trail, is evidence of it naturalization on O‘ahu. The native range of *D. discolor* is Sulawesi to Queensland (POWO 2025).

Material examined. **O‘AHU**: Ko‘olau Mts, Mau‘umae Ridge, 0.5 miles from trailhead on native-dominated ridge crest, 121 m, 21.304275, -157.779395, 29 Jan 2017, *D. Polhemus & H. Polhemus s.n.* (BISH 76711, 76712); Mau’umae ridge, open, wind and sun exposed east side of ridge, from soil, at least three flowering individuals observed, many more sterile plants found which may represent a mixed population, 321m, 21.29977, -157.783449, 04 Jun 2025, *K. Arthur & K. Faccenda 114*.

Dendrobium lineale Rolfe **Questionable naturalization**

Although not mentioned in Staples & Herbst (2005) nor in the BISH database as occurring in cultivation, *Dendrobium lineale* has also surely escaped from cultivation. A collection made in the Ko‘olau Mountains on the ridge between North and South Hālawa Valleys gives evidence of its possible naturalization on O‘ahu. More collections will be needed to confirm. *Dendrobium lineale* is native to New Guinea (POWO 2025),

Material examined. **O‘AHU**: Ko‘olau Mts, ridge between North and South Hālawa Valleys, 122 m, 05 Jun 2016, *K. Kawelo s.n.* (BISH 767708, 767709).

Epidendrum* × *obrienianum Rolfe **Correction**

Epidendrum × *obrienianum* was noted as naturalized on Kaua‘i, O‘ahu, Lāna‘i, Maui, and Hawai‘i by Wagner *et al.* (1990); however, no specimens or citizen science records could be found to substantiate its naturalization on the Lānai.

Epidendrum radicans Pav. ex Lindl. **New naturalization**

Epidendrum radicans was introduced into Hawai‘i for ornamental usage (Staples & Herbst 2005). A collection made in Kanaele Bog document its naturalization on Kaua‘i. This species has a creeping habit and covered 10 m^2 in a sunny open area on the south edge of the bog growing amongst native species. *Epidendrum radicans* differs from the much more commonly naturalized *E.* × *obrienianum* by having resupinate flowers (labellum pointing downwards), as opposed to the non-resupinate flowers (labellum pointing upwards) of *E.* × *obrienianum.* The native range of *Epidendrum radicans* spans from Mexico to Colombia, and it is also reported as naturalized in Cuba and Puerto Rico (POWO 2025). In its native range it is a common species growing in habitats ranging from dry hillsides to floating debris on ponds (Williams 1951).

Material examined. **KAUA‘I**: Kanaele Bog (Wahiawa Swamp), growing in sunny open bog with ‘ōhi‘a, pūkiawe, and uluhe, 645 m, 12 Sep 2023, *K. Faccenda et al. 3230*; Wahiawa Bog, 640 m, 22 Dec 1983, *W.L. Wagner et al. 5203.*

Vanda merrillii Ames & Quisumb. **Questionable naturalization**

Vanda merrillii is an epiphytic orchid native to the Philippines (POWO 2025). A collection of this horticultural escape made on the east flank of Honolua peak give evidence of its potential naturalization on Maui. Further collection will be needed to confirm its naturalization. It can be distinguished from *Vanda tricolor*, the other naturalized member of this genus, by its more uniformly reddish flower color and the presence of 4 dark red-purple stripes at the base of the labellum.

Material examined. **MAUI**: West Maui, Lāhainā Distr, E flank of Honolua peak, 616 m, 20.5748, -156.365, 30 Nov 2004 [material collected 27 Oct 2004], *H. Oppenheimer & G. Hansen H110413.*

Zeuxine strateumatica (L.) Schltr. **New island record**

Zeuxine strateumatica was previously documented as being naturalized on Maui (Imada 2019). The collection of this species on Oʻahu as a volunteer in a residential lawn on Kawaihae Street in Maunalua and at the University of Hawaiʻi campus in Mānoa document this orchid's naturalization on the island. The plant found at the University of Hawaiʻi was initially posted on iNaturalist (https://www.inaturalist.org/observations/154891189).

Material examined. **OʻAHU**: Maunalua, Kawaihae St, in a resident's grass lawn, 21.1728, -157.4254, 14 Mar 2021, *M. LeGrande 2021.01*; University of Hawaiʻi at Mānoa, near Varney Circle, weed in flower bed, 1 plant seen, 25 m, 21.299944, -157.817948, 01 Apr 2023, *Jacob White s.n.* (BISH 788024).

Zygopetalum maculatum (Kunth) Garay
subsp. ***maculatum*** **Questionable naturalization**

Zygopetalum maculatum subsp. *maculatum* is native to South America and not known to be naturalized in other parts of the world (POWO 2025). Collection made of this species on Kaʻala Road give evidence of its potential naturalization on Oʻahu. Further collection will be needed to confirm. This species was surely imported for horticultural purposes, but it is not recorded in the Museum's database, nor in Staples & Herbst (2005).

Material examined. **OʻAHU**: Waiʻanae Mts, Kaʻala Rd, 670 m, 25 Oct 2021, *W.T. Russell III et al. USARMY 561.*

Oxalidaceae

Oxalis dehradunensis Raizada **Questionable new naturalization**

Oxalis dehradunensis, native to the Caribbean, has been previously documented as naturalized across many southern states of the U.S. and parts of Mexico (POWO 2025). It is now spreading on Maui along a roadside. The colony was observed in 2008 as a single plant, but over the course of three years it has spread to a 2 m^2 patch, likely via rhizomes. Nesom (2016) notes that this species rarely makes seed in the continental U.S., but it is unclear if this would also be the case in Hawaiʻi, which is much more tropical and climatically similar to its native range. It is likely that this is a horticultural escape, as several tropical *Oxalis* are sold in the foliage trade as "shamrock" (Staples & Herbst 2005), although there are no prior records of this species in Hawaiʻi.

This species is similar to *Oxalis debilis* Kunth var. *corymbosa* (DC.) Lourteig but differs by its much more widely triangular leaflets with acute lobes, compared to the more cordate leaflets with round lobes of *O. debilis* var. *corymbosa*. Nearly all literature referring to this species uses the name *O. intermedia* A.Rich., an illegitimate name (POWO 2025).

Material examined. **MAUI**: Makawao, Hoene St, herb growing along roadside, slowly growing vegetatively, 20.845838, -156.327238, 23 Dec 2011, *H. Oppenheimer & F. Duvall H121101.*

Passifloraceae

Passiflora caerulea L. **New state record**

Passiflora caerulea is native to Bolivia, North Argentina, and Brazil. It has been previously documented as naturalized across parts of North America, Europe, Africa, and Asia (POWO 2025). A collection made in Olinda documents its naturalization on Maui. On Piʻiholo Road this species climbed a few hundred meters along the road into *Eucalyptus*, as it made its way into the forest. While *P. caerulea* has been used as a misapplied name in the past in Hawaiʻi (Staples & Herbst 2005), these specimens from Maui match the pure species rather than the hybrid.

Material examined. **MAUI**: East Maui, Olinda, Piʻiholo Rd, 914 m, 14 Jun 2009, *R.W. Hobdy 4312*; Piʻiholo, Aloha o ka ʻĀina, vine climbing on *Eucalyptus*, 06 Jun 1998, *F. Starr & K. Martz FSKM980406-24.*

Passiflora* × *violacea Loiseleur-Deslongchamps **Correction**

Passiflora × *violacea* is no longer known from Maui, as the specimens have been redetermined as *P. caerulea*.

Piperaceae

Peperomia cookiana C.DC. **New synonymy**

[= *Peperomia epihippii* H.St.John]

Examination of the holotype of *Peperomia epihippii* by MKT suggests that this name is best treated as a synonym of *P. cookiana*.

Peperomia eekana C.DC. **New synonymy**

[= *Peperomia woolfordii* H.St.John]

Examination of the holotype of *Peperomia woolfordii* by MKT suggests that this name is best treated as a synonym of *P. eekana.*

Peperomia kipahuluensis H.St.John & Lamoureux. **New synonymy**

[= *Peperomia hanaensis* H.St.John]

[= *Peperomia muscorum* H.St.John]

Examination of the holotype of *Peperomia hanaensis and P. muscorum* by MKT suggests that these names are best treated as synonyms of *P. kipahuluensis.*

Peperomia ligustrina Hillebr. **New island record**

Peperomia ligustrina was previously known from Molokaʻi, Maui, and Hawaiʻi (Wagner *et al.* 1990). It has now been found on Oʻahu growing as an epiphyte at Poamoho.

