

from Kalihiwai and 'Anini northwest to Mānoa Stream. It can form rather dense stands and seems to reseed freely in the shade of those stands.

*Material examined.* **KAUAI:** Hanalei Distr., 'Anini Beach Road ca 1/2 mile from the junction with Kalihiwai Road, ca. 6 m, 23 Apr 1986, *T. Flynn & L. Hume 1664* (BISH); *mauka* side of 'Anini Beach Road, 4 Sep 1987, *L. Hume 275*; Mānoa Stream near the Dry Cave, secondary vegetation of *Noronhia*, *Terminalia*, *Aleurites*, and *Mangifera*, ca 6 m, 18 Mar 2000, *T. Flynn & D. Lorence 6663* (NTBG); along access road to "Tunnels" from Hwy 560, secondary vegetation of *Noronhia*, *Terminalia*, *Ficus*, *Casuarina*, and *Pothos*, ca 6 m, 18 Mar 2000, *T. Flynn & D. Lorence 6665* (BISH, NY, US).

### Zingiberaceae

*Alpinia zerumbet* (Pers.) B.L. Burt & R.M. Sm. **New naturalized record**

This collection represents the first documented record of this widely cultivated species as having naturalized in the state of Hawai'i. *Alpinia zerumbet* or shell ginger is common in Hawaiian gardens and on Kaua'i has been planted extensively along Hwy 50 between Līhu'e and Lawa'i on the south side of the island. It is easily recognized by the pendant inflorescences of white, pink, and yellow colored flowers that are often visited by the solitary, black carpenter bees.

*Material examined.* **KAUAI:** Hanalei Distr., Mānoa Stream, lowland secondary mesic forest of *Aleurites*, *Syzygium cuminii*, *Mangifera*, *Terminalia catappa*, and *Schefflera*; naturalized on stream banks forming scattered clumps, ca 6 m, 18 Mar 2000, *D. Lorence & T. Flynn 8468* (BISH, US).

### Acknowledgment

George Staples (BISH) kindly assisted with the description and exsiccatae for *Molineria*.

### Literature Cited

**Imada, C.T., G.W. Staples, & D.R. Herbst.** 2000. New Hawaiian plant records for 1999. *Bishop Mus. Occas. Pap.* **63:** 9–16.

## New plant records from the Hawaiian Archipelago

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The following contributions include new island records, new state records, and range extensions of plants located on Midway Atoll, Pearl and Hermes Reef, O'ahu, Maui, and Hawai'i, State of Hawai'i. Voucher specimens are housed in the Bishop Museum, Honolulu (BISH).

### Acanthaceae

*Thunbergia grandiflora* Roxb. **New island record**

*Thunbergia grandiflora* (trumpet vine) is cultivated and sparingly adventive on at least Kaua'i, O'ahu, and Hawai'i (Wagner *et al.*, 1999: 175). On Maui, it appears to be doing the same, in at least the Makawao area. This collection represents a new island record for Maui.

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*Material examined.* MAUI: E. Maui, Makawao Distr., near Maliko Gulch in undeveloped lot, 1250 ft [381 m], 8 Apr 1998, *Starr & Martz 980408-130*.

### Amaranthaceae

#### *Alternanthera pungens* Kunth

#### Range extension

Wagner *et al.* (1999: 183) reported *A. pungens* (khaki weed) to be a common weed of beach parks and other low elevation, dry, disturbed areas on O'ahu, Moloka'i, and Hawai'i, but probably also on the other main islands. Recently collected from West Maui (Oppenheimer & Bartlett, 2000: 1) and Lāna'i (Oppenheimer & Bartlett, 2002), this collection confirms its presence on East Maui, where it is widespread, and represents a range extension for Maui.

*Material examined.* MAUI: E. Maui, near fire station at the Kahului Airport, 40 ft. [12 m], 23 Mar 2000, *Starr & Martz 000323-1*; E. Maui, Hāli'imaile, near Maui Land & Pineapple buildings, 1100 ft [335 m], 8 Jun 2000, *Starr & Martz 000608-1*.

#### *Amaranthus spinosus* L.

#### New island record

*Amaranthus spinosus* (spiny amaranth) is naturalized and often common in low elevation, disturbed sites on Kure Atoll and documented from all the main islands except Ni'ihau and Lāna'i (Wagner *et al.*, 1999: 188). On Midway, it was observed growing out of open fields in two distinct localities on Sand Island. This collection represents a new island record for Midway Atoll.

*Material examined.* MIDWAY ATOLL: Sand I, cemetery by demolished 6000 housing, small patch of plants growing out of occasionally mowed area, near sea level, 7 May 1999, *Starr & Martz 990507-2*.

