

Review of Mrs. Sinclair's
"Indigenous Flowers of the Hawaiian Islands"
Hawaiian Plant Studies 23¹

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INTRODUCTION

IN 1885 THE FIRST BOOK with color pictures of Hawaiian flowering plants was printed in London. It contained 44 plates and showed 45 species said to be native to the Hawaiian Islands. It was written and illustrated by Mrs. Francis (Isabella) Sinclair, Jr. It is a large and pretentious book, of folio size, with full-page plates. Even today it has more color plates of Hawaiian plants than any other book.

While the writer was studying plants recently collected on the island of Niihau, this book was carefully scrutinized, and the attempt is here made to document the source of the plants illustrated. As this was the first book dealing solely with the flora of the Hawaiian Islands, it did not pass unnoticed. At least two brief reviews of it were printed. Doubtless it was the editor of the *Journal of Botany*, James Britten (1886: 27), who reviewed it, giving a brief account in three sentences. Besides stating that it was a nicely printed book and quoting from the preface the observation that the native vegetation was fast disappearing, he commented, "Mrs. Sin-

clair does not profess to be a botanist, but she is evidently an observer, as is shown not only by her drawings, but by the simple descriptions which accompany them." A second review appeared in Berlin. The editor of the magazine was E. Koehne, but the reporter for *Plant Geography of Europe*, the section concerned, was J. E. Weiss (1889). In two sentences he merely stated the nature and coverage of the book and that it was illustrated, and he abstracted the statement that the flora was becoming extinct. Since these two reviews were merely cursory, and since the flora of Niihau has long been imperfectly known, it has seemed worth while to make a critical review and evaluation of Mrs. Sinclair's "Indigenous Flowers of the Hawaiian Islands."

The island of Niihau was sold in 1864 by King Kamehameha V to Mrs. Francis Sinclair, Sr., for her two sons, J. and F. Sinclair. It continued in the family, being transferred to Aubrey Robinson, to the Estate of Aubrey Robinson, and now to his heirs.

In addition to the sheep and cattle ranch operated on Niihau, the Sinclair family acquired land at Makaweli, Kauai. Mrs. Francis Sinclair, Jr., was the daughter-in-law of the original settler, Mrs. Francis Sinclair (née Eliza McHutcheson). The daughter-in-law lived in the big house at Kiekie, Niihau, and at intervals at Makaweli, Kauai, from which, during the summer, she visited the adjacent mountains. There, about 1886, was built the Gay and Robinson mountain house at Kahu-luamanu, Kauai, on a cool mountain ridge between the Waimea and Olokele valleys at 3,600 feet altitude. It is on the trail leading through the rain forests to the summit of

¹ This is the twenty-third of a series of papers designed to present descriptions, revisions, and records of Hawaiian plants. The preceding papers have been published in *Bernice P. Bishop Mus., Occas. Papers* 10(4), 1933; 10(12), 1934; 11(14), 1935; 12(8), 1936; 14(8), 1938; 15(1), 1939; 15(2), 1939; 15(22), 1940; 15(28), 1940; 17(12), 1943; *Calif. Acad. Sci., Proc.* IV, 25(16), 1946; *Torrey Bot. Club, Bul.* 72: 22-30, 1945; *Lloydia* 7: 265-274, 1944; *Pacific Sci.* 1(1): 5-20, 1947; *Brittonia* 6(4): 431-449, 1949; *Gray Herb., Contrib.* 165: 39-42, 1947; *Pacific Sci.* 3(4): 296-301, 1949; *Pacific Sci.* 4(4): 339-345, 1950; *Bernice P. Bishop Mus., Occas. Papers* 20(6): 77-88, 1950; *Pacific Sci.* 6(1): 30-34, 1952; *Pacific Sci.* 6(3): 213-255, 1952; and No. 22 is in press.