Material examined: **Oʻahu**: Poamoho Stream bed, 25 Jan 2021, *T. Chambers USARMY 558.*

Peperomia sandwicensis Miq. **New island record**

Peperomia sandwicensis had previously been reported on Maui by Yuncker (1933), who cited two Hillebrand specimens (Kaʻanapali and West Maui), both of which are presumably destroyed. Their assumed destruction is possibly why Wagner *et al*. (1990) recorded

it as occurring on only Kauaʻi, Oʻahu, and Molokaʻi. However, a recent collection made after publication of the *Manual* suggests that this species is still present on West Maui.

Material examined. **MAUI**: Kahakuloa, Waikalai Ridge Rd, on large boulders in gulch bottom, 366 m, 02 Dec 1993, *R.W. Hobdy 3627.*

Pittosporaceae

Pittosporum glabrum Hook. & Arn. **New island record**; **new synonym**

[= *Pittosporum molokaiense* H.St.John]

Pittosporum glabrum was recorded as naturally occurring on Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, and Maui (Wagner *et al.* 1990). Collections made in North Kohala now document that this species also naturally occurs on Hawaiʻi. Furthermore, the holotype of *P. molokaiense* H.St.John was examined by MKT and it falls within the variation of *P. glabrum.*

Material examined. **HAWAIʻI**: North Kohala, Kehena Ditch Trail, stream bank, 1,158 m, NAD 83 Zone 5, 22 Nov 2022, *J. VanDeMark et al. 58*; North Kohala, Puʻukapu, ʻŌpaeloa Stream, 1341 m, NAD 83 Zone 5: X: 215877 Y: 2225142, 29 Jan 2020, *J. VanDeMark & Z. Judd 36.*

Plantaginaceae

Plantago asiatica L. var. ***asiatica*** **New state record**

Plantago asiatica var. *asiatica* has previously been reported as naturalized in Hawaiʻi (Shipunov *et al.* 2021), but this publication eluded the staff of Herbarium Pacificum until recently. A subsequent critical examination of the herbarium holdings found *P. asiatica* on Kauaʻi, Oʻahu, Lānaʻi, Maui, and Hawaiʻi. It also appears to be more common across the modern landscape than *P. major*, and the ratio of *P. asiatica* to *P. major* has been increasing over time in the herbarium records. *Plantago asiatica* differs from *P. major* by having pedicellate flowers (short pedicel above the bract) and ellipsoid fruits that dehisce below the middle, whereas *P. major* has sessile flowers and approximately spheroid fruits that dehisce at approximately the middle. As there are many specimens of this species and it is common across the modern landscape, only the first record from each island is cited below.

Material examined. **KAUAʻI**: Hanalei, Wainiha Valley, Power House Rd, 30 m, 13 May 1995, *T. Flynn & D.H. Lorence 5796.* **Oʻahu**: Lāʻie, 1 m, 26 Jan 1986, *S. Sanders 5505.* **LĀNAʻI**: Lānaʻi City, ʻIlima Ave, 496 m, 20.826104, -156.919697, 22 Jun 2023, *K. Faccenda 3181.* **MAUI**: West Maui, Lāhainā Distr, Lāhainā town, 6 m, 20.52, -156.40, 17 Jan 2002, *H. Oppenheimer H10209.* **HAWAIʻI**: Puna, ʻŌlaʻa Forest Reserve, 6.4 km from junction of Stainback Hwy and Hwy 17, 870 m, 06 Jul 1974, *T. Herat et al. 954.*

Plantago rugelii Decne. **Corrections**

Plantago rugelii was previously reported as naturalized on Oʻahu and Hawaiʻi (Faccenda 2024a). The identification of this species in Hawaiʻi was hasty, as the specimens have now been redetermined as *P. asiatica* (see above). *Plantago rugelii* should be removed from the Hawaiian flora.

Plantago virginica L. **New naturalization**

Plantago virginica is now naturalized on Kauaʻi, where a single collection was made on Mākaha Ridge Road containing three plants, as this is an annual species, it is surely naturalized. It is native across much of North America and is naturalized in China, Japan,

Korea, and Taiwan (POWO 2025). It is similar to *P. australis* subsp. *hirtella* but is easily separated, as *P. virginica* is a taprooted annual, whereas *P. australis* is a fibrous-rooted perennial.

Material examined. **KAUA‘I**: Pu‘u Ka Pele Forest Reserve, Mākaha Ridge Rd, roadside, 600 m, 29 April 1997, *T. Flynn 6138.*

Veronica peregrina L. subsp. ***peregrina*** **New state record**

Veronica peregrina subsp. *peregrina* is native to the Americas and is naturalized across Europe and Asia (POWO 2025). Three separate collections made across urban Honolulu document its naturalization on O‘ahu, where it seems to prefer irrigated flower beds and is clearly spreading with potted plants. The specimens formerly published as *V. peregrina* subsp. *xalapensis* from East and West Maui (Starr *et al.* 2002; Oppenheimer & Pezzillo 2024) have also been redetermined as the nominate variety, and *V. p.* subsp. *xalapensis* is no longer known from Maui. A single specimen, found in a potted plant for sale at a commercial nursery, also documents that this species is present on Kaua‘i, where it is also expected to naturalize, if it has not done so already.

Material examined. **KAUA‘I**: Kauai Nursery and Landscaping, seen growing only in pots of plants for sale, only 1 plant seen, 99 m, 21.963019, -159.404331, 08 Jul 2022, *K. Faccenda & S. Vanapruks 2521*. **O‘AHU**: N side of Frear Hall, UH Mānoa campus along Dole St, partly shaded flower beds, only 1 individual seen, 21.295899, -157.813936, 19 May 2021, *K. Faccenda 1830*; Honolulu, Richards St and Queen St, outside Post Office Bldg, weed in irrigated flower bed, shady, only seen in 2 flower beds, no flowers present, 3 m, 21.306390, -157.861081, 14 Mar 2022, *K. Faccenda 2354*; Kaimukī, intersection of Wai‘alae Ave and Hunakai St, weed in irrigated flower bed in shade under shrubs, common in this flower bed, 14 m, 21.278980, -157.786782, 14 May 2022, *K. Faccenda 2372*. **MAUI**: East Maui, Makawao, coming up as weed in lawn on corner of ‘Ūkiu and Baldwin Ave, 1640 ft [500 m], 31 Mar 2000, *F. Starr & K. Martz 000331-1*; Honokahua, between Kahauiki and Honolua, cultivated area, 300 ft [90 m], 29 Feb 2020*, H. Oppenheimer H22005.*

Veronica plebeia R.Br. **Correction**

Wagner *et al*. (1990: 1250) reported *Veronica plebeia* as “naturalized in dry to wet areas ... on Maui and Hawai‘i”; however, no specimens or citizen science records could be found to substantiate its presence on Maui.

Poaceae

Chloris virgata Sw. **Correction**

Chloris virgata was published as occurring on Lehua Islet by Wood & LeGrande (2006), but the specimen cited (*Wood 9222*) has since been redetermined as *C. barbata*. Therefore, *C. virgata* is no longer known from Lehua.

Echinochloa crus-galli (L.) P.Beauv.
subsp. ***crus-galli*** **Correction**

Echinochloa crus-galli subsp. *crus-galli* was published as naturalized on Kuaihelani (Midway Atoll) by Starr *et al*. (2002), but the specimen (*Starr 990620-1*) has since been redetermined as *Eriochloa procera*, making *Echinochloa crus-galli* no longer known from Kuaihelani.

Polygonaceae

Persicaria capitata (Buch.-Ham, ex D.Don) Masam. **New island record**

Persicaria capitata was previously reported as naturalized on Oʻahu, Maui, and Hawaiʻi (Imada 2019). A collection made along Waimea River now document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Waimea, Waimea River, before second stream crossing on Kukui Trail, 215 m, 22.065967, -159.645013, 21 Sep 2021, *S. Deans & S. Heintzman KPEPP KP09212101*.

Polypodiaceae

Campyloneurum phyllitidis (L.) C.Presl **New naturalization**

Campyloneurum phyllitidis has been in cultivation on Oʻahu since at least 1986 (*J. Lau 2285*). Collections of this species from various locations in the Koʻolau Mountain Range document its naturalization on Oʻahu, where it seems to favor growing in very shallow soil on rocks in shaded areas (Figure 9). This species has been seen in cultivation at various home gardens in the Kāneʻohe region (M.K. Thomas, pers. observ.) and can be purchased readily online as "long strap fern." It is most likely being cultivated in other parts of the state and is probably naturalized outside of Oʻahu.