### Apiaceae

#### *Anethum graveolens* L.

#### New island record

*Anethum graveolens* (dill) is cultivated and occasionally escapes on at least O'ahu and Maui (Wagner *et al.*, 1999: 200). On Midway, it does the same, volunteering in settled areas of Sand Island. This collection represents a new island record for Midway Atoll.

*Material examined.* MIDWAY ATOLL: Sand I, volunteering in recently cleared garden, near sea level, 5 May 1999, *Starr & Martz 990505-1*.

### Apocynaceae

#### *Thevetia peruviana* (Pers.) K. Schum.

#### New island record

*Thevetia peruviana* [*Cascabela thevetia* (L.) Lippold] (be-still tree) has been grown as an ornamental since its introduction ca 1900, and is now naturalized in disturbed mesic sites on Kaua'i, O'ahu, Maui, and probably on the other main islands (Wagner *et al.*, 1999: 215, 1858). On Midway, *T. peruviana* is also naturalized in disturbed areas of Sand Island. This collection represents a new island record for Midway Atoll.

*Material examined.* MIDWAY ATOLL: Sand I, south of cemetery by abandoned 6000 housing, suckering in recently cleared area, near sea level, 11 May 1999, *Starr & Martz 990511-1*.

#### *Vinca major* L.

#### New state record

Native to the W. Mediterranean and widely cultivated as a ground cover, *V. major* (greater periwinkle, blue buttons) is naturalized in at least the Kula area of East Maui where it can be found trailing through brush and over steep banks. This collection represents a new state record for Hawai'i. *Vinca* is a genus of about 12 species native to the Old World with

leaves opposite, entire; flowers solitary, axillary, 5-merous, bisexual, corolla more or less funnellform, stamens borne at middle of tube, anthers short, with prominent, spreading appendages, style broadened toward apex; fruit a pair of erect or spreading, cylindrical follicles, each 6-8 seeded. *Vinca major* is a prostrate, evergreen, trailing subshrub with arching shoots to several meters long with ovate, obtuse, lance-shaped or acute, dark green leaves, to 9 cm long, truncate to subcordate at base, ciliate, short-petioled. Corolla blue-violet or dark violet, to 5 cm across, tube .5 in [1.3 cm] long; follicles to 2 in [5 cm] long. There are many named cultivars (Brickell & Zuk, 1996; L.H. Bailey Hortorium, 1976). *Vinca major* can be distinguished from other naturalized Apocynaceae in Hawai'i by opposite leaves and white to blue flowers with rounded stigmas (Neal, 1965: 604).

*Material examined.* MAUI: E. Maui, Kula, Crater Rd., 4000 ft [1219 m], 5 Jan 1999, Starr & Martz 990105-2.

#### Asteraceae

*Dyssodia tenuiloba* (DC.) B.L. Rob.

#### New naturalized record

Native to south central Texas and adjacent Mexico, and naturalized in other warm parts of the world where cultivated primarily as a bedding plant *D. tenuiloba* [*Thymophylla tenuiloba* (DC.) Small] (Dahlberg daisy, golden fleece) is a recent ornamental introduction to Hawai'i which tends to readily naturalize where it is planted on both Maui and O'ahu. On Maui, we collected this yellow aster in sandy sites in Kihei and Waiehu. On O'ahu, B. Gagne collected it along the Pali Highway in lower Nu'uuanu Valley. These collections represent a new state record for Hawai'i. *Dyssodia* (dog weed, fetid marigold) is a genus of about 32 species of strongly scented herbs native to the southwestern United States and northern Mexico. *Dyssodia tenuiloba* is an erect to spreading, bushy annual or short lived perennial, to 1 ft; leaves opposite in lower part, alternate above, to 3/4 in long, pinnately parted into 7-11 linear filiform, bristle-tipped segments, margins glandular; heads to 1/2 in across, involucre turbinate-campanulate, involucre bracts united 3/4 their length, glandular; disc flowers yellow, ray flowers golden yellow-orange (L.H. Bailey Hortorium, 1976).

*Material examined.* MAUI: W. Maui, Waiehu, scattered at base of large sand dune behind residential area, 100 ft [30 m], 26 Apr. 2000, Starr & Martz 000426-1; E. Maui, Kihei, Kihei Rd. and Lipoa, spreading down road from initial planting at condominium, 5 ft [1.5 m], 26 Jan. 2000, Starr & Martz 000126-1. O'AHU: Honolulu, lower Nu'uuanu Valley, along Pali Hwy between the scenic overlook above Chinese cemetery and Pauoa Road exit, 100 ft [30 m], 3 May 2000, B.H. Gagne 3150.

