

New Hawaiian plant records for 1998¹

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These previously unpublished Hawaiian plant records report new state and new island records, nomenclatural changes, and reidentifications of previously misnamed species in Hawai'i. These records supplement information published in Wagner *et al.* (1990) and in the *Records of the Hawaii Biological Survey* for 1994–1997 (Evenhuis & Miller, 1995, 1996, 1997, 1998). All identifications were made by the authors except where noted in the acknowledgments, and all supporting voucher specimens are on deposit at BISH except as otherwise noted.

Aloeaceae

Aloe vera (L.) Burm. f.

New island record

Formerly known to be naturalized only on Kaua'i (Lorence *et al.*, 1995), the following specimen represents the first record of the species on O'ahu. The 3 discrete populations at Makapu'u Head are well established, spreading vegetatively, and also setting limited amounts of fruit (2 old inflorescence stalks bearing capsules seen).

Material examined. **O'AHU**: Makapu'u Head, around old building sites near summit where lighthouse-keeper's residence was formerly located, 14 Dec 1997, *G. Staples & B. Pope 1154*.

Asteraceae

Hesperomannia arborescens A. Gray

New island record

Previously recorded from O'ahu, Moloka'i, and Lāna'i (Wagner *et al.*, 1990), this endemic thistle has also been collected from West Maui.

Material examined. **MAUI**: West Maui: Kahakuloa-Waihe'e ridge, between Lanilili and Keahikauō, 21 Jan 1989, *J. Lau & G. Uchida 3230, 3231*; steep W wall of Honokōhau Valley, 1900 ft, 22 Aug 1996, *J.S. Meidell & H.L. Oppenheimer 126*, [same locality] 1840 ft, 29 Aug 1996, *J.S. Meidell & H.L. Oppenheimer 141*.

Euphorbiaceae

Chamaesyce hyssopifolia (L.) Small

New island record

Documented from Kaua'i, O'ahu, Maui, and Hawai'i (Wagner *et al.*, 1990), this herbaceous weed was collected in the vicinity of Lāna'i Airport in the company of roadside weeds dominated by *Panicum maximum*.

Material examined. **LĀNA'I**: weedy herb along access road to Lāna'i Airport, 1300 ft elevation, 27 Mar 1998, *C. Imada 98-2*.

Iridaceae

In addition to the population of *Aristea gerrardii* Weim. that was reported as naturalized in the *Manual* (Wagner *et al.*, 1990), vouchers for what appeared to be a different *Aristea*, also from the Big Island, were collected by the late Lani Stemmermann and filed among the unidentified Iridaceae at BISH. These were tentatively identified by Peter Goldblatt in 1992 as a distinct species. We bring these taxa to the attention of field collectors because more collections for both *Aristea* taxa are desirable so that the identity of the second species can be confirmed and the distribution and abundance of both taxa be-

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ter understood.

***Aristea* cf. *compressa* Buchinger ex Baker New state record**

In his monograph of *Aristea*, Weimarck (Weimarck, 1940) acknowledged that his new species, *A. gerrardii*, was very close morphologically to *A. compressa*, differing principally in being larger in all parts. Weimarck allowed that the two may represent subspecies, yet elected to give both species rank. Forty-five years later, in a partial revision of the genus, both species were again maintained (Vincent, 1985) with equally weak justification, the principal key character separating the two being the leaf rosette “loose” (*A. compressa*) versus “tight” (*A. gerrardii* and others). Thus it is difficult to give diagnostic characters to separate these two naturalized species, aside from the larger size of *A. gerrardii*. Two populations are documented here and collectors may well locate others.

Material examined. **HAWAII:** 15–16 mi outside Hilo on Saddle Rd., small naturalized population, 16 Apr 1980, *L. Stemmermann* 6647; Hawaii Volcanoes National Park, between Volcano House and the Superintendent’s residence, 21 Apr 1980, *L. Stemmermann* 6648.

***Sisyrinchium exile* E. P. Bicknell New island record**

The *Manual* (Wagner *et al.*, 1990) listed the distribution for this species as East Maui and the Big Island. The following specimen represents the first record from Moloka‘i.

