

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 -- Maui

T. 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.

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

Amaranthaceae

Alternanthera pungens Kunth

Range Extension -- Maui

Wagner *et al.* (1999: 183) report *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 Lana'i (Oppenheimer & Bartlett, in press), 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 March 2000, *Starr & Martz 000323-1*. E. Maui, Haliimaile, near Maui Land & Pineapple buildings, 1100 ft. [335 m], 8 June 2000, *Starr & Martz 000608-1*.

Amaranthus spinosus L.

New Island Record -- Midway Atoll

A. 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 Lana'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 -- Midway Atoll

A. 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 urban 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 -- Midway Atoll

T. 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 -- Maui

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 funnelform, 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. *V. 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; Bailey & Bailey, 1976). *V. major* can be distinguished from other naturalized Apocynaceae in Hawai'i by opposite leaves, a trailing perennial herb habit, 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. Robinson

New State & Island Records -- Maui & O'ahu

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 and new island records for Maui and O'ahu. *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. *D. 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 (Bailey & Bailey, 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*. OAHU: 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 -- Pearl & Hermes Atoll

V. 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 June 1999, *Starr & Martz 990614-1*.

Bignoniaceae

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

Range Extension -- Hawai'i

Previously known from Kaua'i, O'ahu, Lana'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 Honaunau / Kealakekua area and extends the known range to include the Honaunau area of Hawai'i.

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

Caprifoliaceae

Lonicera japonica Thunb.

New Island Record -- Maui

L. 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 feet, 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, 4,000 ft. [1219 m], 26 August 1998, *Starr & Martz 980826-17*; E. Maui, Kula, crest of Kekaulike Ave., sprawling into gulch, 3,750 ft. [1143 m], 9 December 1998, *Starr & Martz 981209-1*.

Casuarinaceae

Casuarina glauca Siebold ex Spreng.

New Island Record -- Midway Atoll

C. 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 Lana'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., southeast 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 -- Maui

B. hyssopifolia (*Bassia*) was previously known only from alkaline soil, Kuapa Pond, O'ahu, and near Kanaha Pond, central Maui (Wagner *et al.*, 1999: 536). On Maui, *Bassia* has now also been collected from an undeveloped lot in the Kihei 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 represent a range extension to Kihei, Maui.

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

Cyperaceae

Cyperus difformis L.

New Island Record -- Maui

C. 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 taro lo'i, 200 ft. [61 m], 24 July 1999, *Starr & Martz 990724-1*.

Fabaceae

Crotalaria assamica Benth.

New Island Record -- Maui

C. assamica (rattlepod) was previously known from disturbed mesic sites on O'ahu and Hawai'i (Wagner *et al.*, 1999: 657). This collection, along with a previous one by R. Hobdy, represents a new island record for Maui, where it can be found in similar sites.

Material examined. MAUI: E. Maui, Ha'iku, growing in pastures, E. Kuiaha Gulch on Ha'iku Rd., 500 ft. [152 m], 10 Nov. 1998, *Starr & Martz 981110-1*. E. Maui, Kihei, Mokulele Hwy. junction with upper Kihei Hwy., growing as a weed in a seed cornfield, 12 Sep. 1993, *R. Hobdy 3593*.

Derris elliptica (Wallich) Benth.

New State & Island Records -- Maui & Hawai'i

D. elliptica (poison vine, *Derris*, tuba root) is native from India to Indonesia and is cultivated in the tropics for the insecticide Rotenone (Bailey & Bailey, 1976: 374). In Hawai'i, *Derris* has been collected on Kaua'i, O'ahu, Maui, and Hawai'i. First collected on O'ahu in 1950 by G. Pearsall (446481), this rampant vine was first collected on Maui by Fosberg (55438) in 1974 in the Nahiku area of East Maui, and was collected again in presumably the same spot by the authors in 1998. In 2000 it was also collected in the Honopou area of East Maui near twin falls, and we have since observed *Derris* near Ha'iku reservoir and at the top of W. Kuiaha Rd, Ha'iku. On the island of Hawai'i, we collected this species from the side of the road in Kealakekua, where it is sparingly naturalized. *Derris* has also been collected at Hilo (Herbst 9716) on Hawai'i, at Nanakuli (Pearsell 446481) and Kailua (Staples 1158) on O'ahu, and in the Waiheea Game Reserve (Howard 20222) on Kaua'i. The current status of these sites is unknown, but is probably similar to what is occurring on Maui and Hawai'i. These collections represent a new state record for Hawai'i and new island records for Maui and Hawai'i. In the Fabaceae (pea) family, *Derris* is a genus of perhaps 70-80 species of woody lianas and trees, native to Old World (Bailey 1976). *Derris* is large climber; leaflets in 4-

6 pairs, obovate-oblong, to 6 inches long, brown-silky-hairy beneath; racemes to 1 foot long; petals bright red, standard 5/8 inches across; fruit to 3 inches long, narrow-winged along one margin (Bailey 1976).