*Verbesina encelioides* (Cav.) Benth. & Hook. **New island record**

*Verbesina encelioides* (golden crown-beard) was previously known to be naturalized on Kure Atoll, Midway Atoll, and all of the main islands except Ni'ihau (Wagner *et al.*, 1999: 372). On Pearl and Hermes Atoll, *V. encelioides* was collected on Southeast Island where it is currently restricted to the east side of the island. This collection represents a new island record for Pearl and Hermes Atoll.

*Material examined.* PEARL AND HERMES ATOLL: Southeast I, from large patch in center of east part of island, near sea level, 14 Jun 1999, Starr & Martz 990614-1.

#### Bignoniaceae

*Macfadyena unguis-cati* (L.) A.H. Gentry

#### Range extension

Previously known from Kaua'i, O'ahu, Lāna'i, and Maui (Wagner *et al.*, 1999: 388, Oppenheimer & Bartlett, 2000: 2-3), this species was recently collected from the North Kohala

area of Hawai‘i (Imada *et al.*, 2000: 10) where it formed locally dense mats on the ground and twined around trees in disturbed secondary forest. This collection documents *M. unguis-cati* doing the same in the Hōnaunau / Kealakekua area and extends the known range to include the Hōnaunau area of Hawai‘i.

*Material examined.* **HAWAI‘I:** Hōnaunau, near painted church, 780 ft [238 m], 20 June 2000, Starr & Martz 000620-1.

### Caprifoliaceae

*Lonicera japonica* Thunb.

#### New island record

*Lonicera japonica* (Japanese honeysuckle) is widely cultivated and now escaping and becoming naturalized on Kaua‘i and Hawai‘i (Wagner *et al.*, 1999: 495). On Maui, *Lonicera* is also widely planted, producing viable fruit from sea-level to at least 4000 ft, spreading beyond initial plantings, and becoming naturalized. These collections represent a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Kula, near Pony Express, climbing into and over eucalyptus trees, 4000 ft [1219 m], 26 Aug 1998, Starr & Martz 980826-17; E. Maui, Kula, crest of Kekaulike Ave., sprawling into gulch, 3750 ft [1143 m], 9 Dec 1998, Starr & Martz 981209-1.

### Casuarinaceae

*Casuarina glauca* Siebold ex Spreng.

#### New island record

*Casuarina glauca* (longleaf ironwood) is known to be planted on all the main islands except Ni‘ihau, persisting and extensively spreading by root suckers after cultivation on at least Lāna‘i, O‘ahu, (Wagner *et al.*, 1999: 529, 1872) and Maui (Oppenheimer & Bartlett, 2000). On Midway, it was collected by Bruegmann and published in Wagner *et al.*, (1999: 329), but not in Bruegmann (1999: 2). More recently this ironwood species was collected by the authors persisting and spreading in the southwest corner of the antennae field in the center of Sand Island. This collection represent a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, SW corner of antennae field, suckering away from main patch into nearby field and woods, near sea level, 11 May 1999, Starr & Martz 990511-1.

### Chenopodiaceae

*Bassia hyssopifolia* (Pall.) Kuntze

#### Range extension

*Bassia hyssopifolia* (bassia) was previously known only from alkaline soil, Kuapā Pond, O‘ahu, and near Kanahā Pond, central Maui (Wagner *et al.*, 1999: 536). On Maui, bassia has now also been collected from an undeveloped lot in the Kīhei area, and has been observed by the authors at Kakahai‘a National Wildlife Refuge on the island of Moloka‘i. The soils in these areas were also apparently alkaline in nature. This collection represents a range extension to Kīhei, Maui. Elsewhere in these *Records*, Staples *et al.* (2002: 5) record this species from Moloka‘i.

*Material examined.* **MAUI:** E. Maui, Kīhei, coming up in undeveloped lot adjacent and *makai* of S. Kīhei Rd., 10 ft [3 m], 22 Aug 1999, Starr & Martz 990822-1.

### Cyperaceae

*Cyperus difformis* L.

#### New island record

*Cyperus difformis* was previously known from wet sites and cultivated fields on Kaua‘i and O‘ahu, presumably in connection with rice cultivation (Wagner *et al.*, 1999: 1395). This collection documents a new island record for this species on Maui.

*Material examined.* **MAUI:** W. Maui, Ukumehame Valley, common in cultivated *kalo lo'i*, 200 ft [61 m], 24 Jul 1999, *Starr & Martz 990724-1*.

### Fabaceae

***Crotalaria assamica* Benth.**

#### New island record

*Crotalaria assamica* (rattlepod) was previously known from disturbed mesic sites on O'ahu and Hawai'i (Wagner *et al.*, 1999: 657). The collections below represent a new island record for Maui, where the species can be found in similar sites.

*Material examined.* **MAUI:** near old airport, side of road off Mokulele Hwy, *mauka* of Humane Society, 130 ft [43 m], 9 Mar 2001, *Starr & Martz 010309-2*; E. Maui, Kihei, Mokulele Hwy, junction with upper Kihei Hwy, growing as a weed in a seedcorn field, 12 Sep 1993, *R. Hobdy 3593*.