Material examined. **MOLOKA‘I:** Pu‘ukauwā, roadside with grasses, 680 m, 10 May 1992, *G.D. Hughes s.n.* (BISH 626527).

Malvaceae

***Abutilon menziesii* Seem.**

New island record?

Ko‘olua ‘ula is a federally listed endangered species whose native range is documented as dry forests from 200–520 m elevation on Lāna‘i, East Maui, and Hawai‘i (Wagner *et al.*, 1990). It has also been long cultivated on O‘ahu. A number of vouchers deposited at Bishop Museum (BISH) were collected in the 1930s from the cultivated Hawaiian forest at Kamehameha Girl’s School. One collection (*A.F. Judd s.n.*, BISH 57290) from 1933 includes a notation that the plant was brought over from Lāna‘i by G.C. Munro. This shrub has much ornamental merit, and it is seen more frequently in cultivated settings today. An anomalous collection from a single individual was made in an abandoned sugar cane field adjacent to Campbell Industrial Park in 1981 by W. Char (*W. Char* 81.002), which Wagner *et al.* (1990) surmised to be an escape from cultivation. In 1996, further anomalous collections were made in 2 separate locations on O‘ahu. A single 6 ft tall shrub was discovered by J. Moribe (*J. Moribe s.n.*, BISH 643256) in Lualualei Valley along the Wai‘anae coast near the Niuli‘i Ponds Wildlife Refuge along a remote, unused road in the shade of *Prosopis*. Later in the year, K. Nagata noted a number of plants growing in abandoned sugar cane fields in the ‘Ewa Plains mauka of Varona Village: in one case 25 plants were seen in a 100 acre area, associated with *Abutilon incanum*, *Sida fallax*, *Waltheria*, and *Chloris* (*K. Nagata* 4433); in the other case, at least 10 plants in a 10 acre area (*K. Nagata* 4439). Whether these plants are growing naturally or were intentionally planted is a question that remains unanswered.

Material examined. **O‘AHU:** ‘Ewa, mauka of Varona Village, just E of Kalo‘i Gulch, ca 25 plants scattered over 100 acres in abandoned sugar cane fields, 23 m, 27 Sep 1996, *K. Nagata* 4433; 24 m, 3 Oct 1996, *K. Nagata* 4439; one plant found in abandoned cane field adjacent to Campbell Industrial Park, 23 Jan 1981, *W. Char* 81.002; Wai‘anae Dist., RTS Lualualei Antenna field, Niuli‘i Ponds Wildlife Refuge, 30 Jan 1996, *J. Moribe s.n.* (BISH 643256); Lualualei, single isolated plant along remote, unused road, 27 Feb 1996, *D. Orr & J. Obata* V50.

Melastomataceae***Tibouchina herbacea*** (DC.) Cogn.**New island record**

A locally abundant weed on West Maui, East Maui, and Hawai'i (Wagner *et al.*, 1990), *T. herbacea* had been reported from Lāna'i but apparently never vouchered. It is naturalizing and perhaps starting to spread on slopes approaching the Lāna'ihale summit area.

Material examined. **LĀNA'I:** Munro Trail, alongside dirt road approaching Lāna'ihale summit from NW side, 2780 ft, 27 Mar 1998, C. Imada, H. Oppenheimer, J.S. Meidell, & C. Gemmill 98-3.

Myrtaceae***Leptospermum*** J.R. & G. Forst.

In the course of verifying voucher specimens of cultivated plants for the *In Gardens of Hawai'i II* project, specimens of *Leptospermum* from BISH were sent on loan to Joy Thompson (NSW), who had recently revised the genus (Thompson, 1989). This revealed that 5, not 3, species of *Leptospermum* occur in Hawai'i and that some species concepts were muddled, authors in Hawai'i having applied names to mixtures of species. Only *L. scoparium* seems to have been interpreted correctly. To attempt to clarify the application of the other 4 *Leptospermum* names we list them below along with the various misapplied names and synonyms pertaining to each. Voucher specimens have been cited as the basis for each species concept and as a guide to how earlier workers have applied names. Trustworthy descriptions for all taxa are readily available in Australian botanical literature (Harden, 1991; Thompson, 1989).