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Waialeale. Mrs. Sinclair is not known to have had technical botanical training, but she had artistic ability and a love of flowers. Over the years she made a series of water color paintings of wild flowers and, as is remarkable for that period, saved herbarium specimens to validate them. These specimens she sent to the Royal Botanic Gardens, Kew, England, and she acknowledges the scientific identifications of these, reported to her by the director, Sir Joseph D. Hooker. Having carefully obtained these scientific names and incorporated them, she prepared the book with colored lithograph plates and had it printed in London. The book, in small folio size, was well printed. It has a full title page and a dedication "To the Hawaiian Chiefs and People who have been my most appreciative friends, and most lenient critics, this work is affectionately inscribed." There is a two-page introduction, discussing the Hawaiian flora, climate, destructive agencies, habitats, Hawaiian vernacular names formerly generally known to the Hawaiian people, and the difficulties of flower painting in the tropics. It was signed at Makaweli, Kauai, May, 1884. There is also a postscript, thanking Sir Joseph D. Hooker for the identifications, signed in London, February, 1885. From this it appears that when in London she finished the manuscript and oversaw the printing of the book.

The table of contents lists the 44 plates and the common and scientific names of the 45 plants illustrated. For each plate there is a page of text with a brief popular description of the plant, observations on its growth or occurrence, and uses. Often there are comments on similar or related plants that grow in New Zealand, the colony from which the Sinclair, Gay, and Robinson families had migrated to Hawaii.

In the introduction Mrs. Sinclair stated clearly, "The following collection of flowers was made upon the islands of Kauai and

Niihau, the most northern of the Hawaiian Archipelago. It is not by any means a large collection, considering that the flowering plants of the islands are said by naturalists to exceed four hundred varieties. But this enumeration was made some years ago, and it is probable that many plants have become extinct since then."

The specimens corresponding to these plates are still in the herbarium at Kew near London. For geographic data they all bear simply the word Hawaii. Monographers of Hawaiian plant groups who have used the Kew Herbarium have commonly studied and cited these specimens. Usually they are cited in their publications as from Hawaii, and often the monographer has interpreted this as meaning the island of Hawaii, not merely the Kingdom of Hawaii or the Hawaiian Islands as a group or archipelago. They have overlooked the precise statement in Mrs. Sinclair's book that all the plants were collected and painted in her home regions on Kauai and Niihau islands. The extensive flora of the island of Kauai is fairly well known, but that of the island of Niihau has been imperfectly known and little recorded. For these reasons it has seemed desirable to try to separate the Sinclair plant records into those from Kauai and those from Niihau. After long search no such written record has been found at Kew, or among the Robinson family libraries on Niihau or Kauai, or in their early manuscript journals.

The only other method of sorting the plant records between Kauai and Niihau seems to be by consideration of the known botanical identity and geographic occurrence and by the Hawaiian vernacular names. The following analysis has been done by that method. On one line are listed the plate number, the vernacular name, and the scientific name as they occur in "Indigenous Flowers of the Hawaiian Islands," and the currently accepted scientific name or redetermination. Any comments on the species are on following lines.

INTRODUCED ORNAMENTALS

14. Piliikai. *Ipomoea Turpethum* R. Br. ? *Stictocardia campanulata* (L.) House.
This is generally accepted as native to India. The determination as *I. Turpethum*, which is now classed as *Operculina Turpethum* (L.) S. Manso, was a misdetermination of the specimen. *S. campanulata* has long been growing in the Islands, and it is a much-admired, cultivated ornamental. The first record of it was by Horace Mann, Jr., who botanized in the Islands in 1864 and 1865. He left no statement as to its habitat or occurrence. Dr. William Hillebrand (1888: 312), who lived and botanized in the Islands from 1850 until 1871, knew the species on most of the Islands and reported, "Probably an escape from early cultivation." Another view was taken by O. Degener (1932: family 307), "... it seems more likely to be indigenous or possibly of aboriginal introduction." Nearly all of the collections have been made in the lowlands, and those that state a habitat almost invariably say roadsides. It is still cultivated and also occurs in the dry lowlands, mostly along roadsides. The writer agrees with Hillebrand that this species was introduced as an ornamental in recent times by foreigners. Mrs. Sinclair reported it as "usually found on the sea-coast but is also met with in the valleys a considerable distance inland. It grows most abundantly on the windward, or wet side of the islands."