***Indigofera hendecaphylla* Jacq.**

#### New island record

*Indigofera hendecaphylla* [syn. *I. spicata* Forssk.] (creeping indigo) was previously known from Kaua'i, O'ahu, and Maui (Wagner *et al.*, 1999: 675). This collection represents a new island record for Hawai'i.

*Material examined.* **HAWAII:** Captain Cook, growing in parking lot of Amy Greenwell Ethnobotanical Garden, 1640 ft [500 m], 9 Apr 2000, *Starr & Martz 000409-5*.

***Lathyrus latifolius* L.**

#### Range extension

*Lathyrus latifolius* (perennial pea) was previously known from a single collection by R. Hobdy in the Olinda area of East Maui (Wagner *et al.*, 1999: 678). These collections document a range extension of this species to at least the Kula area where it can occasionally be seen in pastures and waste areas.

*Material examined.* **MAUI:** E. Maui, Kula, naturalized on *makai* side of rd. near mile marker 13, 2800 ft [853 m], 24 Dec 1997, *Starr & Martz 981223-III*; (same loc.), 3 Jun 2000, *H. Oppenheimer H60014*.

### Hydrangeaceae

***Philadelphus karvinskyanus* Koehne**

#### New island record

*Philadelphus karvinskyanus* (philadelphus) has been cultivated in Hawai'i since 1944. Planted on at least Kaua'i, O'ahu, and Maui, it is now escaping by spreading vegetatively and blanketing large areas, and has become naturalized on Kaua'i (Lorence *et al.*, 1995: 38). On Maui, *Philadelphus* is widely planted in the Kula area, and though not noted to be producing viable fruit, is spreading well beyond initial plantings in the Kula area. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Kula, above Sunrise Market, sprawling along Crater Rd., 3900 ft [1189 m], 26 Aug 1998, *Starr & Martz 980129-1*.

### Liliaceae

***Asparagus asparagoides* (Forssk.) Deflers**

#### New state record

Native to tropical and south Africa, and introduced to New Zealand and Australia where it has become a weed, *A. asparagoides* (bridal creeper, smilax) is naturalized on Maui in the Kula area, and has been observed from Wai'ale Gulch in Kula through lower Poli Poli to Kē'ōkea where it twines in and amongst vegetation and cascades down steep banks. Previously collected in pastures in Kula by D. Herbst, these collections represent a new state record for Hawai'i. Tuberos root branching vine, cladophylls alternate, ovate, to 2 in long, leathery, with many longitudinal veins, flowers bisexual, greenish, solitary or

paired, stamens orange, fruit red (L.H. Bailey Hortorium, 1976: 118; Bay of Plenty Regional Council, 1996).

*Material examined.* MAUI: E. Maui, Kula, on side of Crater Rd, 4000 ft [1219 m], 18 Feb 1999, *Starr & Martz 990218-1*; E. Maui, Kula, on side of Crater Rd, 4000 ft [1219 m], 26 Mar 1999, *Starr & Martz 990326-1*; E. Maui, Kula, cascading down side of Wai‘ale gulch, 2800 ft [853 m], 15 Jan 1998, *Starr & Martz 980115-8*.

***Asparagus plumosus* J.G. Baker**

**New island record**

*Asparagus plumosus* (common asparagus fern) was previously known from Kaua‘i (Lorence *et al.*, 1995: 40), O‘ahu (Imada *et al.*, 2000: 13), and Maui (Oppenheimer & Bartlett, 2000). *Asparagus plumosus* is now also known from Hawai‘i in at least the Hōnaunau / Kealakekua area. This collection represents a new island record for Hawai‘i.

*Material examined.* HAWAI‘I: Hōnaunau, on side of rd. near painted church, 780 ft [238 m], 20 Jun 2000, *Starr & Martz 000620-2*.

**Malvaceae**

***Gossypium hirsutum* L.**

**New island record**

*Gossypium hirsutum* (upland cotton) was previously known from Hale‘iwa, O‘ahu where it was collected by Degener in 1956 (Wagner *et al.*, 1999: 876). More recently, it was collected at La Pérouse Bay in leeward East Maui. This collection represents a new island record for Maui.

*Material examined.* MAUI: E. Maui, La Pérouse, stands growing in and near *kiawe* forest, 10 ft [3 m], 15 Apr 2000, *Starr & Martz 000415-1*.

***Sida urens* L.**

**New island record**

*Sida urens* was previously known from a single naturalized collection made in 1980 in North Kona, Hawai‘i by Nagata & Park (Wagner *et al.*, 1999: 899). It is now also known from Maui, having been collected twice on East Maui by R. Hobdy in 1985 and 1993, and more recently by the authors near the same spot in 1999. These collections represent a new island record for Maui.