Given that *Leptospermum* was planted for reforestation on several islands and that it is now apparent that more than 1 species was involved, further Hawaiian collections and field observations are desirable in order to assess the distribution and abundance of all *Leptospermum* species in the Hawaiian Islands. At present, only *L. scoparium* could be considered well represented in the BISH herbarium, yet collections are lacking for Maui, where it was planted for reforestation in the 1930s (Skolmen, ca. 1980).

Leptospermum laevigatum (Gaertner) F. Muell.

L. fabricia sensu Neal (1965), St. John (1973), non Bentham (1867) (= *Neofabricia myrtifolia* (Gaertner) J. Thompson)

Material examined. **O'AHU:** Honolulu, 25 Jun 1956, Mrs. Crowe s.n. (BISH 60010). **LĀNA'I:** locality not stated, in bare areas among *Eucalyptus* trees, 10 Jun 1985, R. Hobdy 2403.

Leptospermum morrisonii J. Thompson**Reidentification/new state record**

L. laevigatum sensu Wagner *et al.* (1990), in part, non (Gaertner) F. Muell.

The following 2 specimens were misidentified as 2 different species. They represent the first record of *L. morrisonii* in the Hawaiian Islands.

Material examined. **MAUI:** along ditch trail between Honomanū Valley and Ke'anae Valley, planted in forest reserve in moderately dry, open region, 14 Jul 1927, O. Degener 8194; Ko'olau Forest Reserve, 1800 ft, 15 Jul 1980, K. Adey s.n. (BISH 580695).

Leptospermum petersonii Bailey**Reidentification**

L. flavescens sensu Wagner *et al.* (1990), in part, non Sm.

L. flavescens Sm. var. *citriodorum* sensu Neal (1965), St. John (1973), non F. Bailey

Material examined. **HAWAI'I:** South Kona distr., Captain Cook, McCandless Ranch, 15 Jun 1960, Mrs. A.L. Marks s.n. (BISH 60011); cultivated in Hilo Forestry Arboretum, 27 Nov 1979, W. Teraoka & K. Nagata 174.

Leptospermum polygalifolium* Salisb.*Nomenclatural change**

Syn. *L. flavescens* Sm.

Thompson (1989) reduced *L. flavescens* to synonymy with *L. polygalifolium* subsp. *polygalifolium*. Plants naturalized and cultivated in Hawai'i are all referable to subsp. *polygalifolium*. Hawaiian authors have applied the name *L. flavescens* to a mixture of 2 species (Neal, 1965; St. John, 1973; Wagner *et al.*, 1990). Specimens correctly identified as *L. flavescens* are now called *L. polygalifolium*; others have been reidentified as *L. petersonii*. This species has been cultivated for many years at locations around O'ahu, yet it has been recorded only once as a naturalized species. The following list of vouchers may be helpful in guiding field collectors to localities where the species is establishing itself.

Material examined. **O'AHU:** Kalihi, Kamehameha School for Girls, 25 Sep 1937, A.F. Judd, E.H. Bryan Jr., & M.C. Neal s.n. (BISH 60013), same loc., 15 Mar 1938, P. Rankin s.n. (BISH 427657); Mānoa Valley, cultivated in HSPA Arboretum, 12 Jan 1927, L.H. McDaniels 402, same loc., spreading aggressively in grass cover below *koa*, 4 June 1937, F.E. Egler 37-47, Lyon Arboretum, volunteer in sect. 13, 12 Oct. 1967, D. Herbst 645.

Oleaceae***Ligustrum sinense* Lour.****New island record**

The genus *Ligustrum* has not previously been found naturalized in the Hawaiian Islands. *Ligustrum sinense*, native to China and Vietnam, is widely cultivated and has escaped in many subtropical and warm temperate places to become a weedy pest (Green, 1995). For example, it is considered an invasive woody weed on rainforest margins and along fence lines in cleared areas in New South Wales (Harden, 1992). Elsewhere in this issue it is documented as naturalized on Kaua'i (Lorence & Flynn, 1999). The small blackish drupes are attractive to birds, which spread the seeds.