Material examined. **Oʻahu**: Moanalua Valley, 99 m, 21.373367, -157.878801, 28 Feb 2025, *K. Arthur et al. 75*; northern Koʻolau Mts, Kualoa, 122 m, 21.522275, -157.844203, 01 Aug 2024, *A. Evans et al. KR5.*

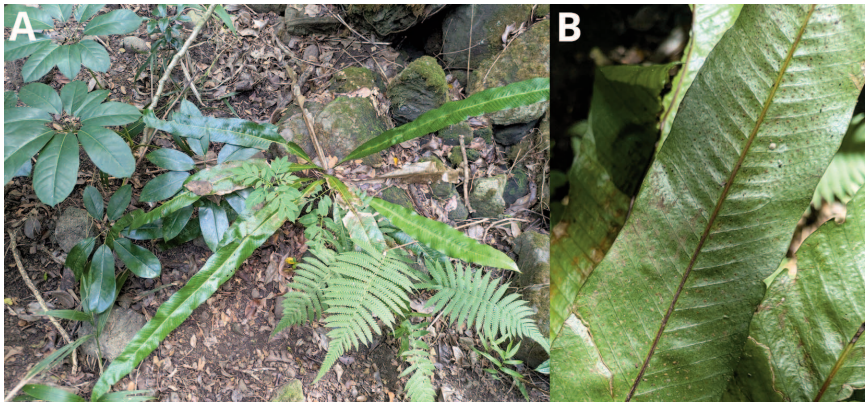

Figure 9. *Campyloneurum phyllitidis.* **A**, habit. **B**, sori.

Drynaria meyeniana (Schott) Christenh. **New naturalization**

Drynaria meyeniana grows primarily as an epiphyte in the wet tropical biome from the Philippines to Taiwan (POWO 2025). Collections of this species made in Kahaluʻu Valley near residences document its naturalization on Oʻahu. This species is known to be cultivated at Lyon Arboretum in Honolulu, where at least one plant was seen naturalizing on *Falcataria falcata* (M.K. Thomas, pers. observ.).

Material examined. **Oʻahu**: Kahaluʻu Valley, ʻĀhuimanu Rd, near bridge where ʻĀhuimanu Rd crosses Kahaluʻu Stream, other plants found growing on Malumalu Pl, 61 m, 27 Dec 2021, *K. Kawelo USARMY 568*; *loc. cit.,* 08 Apr 2018, *K. Kawelo USARMY 493.*

Polypodium pellucidum Kaulf.
var. ***vulcanicum*** Skottsb. **New island record**

Polypodium pellucidum var. *vulcanicum* has been recorded as naturally occurring on Molokaʻi, Maui, and Hawaiʻi (Palmer 2003). A collection of this species at Waiakeakua now document its presence on Lānaʻi, where it is likely now extirpated.

Material examined. **LĀNAʻI**: Waiakeakua, 884 m, 14 Jun 1927, *G.C. Munro 88.*

Portulacaeae

Portulaca molokiniensis Hobdy **New island record**

Portulaca molokiniensis has been recorded as naturally occurring on Maui and Kahoʻolawe (Wagner *et al.* 1990). A collection of this species on the west rim of Maunalei Gulch documents its presence on Lānaʻi, where four plants were found in 1991. This population is now extinct.

Material examined. **LĀNAʻI**: W rim of Maunalei Gulch, 228 m, 04 Feb 1991, *R.W. Hobdy 3280.*

Portulaca umbraticola Kunth **New island record**

Portulaca umbraticola has been recorded as naturalized on Oʻahu (Ross & Faccenda 2023). A collection in undeveloped pastureland in Kōloa now documents its naturalization on Kauaʻi, where dozens of plants were observed.

Material examined. **KAUAʻI**: Kōloa, former grazing land, 45 m, 21.889196, -159457664, 23 Oct 2021, *T. Agostini & L. Reynolds s.n.* (BISH 784450).

Potamogetonaceae

Potamogeton tricarinatus A.Benn. **Nomenclatural note**

The plants (*Hillebrand s.n. BISH147343, Forbes 2502.m, Forbes 260.m*) published as *Potamogeton nodosus* by Wagner *et al.* (1990) have since been reidentified as *P.* cf. *tricarinatus* by Robert R. Haynes. As such, *P. nodosus* should be considered a misapplied name in Hawaiʻi.

Primulaceae

Lysimachia remyi Hillebr. **New island records**

The endemic *Lysimachia remyi* was recorded as being on Molokaʻi and Maui by Wagner *et al.* (1990). A variety of collections from Lānaʻi made by G.C. Munro and C.N. Forbes were determined as *L. remyi* by the *Manual* authors, but evidently omitted from the *Manual*. Also, multiple collections from Oʻahu have recently been determined MKT as *L. remyi.*

Material examined. **Oʻahu**: Mākaha, 914 m, 27 Oct 2004, *J. Rohrer USARMY 4*; Koʻolau Mts, Kalauao-Waimalu Ridge, 518 m, 29 Mar 1933, *H. St. John 13004*; no locality, *J.M. Lydgate s.n.* (BISH 64013). **LĀNAʻI**: Ridge at head of Maunalei, 14 Nov 1916, *G.C. Munro 431*; no locality, *G.C. Munro s.n.* (BISH 836); Kaiholena, Sep 1917, *C.N. Forbes 387.L*; no locality, Jun 1913, *C.N. Forbes 221.L*; ridge above Maunalei, 14 Oct 1916, *G.C. Munro 627.*

Proteaceae

Stenocarpus sinuatus Endl. **New naturalization**

Stenocarpus sinuatus is native to southeastern New Guinea and eastern Australia (POWO 2025). It has now naturalized at Manukā State Park, Hawaiʻi, where two cultivated specimen trees have produced hundreds of seedlings and root suckers in the nearby area that are spreading into the adjacent natural areas.

Material examined. **HAWAI‘I**: Ka‘ū, Manukā State Park, spreading into Natural Area Reserve from 2 cultivated plants, 2115334N 202780E, *J. Parker & N. Friday BIED215* (BISH 782384, 782385, 782386).

Pteridaceae

Actiniopteris australis (L.f.) Link **New naturalization**

Actiniopteris australis is commonly sold as “eyelash fern” on the internet and has been found growing in Mau‘umae Nature Park in eastern Honolulu between boulders in dry shrubland (Figure 10). While there are no prior herbarium specimens of *A. australis* collected in Hawai‘i, it is assumed that that species is a horticultural escape, as *Actiniopteris* can be found for sale at local nurseries (K. Faccenda, pers. observ.). *Actiniopteris australis* is native to Mauritius and Réunion (POWO 2025). However, this species is not easily separated from other members of the genus, especially *A. radiata* (Sw.) Link. Vaganov & Shmakov (2016) provided a key to the species of the genus, but the couplets provided are somewhat vague and do not always work with herbarium specimens.

Material examined. **O‘AHU**: Mau‘umae Nature Park, growing from base of NW-facing boulder with *Coleus prostratus, Phyllanthus debilis*, and *Emilia fosbergii*, only 1 colony seen, ca 60 cm long × 25 cm wide, 98 m, 21.171216, -157.472085, 12 Jan 2024, *M.C. Ross 1968*.

Figure 10. *Actiniopteris australis* habit.

Adiantum diaphanum Blume **Questionable naturalization**

Adiantum diaphanum is a widespread species native to Malesia, Southeast Asia, Australia, New Zealand, and various Pacific islands (Flora of Australia 2024). A collection on Oʻahu behind Koʻolau Golf Course gives evidence of its potential naturalization. More collections will be needed to confirm. This species is extensively cultivated and can be purchased on the internet. It superficially resembles *A. hispidulum* but can be separated by the key below:

1. Blades palmate, pinnae often with extra orders of dichotomous branching; stipes and lamina covered in abundant short, pale hairs ..... *A. hispidulum*
1′. Blades pinnate, sometimes appearing palmate, pinnae without dichotomous branching; stipes essentially glabrous, lamina with sparse brown hairs ..... *A. diaphanum*

Material examined. **Oʻahu**: Kalāheo, Kailua, behind Koʻolau Golf Course, 200 m, 21.372351, -157.800513, 14 Jan 2025, *M.K. Thomas et al. 947.*

Doryopteris decora Brack. **Correction**

Doryopteris decora was reported as occurring on Kahoʻolawe by Palmer (2003); however, no specimens have been found to substantiate its occurrence on the island. Warren *et al.* (1994) reported its presence on the island as questionable. Several specimens at BISH which were formerly identified as *D. decora* (*Cuddihy 333; Higashino 8030*) but have been recently reidentified as the hybrid *Doryopteris* × *subdecipiens* (*Doryopteris decipiens* × *D. decora*) by MKT. Preliminary phylogeographic work on the Hawaiian *Doryopteris* by one of us (CMT) suggests that the current taxonomy is not supported by genomic data, and ongoing work into this group might synonymize Hawaiian species or suggest a revised classification. Thus, future updates to the flora will be necessary to accommodate these revisions.