Material examined: MAUI: E. Maui, Nahiku, sprawling over landscape, possibly restricted to just a few acres, 500 ft. [152 m], 27 Aug. 1998, *Starr & Martz 980827-5*. E. Maui, Honopou, Huelo, near twin falls, *Starr & Martz 000627-1*. E. Maui, Nahiku, 5 miles west of Hana on main rd., 3 Apr. 1974, *F. R. Fosberg 55438*. HAWAII: Kealahakua, just south of Kealahakua Ranch Center on main rd., large patch sprawling down steep bank, 1600 ft. [488 m], 20 Jun. 2000, *Starr & Martz 000620-3*. S. Hilo District, Hilo town, cultivated, Ponahawai St., Ponahawai Professional building, 12 May 1995, *D. R. Herbst 9716*. O'AHU: Nanakuli, Ewa, near reservoir, March 1950, *G. Pearsall sn. BISH 446481*. Kailua, Maunawili Valley Park, cultivated, woody vine to 45 ft. in trees, completely blanketing them, 8 Apr. 1998, *G. Staples 1158*. KAUAI: Waiheea Game Reserve, rampant climbing vine in tree tops, 20 Oct. 1985, *R. A. Howard 20222*.

***Indigofera hendecaphylla* Jacq.**

New Island Record -- Hawai'i

I. hendecaphylla [syn. *I. spicata*] (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 -- Maui

L. 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 981223-111*. E. Maui, (same site), 3 June 2000, *H. Oppenheimer H60014*.

Hydrangeaceae

***Philadelphus karvinskyanus* Koehne**

New Island Record -- Maui

P. 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, becoming naturalized on Kaua'i and noted to appear to be naturalized on Maui (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., 3,900 ft. [1189 m], 26 Aug. 1998, *Starr & Martz 980129-1*. KAUAI: Waimea district, Koke'e State Park, along Faya Rd., 3600 ft. [1097 m], abundantly naturalized locally, 28 Sep. 1997, *D. Lorence & T. Flynn 7978*. Koke'e, Cultivated in garden, spreading, 25 Oct. 1990, *John H. R. Plews sn. BISH 598090*.

Liliaceae

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

New State Record -- Maui

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 Waiale Gulch in Kula through lower Poli Poli to Keokea where it twines in and amongst vegetation and cascades down steep banks. Previously collected in pastures in Kula by D. Herbst, these collections represent new a island record for Maui and a new state record for Hawai'i. Tuberous rooted branching vine, cladophylls alternate, ovate, to 2 in. long, leathery, with many longitudinal veins, flowers bisexual, greenish, solitary or paired, stamens orange, fruit red (Bailey & Bailey, 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 Waiale gulch, 2800 ft. [853 m], 15 Jan. 1998, *Starr & Martz 980115-8*.

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

New Island Record -- Hawaii

A. plumosus [syn. *A. setaceus*] (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), *A. plumosus* is now also known from Hawai'i in at least the Honaunau / Kealahakua area. This collection represents a new island record for Hawai'i.

Material examined. HAWAII: Honaunau, 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 -- Maui

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

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

Sida urens L.

New Island Record -- Maui

S. urens was previously known from a single naturalized collection made in 1980 in North Kona, Hawai'i by K. Nagata & Park (Wagner *et al.*, 1999: 899). It is now also known from Maui, having been collected twice on E. 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, Kaupo, just off side of rd. where Hana Hwy. turns into Pi'ilani Hwy., 100 ft. [30 m], 6 Jan. 1999, *Starr & Martz 990106-5.* E. Maui, Kaupo, Nuanualoa, in disturbed homestead, 246 ft. [75 m], 8 Sep. 1993, *Hobdy & Baker 3592.* E. Maui, Naopuu, just W. of Kalepa Stream between Kipahulu and Kaupo, 300 ft. [91 m], 26 Dec. 1985, *Hobdy 2474.*

Moraceae

Ficus macrophylla Desf. ex. Pers.

New Island Record -- Hawai'i

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. HAWAII: Kona, Alii 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 -- Midway Atoll

F. 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 urban 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 April 1999, *Starr & Martz 990428-5.*

Oleaceae

Jasminum fluminense Vell.

New Island Record -- Maui

J. 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 Hana Hwy., 20 ft. [6 m], 3 April 1998, *Starr & Martz 980403-30.*

Poaceae

Andropogon virginicus L.

New Island Record -- Midway Atoll

A. 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, Lana'i, Maui, and Hawai'i (Hughes 1995: 8; Oppenheimer *et al.*, 1999: 9; Wagner *et al.*, 1999: 1497, 1904; Bishop Herbarium Staff, 1999: 7; Imada *et al.*, 2000: 14). It can now also be 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 -- Pearl & Hermes Atoll

C. 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 June 1999, *Starr & Martz 990614-3*; Southeast I., center of east part of island, 14 June 1999, *Starr & Martz 990614-2*.

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

New Island Record -- Midway Atoll

E. 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 sea plane 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 sea plane ramp, near sea level, 20 June 1999, *Starr & Martz 990620-1*.