EXOTIC ECONOMIC SPECIES IN EARLY CULTIVATION BY THE HAWAIIANS

1. Hau. *Hibiscus tiliaceus* Linn. *Hibiscus tiliaceus* L.
She reported it "found more or less in all parts of the islands from the sea-coast to an elevation of about one thousand feet."
7. Kou. *Cordia subcordata* Lam. *Cordia subcordata* Lam.
She said it was "strictly a lowland tree, seeming indeed to flourish best close to the sea-coast." It was formerly plentiful but "generally near human habitations."
10. Milo. *Thespesia populnea* Corr. *Thespesia populnea* (L.) Soland. ex Corr.
She said it was "seldom found far from the abodes of men, . . ."
15. Uala. *Ipomoea Batatas* Lam. *Ipomoea Batatas* (L.) Poir.
She reported it as cultivated in the Islands and indigenous or "introduced at such a remote period, that all record of the event is lost."
29. Hoi. *Dioscorea sativa* Linn. *Dioscorea bulbifera* L. var. *sativa* Prain & Burkill.
She reported it from rocky grounds and "growing equally well on the lowlands and at an elevation of a thousand feet."
40. Noni. *Morinda citrifolia* Linn. *Morinda citrifolia* Linn.
41. Ohia-ai. *Eugenia (Jambosa) malaccensis* Linn. *Eugenia (Jambosa) malaccensis* Linn.
She said it was "mostly found in sheltered valleys near streams."

INDIGENOUS OR ENDEMIC SPECIES KNOWN TO OCCUR ON KAUAI BUT NOT ON NIIHAU

2. Ohia-lehua. *Metrosideros polymorpha* Gaud. var. *Metrosideros collina* (Forst.) Gray
var. *glaberrima* (Lévl.) Rock.
If the glabrous appearance of the plant illustrated is to be trusted, this is probably the var. *glaberrima* which is known on Kauai. Mrs. Sinclair describes this as "a low shrub a few feet in height . . . occurring on the high table-land of Kauai, about four thousand feet above the sea, . . ."
3. Ieie. *Freycinetia arborea* Gaud. *Freycinetia arborea* Gaud.
She reported it "on the lowlands in wooded districts, but is found in greatest abundance at an elevation of from one to two thousand feet above the sea."
4. Ploi. *Smilax sandwicensis* Kth. *Smilax sandwicensis* Kth.
She said, "An upland vine, plentiful in the forest, a thousand feet and upwards above the sea."
5. Nukuiwi. *Strongylodon lucidum* Seem. *Strongylodon lucidum* (Forst. f.) Seem.
She reported it "mostly in warm valleys, from a few hundred to two thousand feet above the sea."
6. Puakauhi or awitiwiti. *Canavalia ensiformis* DC. ? *Canavalia galeata* (Gaud.) Gaud. ex Vogel,
Linnaea 10: 584, 1836.
This was a misdetermination, as *C. ensiformis* is an introduced crop plant, whereas *C. galeata* is an endemic wild species. Recently the writer (St. John, 1940: 231-233) adopted the combination *C. galeata* (Gaud.) H. & A. The joint authors, Hooker and Arnott, described another species of *Canavalia*, gave the diagnostic

differences between it and *Dolichos galeatus* of Gaudichaud, and concluded that the latter species "is also a Canavalia." The new International Code of Botanical Nomenclature, adopted at Stockholm in 1950 (Article 42), renders invalid such binomials as not having been printed in juxtaposition. Hence, the clearly stated combination by Hooker and Arnott is now illegitimate, as nowhere, not even in the index, did they print the generic and specific names together. The first person to print the name in juxtaposition seems to have been Vogel in 1836.