Haplopteris elongata (Sw.) E.H.Crane **Correction**

Haplopteris elongata was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Pteris tripartita Sw. **New naturalization**

Pteris tripartita is a vigorous wetland species known from northeastern Australia, tropical Africa, Madagascar, Southeast Asia, Christmas Island, Malesia, and South Pacific islands (Flora of Australia 2024). Two small populations at Hoʻomaluhia Botanical Garden in Kāneʻohe, Oʻahu, were discovered by Talia Portner in 2023, one in a small shade house/nursery, the other in the visitor center courtyard (Figure 11). This species is known to be a noxious weed in Florida and should be eradicated wherever present in the Hawaiian Islands. One other specimen at BISH shows that it was cultivated at Foster Botanical Gardens in 1959 (*T. Potter s.n.*, BISH 9093).

Material examined. **Oʻahu**: Hoʻomaluhia Botanical Garden, shadehouse area, also popping up in and around visitor center, 90 m, 21.387243, -157.809722, 2 June 2023, *M.K. Thomas & T. Portner 585.*

Figure 11. *Pteris tripartita* leaf.

Ranunculaceae

Anemone hupehensis (É.Lemoine) É.Lemoine **Taxonomic note**

Anemone hupehensis var. *japonica* was noted as naturalized by Wagner *et al.* (1990); however, the naturalized Hawaiian populations are best referred to as *A. hupehensis*, following the taxonomy of Bowles & Stearn (1947). This taxonomy recognizes the Japanese anemone (var. *japonica*) as a semi-double form, whereas the wild-type plants with only 5 petals are *A. hupehensis*. While there is one specimen of *Anemone hupehensis* var. *japonica* from Hawai‘i, it appears to be cultivated (*M.C. Neal 219*). All wild plants in Hawai‘i have 5 petals. We are further following the taxonomy of Wang *et al.* (2001), who do not recognize *Atragene japonica* Thunb. or any synonyms derived from it as a valid species, but as cultivars of *Anemone hupehensis.*

Rhamnaceae

Ziziphus mauritiana Lam. **Questionable island record**

Ziziphus mauritiana is currently treated as questionably naturalized on O‘ahu (Imada 2019). Collections made in pastureland in Kapoho suggest its naturalization on Hawai‘i Island, but should be considered questionable until its population size is ascertained. It is also possible that these plants were destroyed in the 2018 east rift zone eruption.

Material examined. **HAWAIʻI**: Kapoho, Green Lake, pasture area, 04 Feb 1984, *L. Stemmermann 6881*.

Rosaceae

Prunus cerasifera Ehrh. × ***P. salicina*** Lindl. **Questionable naturalization**

Prunus cerasifera × *P. salicina,* the Methley plum, is a hybrid between two plums native to parts of Europe and Asia, *P. cerasifera* (cherry plum) and *P. salicina* (Japanese plum) (POWO 2025). This hybrid plum is often cultivated in Hawaiʻi (Staples & Herbst 2005). A collection made on Hawaiʻi Island off of Stainback Highway in Hilo gives evidence of its potential naturalization.

Material examined. **HAWAIʻI**: South Hilo, Stainback Hwy, 2164293N 261261E, 25 Apr 2011, *J. Parker & R. Parsons BIED154.*

Rubiaceae

Cinchona calisaya Wedd. **New naturalization**

Cinchona calisaya is native to central Peru and Bolivia (POWO 2025) and has now been found naturalized on Maui, where it has presumably spread from forestry plantings. These specimens were identified by L. Andersson (GB) as part of the *A Tropical Garden Flora* project.

Material examined. **MAUI**: West Maui, Lāhainā Distr, Kuhua ahupuaʻa, between Kealiʻi Gulch and Kahoma Stream, growing in disturbed area, naturalized, 640 m, 20.905407, -156.637139,30 Mar 2011, *L. Kia s.n.* (BISH 762241, 763796); East Maui, Makawao Forest Reserve, E of Treatment Center, 852 m, 20.49, -156.16, 15 Jun 2002, *F. Starr & K. Starr 020515-1, 020515-2*.

Coffea arabica L. **Correction**

Coffea arabica was reported as naturalized on "all the main islands except Niʻihau" by Wagner *et al.* (1990: 1120); however, no specimens have been found to substantiate this species ever having naturalized on Kahoʻolawe. The record is hereby removed.

Coprosma rhynchocarpa A.Gray **Correction**

Coprosma rhynchocarpa was published as occurring on Maui by Herbarium Pacificum Staff (1996), but the specimen (*Medeiros 191*) has since been redetermined to *Coprosma cordicarpa.* Thus, *C. rhynchocarpa* is no longer known on Maui.

Pentas lanceolata (Forssk.) Deflers **New island record**

Pentas lanceolata was reported as naturalized on Oʻahu, Maui, and Hawaiʻi (Imada 2019; Faccenda 2024b). Collections of this species in Wainiha now document its naturalization on Kauaʻi.

Material examined. **KAUAʻI**: Hanalei, Wainiha, 1 km up Powerhouse Rd, 53 m, 22.200001, -159.550003, 17 Mar 2011, *K.R. Wood & N. McMahon 14556* (PTBG).

Psychotria kaduana (Cham. & Schltdl.) Fosberg **Correction**

It was stated by Wagner *et al.* (1990: 1168) that *Psychotria kaduana* is found "on Kauaʻi, Oʻahu, Molokaʻi, Lānaʻi, and Maui". However, despite diligent efforts, no specimen has been found to substantiate it being found on Lānaʻi. One cannot help but be reminded of the lament expressed by Sohmer (1977), who remarked with some perplexity, "*Why it is also not on Lanai is inexplicable*." Such an absence, so contrary to expectation, invites further inquiry into the precise nature of this species' distribution and the forces that may govern it.

Spermacoce ocymifolia Willd. **New island record**

Spermacoce ocymifolia was reported as naturalized on Kauaʻi (Lorence & Faccenda 2024). Collections made off Drum Road in Kawailoa Training Area now document its naturalization on Oʻahu.

Material examined. **Oʻahu**: Waialua, Kawailoa Training Area, Drum Road, 360 m, 10 Mar 2020, *P. Maosi et al. USARMY 534.*

Rutaceae

Bergera koenigii L. **New naturalization**

Bergera koenigii, commonly known as curry leaf, is widespread through the Indian subcontinent, China, and Southeast Asia (POWO 2025). Originally known as *Bergera koenigii*, the species was transferred to the genus *Murraya* in the 1800s by Sprengel; however, morphological and molecular evidence have returned it to *Bergera* (Mou *et al.* 2023). The curry leaf is listed as uncommonly cultivated in Hawaiian gardens by Staples & Herbst (2005). This tree was found spreading from a planted individual along Anolani Street in Niu Valley into the forest reserve behind the residences. Many seedlings in various stages were seen under the parent and up to 10 m from the tree. Seedlings have also been observed further back in the valley along the Pia Valley Trail, nearly a kilometer from the housing development. This species has also been observed escaping cultivation from the Cactus and Succulent Garden at Kapiʻolani Community College, with ca. 10 wild individuals, mostly seedlings, scattered up to 100 m from the planted parent tree. The following is a description from Zhang *et al.* (2008):

> "Shrubs or trees, to 4 m tall. Leaves 17–31-foliolate; leaflet blades ovate, 2–5 × 0.5–2 cm, base obtuse to rounded and oblique, margin entire or crenulate. Inflorescences terminal, paniculate, many flowered. Flowers 5–merous, ellipsoid in bud. Sepals ovate, less than 1 mm. Petals white, oblanceolate to oblong, 5–7 mm. Stamens 10. Stigma capitate. Fruit bluish black, ovoid to oblong, 1–1.5 cm, 1– or 2–seeded. Seed coat membranous."