Material examined. **HAWAII:** Ka'ū Distr., Hawai'i Volcanoes National Park near Thurston Lava Tube, elev. 3800 ft, shrub in closed *Metrosideros* forest, 11 Jul 1985, T. Tunison s.n. (BISH 605525).

Pittosporaceae***Pittosporum pentandrum* (Blanco) Merr.****New state record**

Native to northern Sulawesi in Indonesia, Taiwan, and throughout the Philippines (Bakker & Steenis, 1957), this species was introduced to Hawai'i as an ornamental early in the 1970s. It is listed as a recommended street tree for planting in Honolulu (Department of Parks & Recreation, undated). In recent years specimens have been brought in for identification from populations that are clearly growing outside of cultivation on O'ahu. The bright yellow capsules, which split open to reveal orange-red seeds, are attractive to frugivorous birds, which seem to be the dispersal vector. Given the rapidity with which *P. pentandrum* appears to be spreading out of cultivation on O'ahu, it can no longer safely be recommended for use as a street tree. Collectors are encouraged to look for it on O'ahu and the neighbor islands. It is also escaping in southern Florida (Judd, 1996).

Material Examined: **O'AHU:** He'eia, slope of Pu'u Mā'eli'eli above He'eia State Park, many plants of different sizes, in alien forest with *Syzygium cumini*, *Ochna*, *Passiflora*, ca 100 ft, 2 Dec 1998, E. Koes & L. Pyle 1. **HAWAII:** Kohala Mts, vicinity of Wai'aka Gulch, Pu'u o 'Umi NAR transect #1, ca 61 m, 1 Nov 1996, B. Stevens 3.

Plumbaginaceae***Plumbago auriculata* Lam.****New state record**

The Cape leadwort is a familiar cultivated shrub and hedge plant widely grown in Hawai'i. Native to South Africa, it differs from the indigenous *P. zeylanica* in having pale blue (rarely white) flowers 1–1.5 inches long and 1 inch in diameter; *P. zeylanica* has white flowers less than 1 inch long and 0.5–0.66 inches in diameter (G. Staples & D. Herbst, unpubl.). Not previously documented as escaping from cultivation, it is apparently doing so on the dry, scrubby slopes at around 2,500 ft elevation in Kēōkea on the slopes of Kula, East Maui. Rounded shrubs are randomly scattered in openings of *Acacia mearnsii* forest, associated with *Lantana* and *Pennisetum clandestinum*.

Material examined. **EAST MAUI:** Kēōkea, dry scrubland downslope of Kula Hwy, large, rounded, 7 ft tall shrub, ca. 2500 ft, 18 Aug 1998, C. Imada, W. Char, & C. Morden 98-14.

Poaceae***Andropogon virginicus* L.****New island record**

Previously documented from O'ahu, Moloka'i, and Hawai'i (Wagner *et al.*, 1990; Hughes, 1995), broomsedge was collected on Lāna'i along the Munro Trail in a disturbed mesic shrubland featuring planted *Araucaria*, along with *Machaerina*, *Dicranopteris*, and *Diplopterygium*.

Material examined. **LĀNA'I:** Munro Trail, alongside dirt road approaching Lāna'ihale summit from NW side, 3000 ft, 27 Mar 1998, C. Imada, H. Oppenheimer, J.S. Meidell, & C. Gemmill 98-4.

Bromus rigidus* Roth*New island record**

Documented from Kaua'i and Hawai'i (Wagner *et al.*, 1990), ripgut grass has now been collected from East Maui as well. The species was first documented on Maui from the 'Ulupalakua area in 1937 as a localized patch in pastureland at 1,800 ft elevation (Hosaka 1787). See Herbst & Clayton (1998) for a note concerning the present taxonomic placement of this species.

Material examined. **EAST MAUI:** Kēōkea, dry scrubland downslope of Kula Hwy with *Sporobolus indicus*, *Ehrharta*, *Lantana*, *Bocconia*, *Gomphocarpus*, 2600 ft, 17 Aug 1998, C. Imada, W. Char, & C. Morden 98-11.