***Panicum maximum* Jacq.**

New Island Record -- Midway Atoll

P. 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., west of boat harbor, growing in *Casuarina* forest border, near sea level, 5 May 1999, *Starr & Martz 990505-11*.

***Panicum repens* L.**

New Island Record -- Maui

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

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

***Paspalum fimbriatum* Kunth**

New Island Record -- Maui

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*. E. Maui, Ha'iku, Ha'iku 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 -- Maui

P. polystachion (blue buffel grass) was previously noted from O'ahu, Lana'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 State Record -- Maui

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 1980's, about one mile from the Kokomo site. This collection documents the naturalized status on Maui and represents a new state record for Hawai'i. Tufted perennial, glabrous or nearly so, often with stout rhizomes; culms 0.5 to 1.5 m. tall, flattened; blades flat, rather lax, 4 to 10 mm. wide; panicle dense, cylindric, 8 to 15 cm. long, usually orange to purple, bristles mostly 5 or more, 3 to 6 mm. long; spikelets 2.5 to 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 -- Midway Atoll

A. leptopus (Mexican creeper) was previously known from disturbed areas on at least Kaua'i, O'ahu, Lana'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 -- Midway Atoll & Hawai'i

C. 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, in press). 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., south end of island, a few plants were germinating and growing out of the coral rubble, sea level, 1 April 1999, *Starr & Martz 990401-1*. MAUI: E. Maui, Kanaha Beach, germinating from beach flotsam, sea level, 5 May 2000, *Starr & Martz 000505-1*. HAWAII: Kona, germinating out of beach flotsam and forming sea-side stands, sea level, 9 April 2000, *Starr & Martz 000409-2*.

Rubiaceae

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

Range Extension -- Hawai'i

H. 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. This collection represent a range extension to Kona, Hawai'i.

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

***Pentas lanceolata* (Forssk.) Defflers**

New Island Record -- Maui

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 Hamakua coast, Hawai'i (Nagata, 1995: 12; Wagner *et al.*, 1999: 1160). On Maui, *P. lanceolata* volunteers in scrub areas and steep banks from Ha'iku to Makawao. These collections represent a new island record for Maui.

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

Sapotaceae

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

New State Record -- Maui

Previously known under the misapplied name *Bumelia buxifolia* sensu Neal (1965) (Pennington, 1990), large trees of *Sideroxylon persimile* (bully, bumelia) were apparently originally cultivated on Maui near the Maunaolu 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 Hali'imaile to near Paia. There are also specimens from O'ahu and Lana'i, mostly from ornamental street trees. These collections represent a new state record for Hawai'i and a new island record for Maui. 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.

Material examined: MAUI: E. Maui, cultivated near Maunaolu College, elev. ca 800 ft, 24 Dec 1967, *D. Herbst 820*; same loc., planted along Baldwin Ave. and on Maunaolu campus, 16 Feb 1987, *R. Hobdy 2729*. E. Maui, Hali'imaile, on east side of gulch bordering pineapple field on east side of town, 1100 ft. [335 m], 20 February 1998, *Starr & Martz 980220-1*; E. Maui, Hali'imaile, Maunaolu Campus, Baldwin Ave., spreading from trees planted in this area, 900 ft. [247 m], 27 April 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 Kinau Sts., 19 Oct 1946, *F. R. Fosberg 27116*;

Waiahole, Water Reserve, project for reforestation by Oahu Sugar Co., 13 Apr 1962, *F. Saito 10* (two sheets); Waimanalo, sterile shrub with long spines growing on private horse farm, 10 Jan 1990, *N. Matayoshi s.n.* (BISH 580943); LANAI: north (mauka) of Lanai City, planted in forest reserve, 2 Mar 1952, *O. Degener 21990*.

Scrophulariaceae

Antirrhinum orontium L.

Range Extension -- Maui

A. 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 Lualailua Hills and Makawao.

Material examined. MAUI: E. Maui, Makawao, corner of Makawao Ave. and Piiholo Rd., on side of road adjacent to pineapple field, 1600 ft. [488 m], 2 May 2000, *Starr & Martz 000502-4*. E. Maui, Lualailua 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 -- Maui

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 Aala Rd. and the Veteran's cemetery, 1640 ft. [500 m], 11 Apr. 2000, *Starr & Martz 000411-1*.

Veronica peregrina L.

New Island Record -- Maui

V. 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 Ukiu and Baldwin Ave., 1640 ft. [500 m], 31 Mar. 2000, *Starr & Martz 000331-1*.

Verbenaceae

Citharexylum spinosum L.

New Island Record -- Maui

C. spinosum (fiddlewood) was recently documented to be naturalized on O'ahu (Evenhuis & Miller 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'iku and Kihei areas. These collections represent a new island record for Maui.

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

Phyla nodiflora (L.) Greene

New State & Island Records -- Midway Atoll & Maui

P. 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 and new island records for Midway Atoll and Maui Island.

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 -- Maui

C. 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 Kihei. This collection represents a new island record for Maui.

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

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