Material examined. **Oʻahu**: Niu Valley, on slope above Anolani St behind residential area, many seedlings under tree and on side of road in washed out area, 45 m, 21.288838, -157.740212, 24 Jan 2024, *M.K. Thomas 978*; Kapiʻolani Community College, Cactus and Succulent Garden, escaping cultivation, found scattered throughout the garden and campus, ca 10 wild plants seen, 56m, 21.161277, -157.483425, 04 May 2023, *M.C. Ross 1933*.

Flindersia brayleyana F.Muell. **New island record**

Flindersia brayleyana has previously been reported as naturalized on Kauaʻi, Maui, and Hawaiʻi (Imada 2019; Brock *et al.* 2023). Collections made of this species in Makiki now document its naturalization on Oʻahu, as thousands of seedlings are present underneath the mature forestry trees. Seedlings of this species are also abundantly present along the beginning of the Mānoa Cliffs Trail, which is adjacent to the end of the Moleka Trail.

Material examined. **Oʻahu**: Honolulu Watershed Forest Reserve, Moleka Trail, grove of 25 trees, much natural reproduction, 457 m, 03 Jun 1958, *M.F. Landgraf s.n.* (BISH 580971, 580972, 580973); Makiki, vicinity of Moleka Trail, east of trail, mesic, invasive-dominated forest, shady understory, thousands of seedlings recruiting from planted forestry trees which are now mature canopy trees, 368 m, 21.320483, -157.818900, 02 Dec 2024, *K. Faccenda & K. Arthur 3950.*

Melicope sessilis (H.Lév.) T.G.Hartley & B.C.Stone **New island record**

Melicope sessilis was reported as occurring on Molokaʻi and Maui (Imada 2012), but its range should also include Hawaiʻi Island, as Stone (1969) treated *Pelea parvifolia* Hillebr. var. *apoda* (H.St.John) B.C.Stone as an accepted taxon from the Volcano region, but var. *apoda* (and its basionym, *Pelea apoda* H.St.John) is now considered a synonym of *Melicope sessilis* (Hartley 2001).

Material examined. **HAWAIʻI**: Volcano region, Jul 1918, *J.C. Rock s.n.* (BISH 579676).

Ruta chalepensis L. **Taxonomic note**

Ruta graveolens L. was published as naturalized on Maui by Starr *et al.* (2004); however, it was a misidentification of *Ruta chalepensis*, based on its fringed petals (Tutin *et al.* 1968). All specimens from Maui have proven to be *Ruta chalepensis*. The name *R. graveolens* can be removed from the Hawaiian naturalized flora.

Zanthoxylum dipetalum H.Mann var. ***dipetalum*** **New island record**

Zanthoxylum dipetalum was published as occurring on Maui by Oppenheimer & Bustamente (2014) with a note that says "var. nov." Examination by one of us (MKT) places these specimens within the immense range of variation of the nominate subspecies, but the consistently smaller leaves with very short petioles and more contracted panicles could indicate a unique taxon. A more in-depth study using DNA analysis is needed for this species.

Material examined. **MAUI**: West Maui, Lāhainā, Kauaʻula Valley, S slope, population of 7, 1 large 8 m mother tree, 6 smaller but mature trees downslope, 945 m, 13 Apr 2016, *H. Oppenheimer et al. H41608*; *loc. cit.*, 24 Apr 2013, *H.L. Oppenheimer et al. H41338*; *loc. cit.*, 13 Feb 2014, *H.L. Oppenheimer et al. H23854.*

Salviniaceae

Azolla caroliniana Willd. **Corrections**

Azolla caroliniana was published as naturalized on Oʻahu and Molokaʻi by Imada & Kennedy (2020), but the specimens (*Lau 1616; Wilson 2447*) have since been reidentified as *A. filiculoides.* The name *A. caroliniana* can be removed from the Hawaiian naturalized flora.

Santalaceae

Exocarpos gaudichaudii A.DC. **Corrections**

Exocarpos gaudichaudii was reported as occurring on "all of the main islands except Kauaʻi" by Wagner *et al.* (1990: 1218); however, there is no evidence that it ever occurred on Kahoʻolawe, as no specimens or literature reports outside of the *Manual* exist (Warren *et al.* 1994). Similarly, there is no mention of the species by Wichman & St. John (1990) as being on Niʻihau, and no specimen documentation exists.

Sapindaceae

Cardiospermum halicacabum L. **Correction**

Cardiospermum halicacabum was reported from "all of the main islands except Lanaʻi and Kahoʻolawe" by Wagner *et al.* (1990: 1226), but no specimens or citizen science records could be found to substantiate its occurrence on Molokaʻi.

Filicium decipiens (Wight & Arn.) Thwaites **New island record**

Previously reported as naturalized on Kauaʻi, Oʻahu, Maui, and Hawaiʻi (Imada 2019), *Filicium decipiens* is now also found on Molokaʻi.

Material examined. **MOLOKAʻI**: Mapulehu, mauka of hwy along unpaved road leading to ʻIliʻiliʻōpae Heiau, growing in dense shade of *Psidium cattleianum*, *Syzygium cumini* and *Mangifera indica,* 61 m, 10 Aug 2024, *H. Oppenheimer H82401*.

Schizaeaceae

Microschizaea robusta (Baker) C.F.Reed **Correction**

Schizaea robusta, now accepted as *Microschizaea robusta* based on molecular evidence (Ke *et al.* 2022), was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lānaʻi.

Scrophulariaceae

Bontia daphnoides L. **New naturalization**

Bontia daphnoides is native to the Americas, where it grows in a primarily wet tropical biome (POWO 2025). Collections made at D.T. Fleming Beach Park document its naturalization on Maui, where many seedlings were observed spreading downslope.

Material examined. **MAUI**: West Maui, Lāhainā, Honokahua, between bathrooms at D.T. Fleming Beach Park and Ritz-Carlton Hotel, 10 m, 21.08, -156.394, 18 May 2024, *H.L. Oppenheimer H52401*.

Buddleja madagascariensis Lam. **New island record**

Buddleja madagascariensis has previously been reported as naturalized on Kauaʻi, Maui, and Hawaiʻi (Imada 2019). Collections made in Wahiawā, Mānoa, and Tantalus now document its naturalization on Oʻahu. This species is an eradication target of the Oʻahu Invasive Species Committee and any plants seen should be reported to them.

Material examined. **Oʻahu**: Wahiawā, Schofield Barracks, East Range, across Leilehua Rd, 21 Sep 2004, *S. Cato & OISC USARMY 2*; Schofield Barracks, East Range, near Army Natural Resources Center, 265 m, 28 Feb 2005, *K. Kawelo USARMY 12*; Honolulu, Mānoa Valley, Woodlawn, dry stream bed, 10 Mar 1931, *M.C. Neal s.n.* (BISH 56340).

Buddleja paniculata Wall. **Correction**

Buddleja paniculata was published as naturalized on Kauaʻi (Brock *et al.* 2023); however, this was a misidentification of *Buddleja madagascariensis* based on the reidentification of all specimens (*Lorence 8402; Brock 923*). As such, *Buddleja paniculata* should be deleted from the naturalized Hawaiian flora.

Kickxia elatine (L.) Dumort. **New state record**

Kickxia elatine is an annual species whose native range includes Europe, West Asia, and North Africa, and it is also a widespread weed across much of temperate North America and, to a lesser extent, South America (POWO 2025). In North America it grows from gravelly or sandy disturbed sites, roadsides, stream banks, gravel bars, and glades from 0–900 m (Elisens 2019). *Kickxia* can be recognized by its decumbent habit; hastate leaves; and solitary, bilabiate flowers on pedicels 10–22 mm long, the lower lip yellow, the upper purple, the spur long. Collections of *Kickxia elatine* on a disturbed area near a dumpsite on Oʻahu at Barbers Point Naval Air Station, and on a steep hydro-mulched road bank on Maui off of Honoapiʻilani Highway document this new naturalization in the state.

Material examined. **O‘AHU**: Barbers Point Naval Air Station, 15 Sep 1994, *A. Whistler 9677*. **MAUI**: Honolua, Mokulē‘ia, steep bank on Honoapi‘ilani Hwy, 45 m, 09 May 2006, *R.W. Hobdy 4263*.

Myoporum sandwicense A.Gray
subsp. ***sandwicense*** **New island record**

Myoporum sandwicense subsp. *sandwicense* (naio) was previously known from all of the main Hawaiian Islands except Kaho‘olawe (Imada 2012). Collections made from ‘Ale‘ale now document its presence on Kaho‘olawe, expanding the native range of this species to include all eight main Hawaiian Islands.