Distichlis spicata* (L.) Greene*Range extension**

This species was treated as a note in the Poaceae treatment of Wagner *et al.* (1990), where it was described as being first collected at Ala Moana Beach Park on O'ahu in 1977 (Watanabe *s.n.*, BISH 419283) but not collected since on the island, while on the central Maui plain it was first collected in 1980 by R. Hobdy (Hobdy 906, 907, 908) in sandy-salty soil near Kānaha Pond, sometimes in dense patches. It has now been documented from the southern end of central Maui as a thick sod on the pond banks of a former baitfish facility west of Keālia Pond, growing with *Paspalum vaginatum*, *Pluchea indica*, and *P. × fosbergii*.

Material examined. **MAUI:** Keālia Pond National Wildlife Refuge, dense groundcover on pond banks in former baitfish facility W of Keālia Pond, 6 Oct 1998, C. Imada, K. Evans, & M. Nishimoto 98-29.

Paspalum vaginatum* Sw.*New island record**

Seashore paspalum, previously documented from Kaua'i, O'ahu, and Hawai'i (Wagner *et al.*, 1990), has now been collected on Maui.

Material examined. **MAUI:** Keālia Pond National Wildlife Refuge, common weedy grass on pond banks in former baitfish facility W of Keālia Pond, 6 Oct 1998, *C. Imada, K. Evans, & M. Nishimoto* 98-30.

***Sacciolepis indica* (L.) Chase**

New island record

Glenwood grass is a common element of open, wet areas on most of the main islands except for Ni'ihau and Kaho'olawe (Wagner *et al.*, 1990). It has now been documented from Lāna'i as well.

Material examined. **LĀNA'I:** Munro Trail, alongside dirt road at Lāna'ihale summit, in *Dicranopteris/Leptospermum* shrubland, 3370 ft, 27 Mar 1998, *C. Imada, H. Oppenheimer, J.S. Meidell, & C. Gemmill* 98-6.

Proteaceae

***Grevillea robusta* A. Cunn. ex R. Br.**

New island record

Silk oak is an Australian tree extensively planted for reforestation in the Hawaiian Islands. Wagner *et al.* (1990) report that plantings were made on all of the main islands except Kaho'olawe, and the species had been documented as naturalizing on Kaua'i, O'ahu, Maui, and Hawai'i. It has now been documented on Lāna'i as well.

Material examined. **LĀNA'I:** Munro Trail, alongside dirt road on SE side of Lāna'ihale summit, alien dry forest, 2780 ft, 27 Mar 1998, *C. Imada, H. Oppenheimer, J.S. Meidell, & C. Gemmill* 98-7.

Rhizophoraceae

***Rhizophora mangle* L.**

New island record

Previously documented from Kaua'i, O'ahu, Moloka'i, Lāna'i, and Hawai'i (Wagner *et al.*, 1990), this is the first collection of the American mangrove from Maui, where it forms small but solid patches on the north-northeast border of Keālia Pond proper.

Material examined. **MAUI:** Keālia Pond, solid stand on NE shore of pond, fronted by *Batis* and *Bolboschoenus*, 6 Oct 1998, *C. Imada, K. Evans, & J. Palma* 98-27.

Rosaceae

***Cotoneaster pannosa* Franch.**

New island record

This cultivated species was noted in Wagner *et al.* (1990) as persisting and sometimes reproducing in Volcano, Hawai'i, and Kula, Maui, and more recently was documented as definitely naturalizing on Kaua'i (Lorence *et al.*, 1995). The only previous Maui specimen at BISH was collected in 1986 from Polipoli Park in the Kula Forest Reserve (Hobdy 2697), located at about 6,500 ft elevation. The plant (although not specifically stated) was apparently cultivated and described as bushy tree about 12 ft tall. A collection was made in 1998 far downslope at 2,450 ft elevation, below the town of Kēōkea in open *Lantana* scrubland/*Pennisetum clandestinum* pastureland from a 20 ft tall shrub with long, arching branches suckering profusely from the base. Smaller plants were randomly scattered in the surrounding pasturelands and adjoining black wattle forest.