*Material examined.* MAUI: E. Maui, Kaupō, just off side of rd. where Hāna Hwy turns into Pi‘ilani Hwy, 100 ft [30 m], 6 Jan 1999, *Starr & Martz 990106-5*; Kaupō, Nuanualoa, in disturbed homestead, 246 ft [75 m], 8 Sep. 1993, *Hobdy & Baker 3592*; Naopu‘u, just W. of Kālepa Stream between Kīpahulu and Kaupō, 300 ft [91 m], 26 Dec 1985, *Hobdy 2474*.

**Moraceae**

***Ficus macrophylla* Desf. ex Pers.**

**New island record**

Previously known from Maui (Oppenheimer & Bartlett, 2000: 6–7), *F. macrophylla* (Moreton Bay fig) is naturalized in at least the Kailua-Kona area of Hawai‘i. This collection represent a new island record for Hawai‘i.

*Material examined.* HAWAI‘I: Kailua-Kona, Ali‘i Dr., coming up in bare lava and lowland coastal forest, more abundant towards mature trees in downtown, near sea level, 9 Apr 2000, *Starr & Martz 000409-4*.

***Ficus microcarpa* L. f.**

**New island record**

*Ficus microcarpa* (Chinese banyan) is cultivated and naturalized in low elevation habitats on Kaua‘i, O‘ahu, Moloka‘i, Maui, and Hawai‘i (Wagner *et al.*, 1999: 924, 1885). On Midway Atoll, it can be seen spreading from initial plantings in settled areas on Sand

Island into cracks on sidewalks, buildings, and trees. This collection represents a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, near Midway Mall, near sea level, 28 Apr 1999, *Starr & Martz 990428-5*.

### **Oleaceae**

*Jasminum fluminense* Vell.

#### **New island record**

*Jasminum fluminense* (star jasmine) is widely cultivated and was known to be naturalized in at least the Ho'okena Beach area on Hawai'i (Wagner *et al.*, 1999: 990, 1886). It is now naturalized on Maui, where it is established in the Spreckelsville area. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Spreckelsville, climbing in vegetation along Hāna Hwy, 20 ft [6 m], 3 Apr 1998, *Starr & Martz 980403-30*.

### **Poaceae**

*Andropogon virginicus* L.

#### **New island record**

*Andropogon virginicus* (broomsedge) was known to be common and often dominant along roadsides and in disturbed dry to mesic shrubland on Kaua'i, O'ahu, Moloka'i, Lāna'i, Maui, and Hawai'i (Hughes, 1995: 8; Oppenheimer *et al.*, 1999: 9; Wagner *et al.*, 1999: 1497, 1904; Herbarium Pacificum Staff, 1999: 7; Imada *et al.*, 2000: 14). It has now also been found on Midway Atoll, scattered throughout and on the margins of the ironwood forest by west beach on Sand Island. This collection represent a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, west beach trail cart path, growing in *Casuarina* forest border, near sea level, 5 May 1999, *Starr & Martz 990407-1*.

*Cenchrus echinatus* L.

#### **New island record**

*Cenchrus echinatus* (sandbur) was previously known to be naturalized in arid, disturbed habitats on Kure and Midway Atolls, Lisianski, Laysan, French Frigate Shoals, Nihoa, and all of the main islands (Wagner *et al.*, 1999: 1513, 1904). On Pearl and Hermes Atoll, *C. echinatus* was collected on both North and Southeast Islands. These collections represent a new island record for Pearl and Hermes Atoll.

*Material examined.* **PEARL AND HERMES ATOLL:** North I, center of island, 14 Jun 1999, *Starr & Martz 990614-3*; Southeast I, center of east part of island, 14 Jun 1999, *Starr & Martz 990614-2*.

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

#### **New island record**

*Echinochloa crus-galli* (barnyard grass) is naturalized in wet sites such as ditches or stream beds, and in cultivated fields on all of the main islands except Ni'ihau and Kaho'olawe (Wagner *et al.*, 1999: 1535). On Midway, it is localized on Sand Island in the mowed fields near the seaplane ramp on the north part of the island. This collection represents a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, coming up in field near seaplane ramp, near sea level, 20 Jun 1999, *Starr & Martz 990620-1*.

*Panicum maximum* Jacq.

#### **New island record**

*Panicum maximum* (Guinea grass) is naturalized and common on all the main islands (Wagner *et al.*, 1999: 1569). On Midway, a lone patch persists in an ironwood grove and

grass field border on Sand Island. This collection represents a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, W of boat harbor, growing in *Casuarina* forest border, near sea level, 5 May 1999, *Starr & Martz 990505-11*.