Material examined. **KAHO‘OLAWE**: Pu‘u Koa‘e, Kamōhio Bay, ‘Ale‘ale, 45 m, 18 May 1992, *S. Perlman & K. Wood 12775.*

Smilacaceae

Smilax glauca Walter **Questionable naturalization**

Smilax glauca is native to eastern North America from New York south to the Yucatan and west to Texas (POWO 2025). It is also now questionably naturalized at Schofield Barracks East Range on O‘ahu, apparently the first time this species has been reported outside of its native range (POWO 2025). The population covers a 12 m × 12 m area with extensive underground rhizomes. The specimen labels noted that no flowers had been observed and that they had been sprayed several times with 1% glyphosate, yet continued to persist to the present despite repeated herbicide applications. It is unclear how this species arrived in Hawai‘i. Importation through the horticultural trade seems unlikely, due to its inedible berries and prickles; perhaps a seed arrived attached to a vehicle. This species is easily distinguished from the endemic *S. melastomifolia* by its prickles and glaucous underleaves.

Material examined. **O‘AHU**: Schofield Barracks, East Range, 287 m, 26 Jul 2005, *K. Wong & S. Cato USARMY 33a;* Schofield Barracks, East Range 2, dry mesic area on slope, 14 Nov 2006, *S. Mosher USARMY 35b.*

Solanaceae

Cestrum aurantiacum Lindl. **Corrections**

Cestrum aurantiacum was noted as “persisting and perhaps naturalized at least on O‘ahu, Maui, and Hawai‘i” by Wagner *et al.* (1990: 1254), but we have not seen convincing evidence of naturalization, as all specimens date from before the 1950s and none make mention of naturalization. Furthermore, there are no citizen science observations of this growing wild, nor have the authors seen it. This species should be considered to be found only in cultivation.

Datura metel L. **New island record**; **corrections**

Datura metel was previously documented as naturalized on O‘ahu, Maui, Moloka‘i, and Hawai‘i (Wagner *et al.* 1990; Imada 2019). However, the O‘ahu records are all cultivated, nor is there any evidence to substantiate its naturalization on Hawai‘i Island. However, the collection of a mature individual near office trailers at Airport Nursery in Lāna‘i City, as well as reports of observations near Mānele Four Seasons Resort and construction sites across town, document its naturalization on Lāna‘i.

Material examined. **LĀNA‘I**: Lāna‘i City, mature individual near office trailers at Airport Nursery, 417 m, UTM 04 0713686 2301158, 15 Feb 2022, *K. Bogner KKB103*.

Datura stramonium L. **New island record**

Datura stramonium was previously reported as naturalized on Kauaʻi, Oʻahu, Molokaʻi, Maui, and Hawaiʻi (Imada 2019). A collection made behind the shade houses at the Pūlama Lānaʻi Quarantine Unit near the Lānaʻi Airport now document its naturalization on Lānaʻi. In June of 2019 a separate individual was observed growing along Challenge Drive in Mānele, Lānaʻi.

Material examined. **LĀNAʻI**: Lānaʻi Airport, Pūlama Lānaʻi Quarantine Unit, behind shade houses, 378 m, 05 Jul 2019, *K. Bogner s.n.* (BISH 777507).

Nicotiana tabacum L. **Correction**

Nicotiana tabacum was reported as naturalized on "Laysan and all of the main islands" by Wagner *et al.* (1990: 1262). It appears to have been historically cultivated on Kahoʻolawe, but it has not persisted (Warren *et al.* 1994) and Kahoʻolawe should be removed from its distribution.

Nothocestrum A.Gray **Note**

There appears to be some confusion between *Nothocestrum latifolium* and *N. longifolium.* The key in the *Manual* relies heavily on features of the flower clusters, but after reviewing all of the specimens at the Bishop Museum herbarium, there seems to be much overlap.

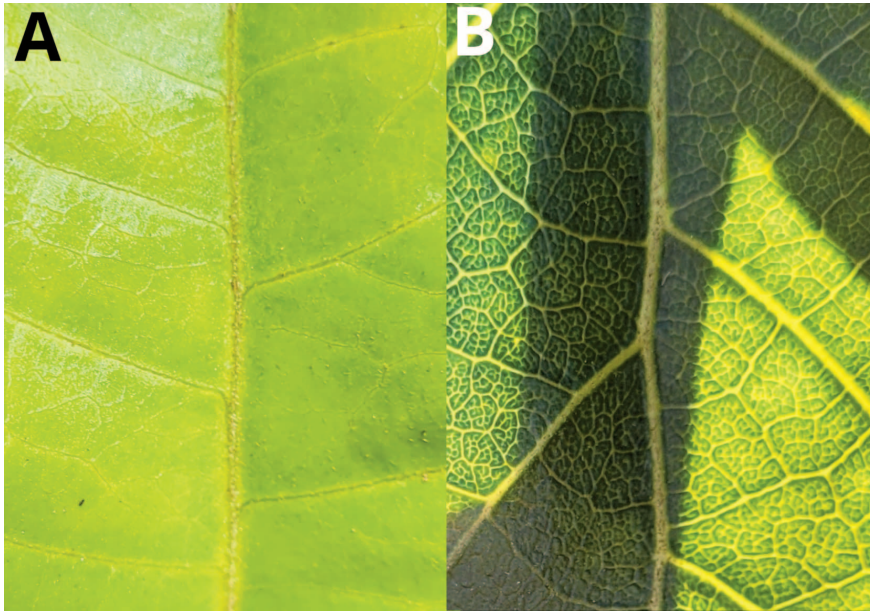

Figure 12: Detail of upper leaf venation of *Nothocestrum*. **A**, *N. longifolium.* **B**, *N. latifolium.*

The leaf shape, texture, and veins appear to be diagnostic and are here included in a modified key to this genus:

1. At least some of the leaves peltate or hemipeltate; pedicels ca 3–18 mm long .... *N. peltatum*
1′. None of the leaves peltate; pedicels 4–30 mm long
   2. Corolla tube barely exserted from calyx; fruit enclosed by calyx .... *N. breviflorum*
   2′. Corolla tube up to 2× longer than calyx; fruit not enclosed by calyx
      3. Leaves often thick, coriaceous, the margins usually irregularly lobed, mostly broadly ovate with some narrowly elliptic, veins conspicuous and pale green/yellow with very small gaps between the reticulations (Figure 12); fruit mostly globose; dry forests (occasionally in mesic forests) ..... *N. latifolium*
      3′. Leaves chartaceous, relatively thin, lanceolate to elliptic-oblong, margins entire, tertiary and quaternary veins mostly obscure with only primary and secondary veins conspicuous; fruit elongate or fusiform: mesic to wet forests ..... *N. longifolium*

Solanum americanum Mill. **Correction**

Solanum americanum is no longer known from Pearl and Hermes, Nihoa, Kaʻula, Lehua, Niʻihau, or Kahoʻolawe as all specimens have been reidentified as *S. opacum*; see below.

Solanum capsicoides All. **Range extension**

Solanum capsicoides was previously reported as naturalized on West Maui (Oppenheimer & Bartlett 2000). It is now known from East Maui, where a single individual was observed in a pasture.

Material examined. **MAUI**: Kapaʻalalaea, Haʻikū, mesic pasture, 26 Dec 2022, *F. Starr & K. Starr 221226-01*.

Solanum incompletum Dunal **Corrections**; **new synonyms**

[= *Solanum hillebrandii* H.St.John]
[= *Solanum nesophilum* H.St.John]
[= *Solanum pubinervosum* H.St.John]

Solanum incompletum was reported as occurring on Molokaʻi by Wagner *et al.* (1990), but no specimens could be found to document its occurrence on that island. Hillebrand (1888) does not mention Molokaʻi, the Degeners never treated the species, St. John (1988) lists *S. nelsonii* as the only endemic *Solanum* on Molokaʻi, and searches on the Biodiversity Heritage Library website found no primary literature sources. It appears that the reference to *S. incompletum* for Molokaʻi came from a specimen that has now been redetermined as *Solanum capsicoides* (*Hobdy 1834*). By similar logic as above, no records of this species from Kauaʻi could be located and it should no longer be considered as occurring on that island.