Material examined. **EAST MAUI:** Kēōkea, in open *Lantana* scrubland/kikuyu grassland downslope of Kula Hwy, 2450 ft, 17 Aug 1998, *C. Imada, W. Char, & C. Morden* 98-10.

***Eriobotrya japonica* (Thunb.) Lindl.**

New island record

First documented as naturalized on Kaua'i (Lorence *et al.*, 1995), loquat was noted as naturalizing in a dumpsite area below the town of Kēōkea in the Kula District of East Maui.

Material examined. **EAST MAUI:** Kēōkea, dry scrubland downslope of Kula Hwy, in shaded gulch next to dumpsite, 2500 ft, 18 Aug 1998, C. Imada, W. Char, & C. Morden 98-13.

Pyracantha

The *Manual* (Wagner *et al.*, 1990) treated *Pyracantha angustifolia* as a naturalized species known from Kauaʻi and the Volcano area of Hawaiʻi. Reidentification of the voucher specimens seen for the *Manual* and the acquisition of new specimens since 1990 revealed that 3 species of *Pyracantha* can be documented as naturalizing in the Hawaiian Islands at higher, cooler elevations. Some specimens identified as *P. angustifolia* were confirmed as that species; others were subsequently reidentified as other species. All 3 species have red-orange, fleshy fruits that are attractive to birds, which disseminate the seeds. Brief diagnostic features are presented for each species to facilitate correct identifications. More detailed information will appear in the new *In Gardens of Hawaiʻi* (G. Staples & D. Herbst, unpubl.).

***Pyracantha angustifolia* (Franch.) C.K. Schneid. Amended record**

Verification of BISH specimens by J.B. Phipps, specialist in the Rosaceae, Maloideae, revealed that the taxon identified in the *Manual* (Wagner *et al.*, 1990) as *P. angustifolia* was a mixture of similar species. Genuine *P. angustifolia* is recognized by its narrowly oblanceolate leaves, 0.5–2 inches long, that are woolly-hairy on the underside; the inflorescences are usually 3–10-flowered, their axes appressed rusty-pubescent. Fruits are about 0.2 inches in diameter, varying from orange to red. The amended naturalized distribution is only documented for Kauaʻi, although the species is cultivated on Oʻahu (based on vouchers in BISH) and possibly other islands.

Material examined. **KAUAʻI:** along Hwy 550, at the 16 mile marker, crossing Kaunuohua Ridge, 15 Mar 1986, J. Plews s.n. (BISH 502793).

***Pyracantha crenatoserrata* (Hance) Rehder New naturalized record**

This species, native to China, is similar to *P. koidzumii* but is distinguished by having smaller leaves that are always distinctly crenate on the margins, and smaller, usually red fruits about 0.2 inches in diameter. It has been reported from cultivation in the Hawaiian Islands (Neal, 1965; St. John, 1973) and is now known to be naturalized on 2 of them.

Material examined. **KAUAʻI:** Waimea Distr., Kōkeʻe State Park, mile 18.4 on Hwy 550, just before Puʻu o Kila Lookout on southern rim of Kalalau Valley, 1220 m, 20 May 1988, D. Lorence, T. Flynn, & J. Talbot 6002. **HAWAII:** Hawaiʻi Volcanoes National Park, Kīlauea Military Camp, established in weedy, disturbed places on pyroclastic soil, 1210 m, 25 Nov 1963, F.R. Fosberg 44463.

***Pyracantha koidzumii* Rehder, vel aff.**

Reidentification

P. angustifolia sensu Wagner *et al.*, 1990, non (Franch.) C.K. Schneid.

Endemic to Taiwan, this species (or hybrids derived from it) appears to be the most frequently cultivated firethorn in the Hawaiian Islands, based on vouchers seen from Kauaʻi, Oʻahu, Lānaʻi, and the Big Island. The species is recognized by its oblong-obovate leaves, 0.5–1 inches long, hairy along the nerves on the underside when young and later nearly glabrous, and with entire margins. Inflorescences are typically 15–30-flowered and have shortly rough-hairy axes. The fruits are about 0.3 inches in diameter and orange. What appear to be possible hybrids have very slight scalloping on the margins

toward the apex of the blade. One voucher specimen examined for the *Manual* (as *P. angustifolia*) from the Big Island was reidentified by Professor J.B. Phipps in 1991 as “*P. koidzumii* or a hybrid thereof.” The following naturalized specimens have been seen.