***Panicum repens* L.**

**New island record**

*Panicum repens* (torpedo grass) was previously known from usually moist, disturbed habitats on O'ahu, Lāna'i, and Hawai'i (Wagner *et al.*, 1999: 1571), and is now also known from moist areas on Maui, at least in the Līpoa area of Kihei. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Līpoa, widespread in moist areas near the coast, 10 ft [3 m], 27 Sep 1998, *Starr & Martz 980927-1*.

***Paspalum fimbriatum* Kunth**

**New island record**

Previously known from Kure Atoll, Kaua'i, and O'ahu (Wagner *et al.*, 1999: 1576), *P. fimbriatum* (Panama or fimbriate paspalum) is now also known from Maui where it is widespread in disturbed areas at least on East Maui. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Makawao, Makawao Elementary School, growing on schoolyard, 1640 ft [500 m], 24 May 2000, *Starr & Martz 000524-1*; Ha'ikū, Ha'ikū Elementary School, growing out of crack in sidewalk, 328 ft [100 m], 29 May 2000, *Starr & Martz 000529-1*.

***Pennisetum polystachion* (L.) Schult.**

**New island record**

*Pennisetum polystachion* (blue buffel grass) was previously noted from O'ahu, Lāna'i, and Hawai'i (Wagner *et al.*, 1999: 1579), and has recently been observed on Maui in sandy areas of Kahului and Wailuku. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Kahului, naturalized around Kahului airport in areas where *Cenchrus ciliaris* grows, 50 ft [15 m], 6 May 1998, *Starr & Martz 980506-135*.

***Setaria sphacelata* Stapf & Hubb. ex M.B. Moss** **New naturalized record**

Native to Africa, *S. sphacelata* is cultivated in experiment stations and escaped along irrigation ditches in California (Hitchcock, 1971: 720). In Hawai'i, it has recently been found in mesic pastures in Kokomo, Maui. R. Hobdy recalls collecting this species near the Pi'iholo experimental station in the 1980s, about one mile from the Kokomo site. This collection documents the naturalized status on Maui and represents a new state record. Tufted perennial, glabrous or nearly so, often with stout rhizomes; culms 0.5–1.5 m tall, flattened; blades flat, rather lax, 4–10 mm wide; panicle dense, cylindric, 8–15 cm long, usually orange to purple, bristles mostly 5 or more, 3–6 mm long; spikelets 2.5–3 mm long; fruit finely rugose (Hitchcock, 1971: 720).

*Material examined.* **MAUI:** E. Maui, Kokomo, pastures on Kaupakulua Rd, 1500 ft [457 m], 4 Aug 1999, *Starr & Martz 990804-1*.

**Polygonaceae**

***Antigonon leptopus* Hook. & Arnott**

**New island record**

*Antigonon leptopus* (Mexican creeper) was previously known from disturbed areas on at least Kaua'i, O'ahu, Lāna'i, Maui, and Hawai'i (Wagner *et al.*, 1999: 1060). It was also recently collected from Midway Atoll by M. Brueggemann and originally published in



Wagner *et al.* (1999: 1888), but not in Brueggemann (1999: 2). On Midway, this plant is indeed sparingly naturalized on Sand Island. This collection confirms the naturalized status and represents a new island record for Midway Atoll.

*Material examined.* **MIDWAY ATOLL:** Sand I, sprawling out of ironwood forest into adjacent field areas near harbor, near sea level, 5 May 1999, *Starr & Martz 990505-10*.

***Coccoloba uvifera* (L.) L.**

**New island records**

*Coccoloba uvifera* (sea grape) has recently been noted to germinate and spread at least on O'ahu (Herbst, 1998: 3; Wagner *et al.*, 1999: 1060, 1888) and Maui (Oppenheimer & Bartlett, 2002: 11). On Midway and Hawai'i, *C. uvifera* is displaying the same tendencies. These collections represent new island records for Midway Atoll and Hawai'i Island.

*Material examined.* **MIDWAY ATOLL:** Spit I, S end, a few plants were germinating and growing out of the coral rubble, sea level, 1 April 1999, *Starr & Martz 990401-1*. **MAUI:** E. Maui, Kanahā Beach, germinating from beach flotsam, sea level, 5 May 2000, *Starr & Martz 000505-1*. **HAWAI'I:** Kona, germinating out of beach flotsam and forming sea-side stands, sea level, 9 Apr 2000, *Starr & Martz 000409-2*.

**Rubiaceae**

***Hedyotis corymbosa* (L.) Lam.**

**Range extension**

*Hedyotis corymbosa* was previously known from Kaua'i, O'ahu, East Maui, and in the vicinity of Hilo to Volcano, Hawai'i, (Wagner *et al.*, 1999: 1141, 1891; Lorence *et al.*, 1995: 50). It is now also known from the Kona area of Hawai'i.