Examination by KF & MKT of types stored at BISH also expands the synonymy of this species. *Solanum hillebrandii* is currently accepted on the Solanaceae Source website (https://solanaceaesource.myspecies.info/solanaceae/solanum-hillebrandii) and on POWO (2025), which cites Solanaceae Source. Examination of the holotype of this species suggests that this name is best treated as a synonym of *S. incompletum* Dunal. *Solanum incompletum* is variable in the degree of spininess in the BISH collection, with some specimens densely spiny and others having 1–3 minute spines. Recognition of a

glabrous form of *S. incompletum* as *S. hillebrandii* does not seem warranted, given this continuous variation in spininess among these plants. Furthermore, St. John (1969) noted that the spines on *S. incompletum* varied with ontology, as mature branches may lack spines entirely. By the same logic, examination of the holotype of *Solanum nesophilum* also suggests this name is best treated as a synonym of *S. incompletum*. While the type of *Solanum pubinervosum* was formerly annotated as *S. sandwicense,* the presence of several scattered spines indicates that it is also a synonym of *S. incompletum*.

Solanum nigrescens Mart. & Galeotti **Correction**

Solanum nigrescens was published as naturalized on Hawai‘i Island in Wagner *et al.* (1990), who noted that the identification was tentative. This identification was noted as "certainly in error" by Knapp *et al.* (2019). While there were no specimens annotated with the name *S. nigrescens* in the BISH collection, many specimens from high-elevation Hawai‘i Island appear to match "*S. nigrescens*" as treated in the *Manual*. These plants appear similar to *Solanum opacum* but have consistently persistent pedicels and a minutely racemose inflorescence. It may be that this population represents an upland form of *Solanum opacum,* but future study is needed to place these populations taxonomically. These plants should be treated as *Solanum* sp. for the time being.

Solanum opacum A.Braun & C.D.Bouché **New island records**

The identity of the plants referred to in Wagner *et al.* (1990) as *Solanum americanum* has been challenged by a recent monograph of the *S. nigrum* complex (Särkinen *et al.* 2018). This revision noted that *Solanum americanum* is a post-European introduction, and *Solanum opacum* is an indigenous species that has long been called pōpolo in ‘ōlelo Hawai‘i. Examination of the holdings of BISH corroborate this, as most collections from before 1920 are *S. opacum*, after which *S. americanum* becomes dominant. We further note that *S. opacum* is quite often found in coastal or nearly coastal ecosystems, whereas *S. americanum* is more often a weed of disturbed areas. The taxonomy of these species in Hawai‘i warrants further study, as some modern populations have characters intermediate between *S. opacum* and *S. americanum*, with persistent pedicels but matte berries. Given that *S. americanum* is diploid and *S. opacum* is hexaploid (Särkinen *et al.* 2018), hybridization seems unlikely.

Solanum opacum was previously cited as occurring on Pearl and Hermes, Nihoa, Ka‘ula, Kaua‘i, O‘ahu, Maui, and Hawai‘i (Särkinen *et al.* 2018), based on examination of limited Hawaiian specimens. Examination of BISH holdings expands its range, adding Kure, Papa‘āpoho (Lisianski), Lehua, Ni‘ihau, Moloka‘i, and Lāna‘i. Only the first record on each island is cited.

Key to *Solanum nigrum* complex in Hawai‘i (adapted from Särkinen *et al.* 2018)

1. Berries matte, green, purple, or blackish; calyx lobes appressed to fruit; pedicles deciduous with fruit ..... *S. opacum*
1′. Berries glossy black; calyx lobes reflexed in fruit; pedicles persistent ... *S. americanum*

Material examined. **KURE**: Central open plain, 03 Oct 1959, *H.F. Clay s.n.* (BISH 70103). **LISIANSKI**: 150 yards from E shore, 17 Jun 1966, *P.C. Shelton 407.* **KA‘ULA**: 18 Aug 1932, *E.L. Caum 15*. **LEHUA**: N slopes, 10 Jan 1992, *D.H. Lorence 7142.* **NI‘IHAU**: Koali, Jan 1912, *J.F.G Stokes s.n.* (BISH 70124). **MOLOKA‘I**: Waialua Valley, near shore, 05 Aug 1928, *O. Degener 7377.* **LĀNA‘I**: Mahana, Oct 1913, *G.C. Munro 298.* **KAHO‘OLAWE**: vicinity of Moa‘ula, 22 Nov 1978, *W.P. Char 78.018.*

Solanum sandwicense Hook. & Arn. **New synonymy**
[= *Solanum angustior* H.St.John]
Examination of the holotype of *Solanum angustior* by MKT & KF suggests that this name is best treated as a synonym of *S. sandwicense.*

Tetrachondraceae
Polypremum procumbens L. **Confirmation of naturalization**
Wagner *et al.* (1990) reported *Polypremum procumbens* as questionably naturalized on Hawai‘i Island, as no vouchers were observed. Specimens have since been located at the Smithsonian, and citizen science observations from iNaturalist.org document its persistence around the Kīlauea summit caldera.

Material examined. **HAWAI‘I**: Kīlauea Military Camp, 1230 m, 03 Jan 1958, *F.R. Fosberg 39279* (US); Hawai‘i National Park, Kīlauea Military Camp and Volcano Observatory, Crater Rim Trail, 1200 m, 27 Mar 1961, *F.R. Fosberg 41781* (US); Volcanoes National Park, Crater Rim Trail, near observatory, 10 Aug 1975, *S.P. Darwin 1199* (US).

Thelypteridaceae
Cyclosorus interruptus (Willd.) H.Itô **Correction**
Cyclosorus interruptus was reported as occurring on all the main islands by Palmer (2003); however, no specimens or literature could be found to substantiate its occurrence on Lāna‘i.

Typhaceae
Typha domingensis Pers. **New island record**
Typha domingensis was previously reported as naturalized on O‘ahu (Wagner *et al.* 1990) and has now also been found at Ka‘anapali. According to two landscape workers, it was not planted by the adjacent resort and appeared on its own. The population is forming a dense stand 200 m^2, with culms up to 2 m tall.

Material examined. **MAUI**: West Maui, Lāhainā Distr, Ka‘anapali, naturalized in seasonal wetland, makai of coastal walking path, behind dune restoration project, 3 m, 13 Jan 2024, *H. Oppenheimer H12405*.

Verbenaceae
Aloysia gratissima (Gillies & Hook.) Tronc. **Questionable naturalization**
The native range of *Aloysia gratissima* covers dry forests and abandoned fields of North and South America (POWO 2025). This species was collected once on O‘ahu in a closed *Prosopis* forest mauka of the quarry in Campbell Industrial Park, where it was exceedingly unlikely to have been planted. As the population size is unclear and it has not been recollected, this should be considered a questionable naturalization.

Material examined. **O‘AHU**: ‘Ewa, Campbell Industrial Park, Dec 1978, *W. Char 78.093.*

Duranta erecta L. **New island record**
Duranta erecta has previously been recorded as naturalized on Kaua‘i and O‘ahu (Imada 2019). Collections made near the top of the plateau of Pakanaloiki now document its naturalization on Ni‘ihau.

Material examined. **NI‘IHAU**: Pakanaloiki, near top of plateau, 300 m, 15 Jan 1977, *C. Christensen 114.*

Lantana velutina M.Martens & Galeotti **New state record**

The native range of *Lantana velutina* spans the seasonally dry tropical areas of the Americas (POWO 2025). Approximately 200 individuals of this species were seen on Oʻahu in partially exposed dry areas of Mauʻumae Nature Park, where it is well naturalized and associated with *Leucaena leucocephala*, *Urochloa maxima*, and *Lantana camara*. It was not formerly known from cultivation, nor could it be located for sale on the internet. It is unclear how the species arrived in Hawaiʻi. *Lantana velutina* can be distinguished easily from other *Lantana* in Hawaiʻi by its white flowers and fruit, soft hairs, and lack of prickles (Figure 13).

Material examined. **OʻAHU**: Mauʻumae Nature Park, 97 m, 21.286986, -157.789368, 28 Dec 2023, *K. Faccenda 3248.*

Figure 13. *Lantana velutina* flowers and fruit from the Mauʻumae locality.

Phyla nodiflora (L.) E.Green **New island record**

Phyla nodiflora was previously documented as naturalized on Kuaihelani (Midway Atoll), Oʻahu, Molokaʻi, and Maui (Imada 2019). Collected as a weed growing in the lawn around the Big Valley lily pond at the National Tropical Botanical Garden, its naturalization on Kauaʻi is now documented.

Material examined. **KAUAʻI**: Kōloa, Lāwaʻi, National Tropical Botanical Garden, edge of lily pond in Big Valley, 37 m, 22 Sep 1999, *T. Flynn 6635*.