Material examined. **KAUAI:** Kōke’e, Camp 10 Road, Plew’s residence, seedling found growing along highway between 16 and 17 mile markers, 23 Oct 1986, *J. Plews s.n.* (BISH 523723). **HAWAII:** Volcano dump, 28 Feb 1984, *W.L. Wagner, S. Mill, T. Flynn, & R. Gustafson* 5267.

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Literature Cited

- Bakker, K. & C.G.G.J. van Steenis.** 1957. Pittosporaceae. *Flora Malesiana* **5**: 345–62.
- Department of Parks & Recreation, Beautification Division, City & County of Honolulu.** [Undated]. Official Street Tree List. 3 p. (faxed copy rcd. July 1994)
- Evenhuis, N.L. & S.E. Miller, eds.** 1995. Records of the Hawaii Biological Survey for 1994. Parts 1 & 2. *Bishop Mus. Occ. Pap.* **41, 42**.
- . 1996. Records of the Hawaii Biological Survey for 1995. Parts 1 & 2. *Bishop Mus. Occ. Pap.* **45, 46**.
- . 1997. Records of the Hawaii Biological Survey for 1996. Parts 1 & 2. *Bishop Mus. Occ. Pap.* **48, 49**.
- . 1998. Records of the Hawaii Biological Survey for 1997. Parts 1 & 2. *Bishop Mus. Occ. Pap.* **55, 56**.
- Green, P.S.** 1995. Taxonomic notes relating to *Ligustrum* (Oleaceae). *Kew Bull.* **50**: 379–86.
- Harden, G.J.** 1991–1992. *Flora of New South Wales*. Vols. 2, 3. New South Wales Univ. Press.
- Herbst, D.R. & W.D. Clayton.** 1998. Notes on the grasses of Hawai‘i: new records, corrections, and name changes. *Bish. Mus. Occ. Pap.* **55**: 17–38.
- Hughes, G.D.** 1995. New Hawaiian plant records. II. *Bishop Mus. Occas. Pap.* **42**: 1–10.
- Judd, W.S.** 1996. The Pittosporaceae in the southeastern United States. *Harvard Pap. Bot.* **8**: 15–26.
- Lorence, D.H. & T. Flynn.** 1999. New naturalized plant records for the Hawaiian Islands. *Bishop Mus. Occas. Pap.* **59**: 3–6.
- , **T. Flynn & W.L. Wagner.** 1995. Contributions to the flora of Hawai‘i. III. *Bishop Mus. Occas. Pap.* **41**: 19–58.
- Neal, M.C.** 1965. In gardens of Hawaii. Second edition. *Bernice P. Bishop Mus. Spec. Publ.* **50**, 924 p.
- St. John, H.** 1973. List and summary of the flowering plants in the Hawaiian Islands. *Pac. Trop. Bot. Gard. Mem.* **1**: 1–519.
- Skolmen, R.G.** ca. 1980. Plantings on forest reserves of Hawaii, 1910–1960. Unpublished photocopy deposited in Bishop Museum Library.
- Thompson, J.** 1989. A revision of the genus *Leptospermum* (Myrtaceae). *Telopea* **3**: 301–448.
- Vincent, L.P.D.** 1985. A partial revision of the genus *Aristea* (Iridaceae) in South Africa,

- Swaziland, Lesotho, Transkei and Ciskei. *S. Afr. J. Bot.* **51**: 209–52.
- Wagner, W.L., D.R. Herbst & S.H. Sohmer.** 1990. Manual of the flowering plants of Hawai'i. *Bishop Mus. Spec. Publ.* **83**, 1853 p.
- Weimarck, H.** 1940. Monograph of the genus *Aristea*. *Acta Univ. Lund.* [Lunds Univ. Årsskr.] **36**: 1–141.