*Material examined.* **HAWAI'I:** Kona, in cinder at Keauhou Kona Aston Resort, near sea level, 9 Apr 1999, *Starr & Martz 000409-1*.

***Pentas lanceolata* (Forssk.) Deflers**

**New island record**

Native to forest margins and scrub from Yemen to tropical East Africa (Brickell & Zuk 1996: 770); in Hawai'i, *P. lanceolata* (star cluster) has recently been noted spreading at least on the Hāmākua coast of the Big Island (Nagata, 1995: 12; Wagner *et al.*, 1999: 1160). On Maui, *P. lanceolata* volunteers in scrub areas and steep banks from Ha'ikū to Makawao. These collections represent a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Ha'ikū, growing on side of road, 400 ft [122 m], 10 Nov 1998, *Starr & Martz 981110-3*; E. Maui, Makawao, volunteering in unmaintained portions of lawn, 1600 ft [488 m], 16 Jan 2000, *Starr & Martz 000116-1*.

**Sapotaceae**

***Sideroxylon persimile* (Hemsl.) T.D. Penn.**

**New naturalized record**

Previously known under the misapplied name *Bumelia buxifolia* (*sensu* Neal, 1965) (Staples & Herbst, in press), large trees of *Sideroxylon persimile* (bully, bumelia) were apparently originally cultivated on Maui near the Mauna'olu Campus (old Baldwin Estate) on Baldwin Avenue, where it was collected as early as 1967. Now this thorny species occurs in gulches and along roadsides from Hāli'imaile to near Pā'ia. There are also specimens from O'ahu and Lāna'i, mostly from ornamental street trees. These collections represent a new state record for Hawai'i. *Sideroxylon persimile* is native from Mexico through Central America to northern South America (Pennington, 1990). Large trees, round-topped to 20 m tall, trunk vertically fluted, 1 m thick, bark rough (ex Fosberg 27116), sometimes armed with painful and irritating thorns (1–3 cm long), with obvious sticky white sap, and stems occasionally bearing red hairs. Leaves dark green, glossy ovate, entire (3–4 cm long). Flowers are sweetly fragrant, greenish (ex Brown 1246, sheet

69020b). Fruit is round to subglobose, about 1 cm, and green turning black or deep blue with maturity during June–July (ex Brown 1246, sheet 69020a). Fruits eaten by birds (ex Neal s.n.). The species has been used as a street tree in Honolulu and has been planted for reforestation.

To focus efforts in better understanding the biology of *S. persimile* as a naturalized species, we include all voucher specimens examined. We hope these locality data will assist field collectors and managers in identifying the places where this tree is likely to be escaping from cultivation.

*Material examined:* **MAUI:** E. Maui, cultivated near Mauna‘olu College, ca 800 ft, 24 Dec 1967, *D. Herbst 820*; same loc., planted along Baldwin Ave. and on Mauna‘olu campus, 16 Feb 1987, *R. Hobdy 2729*. E. Maui, Hāli‘imaile, on east side of gulch bordering pineapple field on east side of town, 1100 ft [335 m], 20 Feb 1998, *Starr & Martz 980220-1*; E. Maui, Hāli‘imaile, Mauna‘olu Campus, Baldwin Ave., spreading from trees planted in this area, 900 ft [247 m], 27 Apr 2000, *Starr & Martz 000427-1*. **O‘AHU:** Honolulu, Kalihi St., corner at Beckley St., in fruit, 1 Jun 1925, *F.B.H. Brown 1246* (BISH 69020a), same location, in flower, 15 Dec 1925, *F.B.H. Brown 1246* (BISH 69020b), same loc., 7 Feb 1941, *M.C. Neal s.n.* (BISH 419662, 419663); Honolulu, Capitol grounds, near burial mound, 16 Sep 1939, *M.C. Neal s.n.* (BISH 69021); Makiki, at corner Makiki and Kīna‘u Sts., 19 Oct 1946, *F.R. Fosberg 27116*; Waiāhole, Water Reserve, project for reforesting by Oahu Sugar Co., 13 Apr 1962, *F. Saito 10* (two sheets); Waimānalo, sterile shrub with long spines growing on private horse farm, 10 Jan 1990, *N. Matayoshi s.n.* (BISH 580943); **LANA‘I:** north (*mauka*) of Lāna‘i City, planted in forest reserve, 2 Mar 1952, *O. Degener 21990*.

### Scrophulariaceae

#### *Antirrhinum orontium* L.

#### Range extension

*Antirrhinum orontium* (lesser snapdragon) was previously known from Diamond Head, O‘ahu, and Pu‘u o Kali, Maui (Wagner *et al.*, 1999: 1237). Recent collections extend the known range on Maui to include Luala‘ilua Hills and Makawao.