Stachytarpheta* × *trimenii Rech. **New state record**

Stachytarpheta × *trimenii* is a hybrid between *S. mutabilis* and *S. cayennensis*, which appears to be forming spontaneously in the vicinity of the *S. mutabilis* population at Hanalei on Kauaʻi. It is similar to *S. mutabilis* in its woody habit, but it has purple flowers instead of the pink of *S. mutabilis*. Observations on iNaturalist confirm that hybrids are still present, despite no recent collections.

Material examined. **KAUAʻI**: Hanalei Valley, growing along roadside, 29 Dec 1951, *O. Degener 21485*; Hanalei Valley, north wall, near sea, 91 m, 06 Aug 1928, *E.H. Bryan Jr. 629*.

Verbena bonariensis L. **New island record**

Verbena bonariensis was previously documented as naturalized on Kauaʻi, Oʻahu, Lānaʻi, Maui, and questionably on Molokaʻi (Imada 2019; Faccenda 2024b). Collections made in North Kona near Kīpuka Lupea in the ahupuaʻa of Keauhou 2 now document its naturalization on Hawaiʻi Island.

Material examined. **HAWAIʻI**: North Kona, Keauhou 2, Kīpuka Lupea, 1,645 m, X: 0209640, Y: 2164196, 27 Jan 2015, *J. VanDeMark s.n.* (BISH 778234).

Viburnaceae

Sambucus canadensis L. **Taxonomic note**

Sambucus cerulea Raf. was reported as naturalized in Hawaiʻi by Wagner *et al.* (1990). However, this was a misidentification, as all Hawaiian *Sambucus* at US was subsequently redetermined as *S. canadensis* by A.T. Whittemore after lectotypification of *S. cerulea* (Whittemore 2018). Further examination of BISH material supports a redetermination of all naturalized Hawaiian *Sambucus* to *S. canadensis*, as no specimens have a waxy bloom on the fruit that is characteristic of *S. cerulea* (Cronquist *et al.* 1984).

Violaceae

Isodendrion pyrifolium A.Gray **Rediscovery**

Isodendrion pyrifolium was first described from an Oʻahu collection made during the U.S. Exploring Expedition of 1838–1842 (also known as the Wilkes Expedition). It was subsequently collected on Niʻihau, Molokaʻi, Lānaʻi, and Hawaiʻi, and reported by Hillebrand from Maui between 1838 and 1870 (St. John 1952, 1985; Wagner *et al.* 1990). It was then presumed extinct until a small population was rediscovered on Hawaiʻi Island in 1991 (Herbarium Pacificum Staff 1996).

We now report that in 2016 a population was discovered on Oʻahu while conducting rope access work on large cliffs in the leeward Waiʻanae Mountains. This is the first collection of *Isodendrion pyrifolium* on Oʻahu since its original 1838 collection. Subsequent surveys have determined this population to include at least 60 individuals, by far the largest known population of this species. *Isodendrion pyrifolium* was also rediscovered on Kauaʻi in 2022 via drone survey (Nyberg *et al.* 2023).

Material examined. **Oʻahu**: No locality, 1838, *Wilkes Expedition s.n.* (GH 67059, US 7693); Waiʻanae Kai, 660 m, 11 Jul 2016, *A. Loomis et al. OA-WAI-A-0001*.

Viola kauaensis A.Gray var. ***kauaensis*** **New synonymy**
[= *Viola vanroyenii* H.St.John]
Viola vanroyenii was published by St. John (1989). Examination of the holotype (and sole collection) suggests that it is merely a small form of *Viola kauaensis* var. *kauaensis,* perhaps due to the extreme conditions of the Wai‘ale‘ale summit bogs, where it was collected. This follows the conclusion of Havran *et al.* (2014) that the species significantly overlap.

Vitaceae
Rhoicissus rhomboidea (E.Mey. ex Harv.)
Planch. **Taxonomic note**
Cissus rhombifolia Vahl was published as naturalized on Maui by Starr *et al.* (2004). However, this specimen (*Starr 010222-2*) proved to be a misidentification of *Rhoicissus rhomboidea* (syn. *Cissus rhomboidea* E.Mey. ex Harv.), which appears to have originated from a misidentification in Staples & Herbst (2005). Comparison of digitized herbarium specimens of both species from their native ranges shows that all Hawaiian specimens named *Cissus rhombifolia* are actually *Rhoicissus rhomboidea*.

Xyridaceae
Xyris jupicai Rich. **New state record**
Xyris jupicai has been naturalized on Kaua‘i since at least 1999 but has been confused with *X. complanata*. These species are similar and can co-occur in the same bog, such as at Lehua Makanoe, but they can be separated by the following characters: *X. complanata* has twisted leaves and is a perennial, whereas *X. jupicai* leaves are not twisted and is typically annual (or a short-lived perennial). Tens of thousands of plants exist on the Alaka‘i plateau and the Wahiawa Bog.

Xyris jupicai has a broad native range spanning North, Central, and South America (POWO 2025). Within the southeastern U.S., this species appears to have spread rapidly out of Florida via human dispersal and disturbance (Kral 1966). This Kaua‘i sighting appears to be the first disjunct report of *X. jupicai* outside of its native range. Within its native range, it is also a weedy species. Kral (1966) reports that it is commonly found in borrow pits, around farm ponds, and especially in roadside ditches.

It is possible that this species was first introduced via seeds on hiking boots, as the first specimen was found on the Alaka‘i Swamp Trail, the most trafficked trail on the Alaka‘i plateau. On Kaua‘i, *Xyris jupicai* is spreading along pig trails or fencelines running through bogs, but is well-dispersed into the bogs on the Alaka‘i Swamp Trail. We believe that ungulates and humans are now dispersing seeds while traveling along fencelines. Under ideal conditions, *X. jupicai* can go from seed to fruit in four months (Kral 1988). To prevent its spread, bogs should be fenced with the fenceline not cutting through any of the bog. *Xyris* spp. and *Juncus planifolius* all pose a significant threat to Hawaiian bogs, as they can out-compete native species and will aggressively colonize disturbed areas. Furthermore, the weaker roots of these species do a poorer job stabilizing soil, compared to natives (KF, pers. observ.).

The following account of the life history of *Xyris* spp. in the Alakaʻi plateau is provided by Keeley Hassett (pers. comm.): *Xyris jupicai* was first observed with post-flowering seed capsules in August 2023. It turned an amber brown in November and died off by March. In August 2023, most *X. complanata* were observed to have seed heads, with about 15% having flowers. In November most plants were seeding, and by March no flowers were observed and seed stocks were brown, with viable seeds within capsules.

KEY TO *XYRIS* IN HAWAIʻI

[Note: *Xyris platylepis* is currently known only from the Puna District of Hawaiʻi, while *X. complanata* is known from the Puna District of Hawaiʻi and the Alakaʻi plateau of Kauaʻi]

1. Perennial; flowering spikes 7–15 mm diam.; plants with a conspicuous swollen base ... . *X. platylepis*

1′. Annual or perennial; flowering spikes 4–8 mm diam.; plants without a conspicuously swollen base

2. Perennial; lateral sepals coriaceous; leaves 1–3.5 mm wide, conspicuously twisted, fans only prominent on young plants, margins thickened, hyaline ..... *X. complanata*

2′. Annual to short-lived perennial; lateral sepals thin and papery; leaves 2–5 mm wide, flat or weakly twisted, arranged in flattened fans, margins thin, hyaline at base but not thickened ..... *X. jupicai*

Material examined. **KAUAʻI**: Waimea, Kōkeʻe, Pihea Trail, Alakaʻi Bog, 1,221 m, 22.147283, -159.607808, 02 Aug 2023, *J. Jablonski 37*; Kanaele, Wahiawa Bog, W fence around bog, 640 m, 21.975760, -159.507700, 11 Oct 2023, *K. Hassett 1*; Waimea, Nā Pali-Kona Forest Reserve, Alakaʻi Wilderness area, Alakaʻi Swamp Trail, between Kawaikōī Stream valley and Kilohana, mile marker 2.0, 1,200 m, 22.0800, -159.3700, 11 Nov 1999, *D.H. Lorence et al. 8437*; Waimea, Alakaʻi Swamp Trail, near Kilohana, 1,219 m, 22.085790, -159.353561, 19 Nov 2012, *S. Perlman & W. Kishida 23150.*

Zingiberaceae

Hedychium coronarium J.Koenig **Correction**

Hedychium coronarium was noted as naturalized on Lānaʻi by Wagner *et al.* (1990). However, only one specimen from 1913 (*Munro 150*, BISH) from Waiapaʻa exists, and there are no recent citizen science records from the island. Because is unclear that the specimen represented a naturalized occurrence, this species should not be considered naturalized on Lānaʻi.

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