*Material examined.* **MAUI:** E. Maui, Makawao, corner of Makawao Ave. and Pi‘iholo Rd, on side of road adjacent to pineapple field, 1600 ft [488 m], 2 May 2000, *Starr & Martz 000502-4*; Luala‘ilua Hills, on side of road in county cinder pit, 1500 ft [457 m], 18 Mar 2000, *Starr & Martz 000318-1*.

#### *Linaria canadensis* var. *texana* (Scheele) Pennell **New island record**

In the state since at least 1911, *L. canadensis* (blue toadflax) was previously known from dry slopes and ridges on O‘ahu and Hawai‘i (Wagner *et al.*, 1999: 1241). It is now also found in wayside areas of Makawao, Maui. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Makawao, adjacent to pineapple field between ‘A‘ala Rd. and the veteran’s cemetery, 1640 ft [500 m], 11 Apr 2000, *Starr & Martz 000411-1*.

#### *Veronica peregrina* L.

#### New island record

*Veronica peregrina* (necklace weed, purslane speedwell) was previously known from Hawai‘i Volcanoes National Park on Hawai‘i where it was collected by K. Nagata in 1984 (Wagner *et al.*, 1999: 1250) and from Kaua‘i (Lorence *et al.*, 1995: 54). It is also naturalized in the Makawao area of Maui. This collection represents a new island record for Maui.

*Material examined.* **MAUI:** E. Maui, Makawao, coming up as weed in lawn on corner of ‘Ūkiu and Baldwin Ave., 1640 ft [500 m], 31 Mar 2000, *Starr & Martz 000331-1*.

**Verbenaceae*****Citharexylum spinosum* L.****New island record**

*Citharexylum spinosum* (fiddlewood) was recently documented to be naturalized on O'ahu (Herbarium Pacificum Staff, 1998: 13; Wagner *et al.*, 1999: 1317, 1895) where the known distribution is rapidly growing. On Maui it is displaying a similar tendency and is naturalized in at least the Ha'ikū and Kīhei areas. These collections represent a new island record for Maui.

*Material examined.* MAUI: E. Maui, Ha'ikū, Pololei St., coming up along fences and in pastures, 1400 ft [427 m], 10 Mar 1998, *Starr & Martz 980310-1*; Kīhei, High Tech Center, spreading from mature trees into landscape and waste areas, 1 Apr 1998, *Starr & Martz 980401-42*.

***Phyla nodiflora* (L.) Greene****New naturalized record**

*Phyla nodiflora* was previously reported to be cultivated as a ground cover that may occasionally escape cultivation (Wagner *et al.*, 1999: 1316). On Midway, *P. nodiflora* was observed to be widely naturalized on Sand Island, especially in moist areas. On Maui, this low groundcover that roots at the nodes was collected near the ocean on leeward West Maui. These collections represent a new state record for Hawai'i.

*Material examined.* MIDWAY ATOLL: Sand I, near drainage ditch along runway north of water catchment basin, near sea level, 12 May 1999, *Starr & Martz 990512-2*; Sand I, 29 Jun 1980, *D. Herbst & W. Takeuchi 6364*. MAUI: W. Maui, Launiupoko Beach Park, just above high tide line on berm between sand and grass, sea level, 11 Jun 2000, *Starr & Martz 000611-1*.

**Vitaceae*****Cissus rotundifolia* (Forssk.) Vahl****New island record**

*Cissus rotundifolia* (Arabian wax cissus) has been recently reported to be naturalized on Kaua'i (Lorence & Flynn, 1997: 12) and O'ahu (Herbst, 1998: 4; Wagner *et al.*, 1999: 1895). On Maui, *C. rotundifolia* is volunteering in yards in at least Kīhei. This collection represents a new island record for Maui.

*Material examined.* MAUI: E. Maui, Kīhei, coming up in yard, 20 ft [6 m], 13 Sep. 1999, *Starr & Martz 990913-1*.

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### Polynesian collections of platynine Carabidae (Coleoptera) from the voyage of the Danish corvette *Galathea*, 1845–1847

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From 1845–1847, the Danish naval corvette *Galathea* circumnavigated the globe in support of efforts to develop the Danish spice trade (Wolff, 1967). The ship and its crew were also charged by King Christian VIII to collect zoological specimens, as the king was an ardent zoologist. After traveling through the East Indies and along the China coast, the ship anchored off Japan, where the crew was not permitted to land. The next landfall was the Hawaiian Island of O‘ahu, where the ship spent one month while the crew recovered from scurvy. The *Galathea* then called on the Island of Hawai‘i for one week before heading south to the Society Islands of Tahiti and Bora Bora. Thence its route led to the South

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