8. Kokio-keokeo. *Hibiscus Arnottianus* A. Gray forma. *Hibiscus waimeae* Heller.
She found it "on the sides of rocky ravines, and is usually found from one thousand to two thousand feet above the sea level."
9. Kokio-ula. *Hibiscus Arnottianus* A. Gray forma. *Hibiscus Kokio* Hbd'
11. Hauhele. *Hibiscus Youngianus* Gaud. *Hibiscus Youngianus* Gaud.
13. Koali-ai. *Ipomoea palmata* Forsk. *Ipomoea cairica* (L.) Sweet var. *hederacea* Hall. f.
19. Poolanui. *Coreopsis cosmoides* A. Gray. *Bidens cosmoides* (Gray) Sherrf.
She said, "It generally grows under the shade of open forest in the mountain regions at various heights above the sea, but seldom less than two thousand feet."
20. Ukiuki. *Dianella ensifolia* Red. *Dianella sandwicensis* H. & A.
This was a misidentification. "The uki grows on the high lands, the cool air of the mountains seeming a necessity of its existence."
25. Kauila. *Alphitonia excelsa* Reiss. *Alphitonia ponderosa* Hbd.
This was a misidentification with *A. excelsa* of Australia. She said, "It is mostly found on the lee-sides of the islands, from two thousand to three thousand feet above the sea."
27. Kolokolo-kuahiwi. *Lysimachia Hillebrandi* Hook. fil. *Lysimachia daphnoides* (Gray) Hbd.
Hillebrand himself made this determination and so cited the Sinclair plate. She said, "This plant is only found on the high lands of the interior, from three to five thousand feet above the level of the sea."
33. Ohenaupaka. *Scaevola glabra* H. & A. *Scaevola kauaiensis* (Degener) St. John.
This was a misdetermination. She said, "This is a native of the far misty mountains, from four to five thousand feet above the level of the sea, where for more than half the year it is wet with the mountain rains, and enveloped in the trade-wind clouds."
34. Iliahi. *Santalum ellipticum* Gaud. *Santalum pyrrularium* Gray.
This was a misdetermination.
35. Nohuanu. *Geranium cuneatum* Hook. var. *Geranium humile* Hbd. var. *kauaiense* Rock.
This was a misdetermination. It was "found on the high, bleak swamp-land of the interior, at an elevation of about four thousand feet above the sea."
36. Puahanui. *Broussaisia pellucida* Gaud. Now written *Broussaisia pellucida* Gaud. forma *pellucida*.
It was "found only upon the wooded mountains from three thousand to four thousand feet above the sea, where it grows under the shade of the dense forest, and where the vegetation is almost constantly kept damp by rain or mist."
37. Akaakaawa. *Hillebrandia sandwicensis* Oliv. *Hillebrandia sandwicensis* Oliv.
"It is found in the greatest profusion in shady and humid mountain ravines, near the misty spray of waterfalls, . . ."
43. Akala. *Rubus hawaiiensis* Gray ? *Rubus hawaiiensis* Gray.
She reported it "is generally found growing near streams, or on damp ground, far in the cool mountains. It is rarely seen at a less elevation than three thousand feet."
44. Papala. *Charpentiera ovata* Gaud. var. ? *Charpentiera ovata* Gaud.
She reported it "grows only upon the highlands from two to three thousand feet above the sea."

INDIGENOUS OR ENDEMIC SPECIES KNOWN ON BOTH KAUAI AND NIIHAU

12. Koali-awahia. *Ipomoea (Pharbitis) insularis* Choisy. Accepted name now *Ipomoea congesta* R. Br.
She reported this a most common plant, "not found in the forest but almost everywhere else, from the sea-coast to about two thousand feet elevation."

16. Pohuehue. *Ipomoea pescaprae* Sw. Now written *Ipomoea pes-caprae* (L.) Sweet. She reported it "rarely found far from the sea, and generally growing most luxuriantly on the bare sand-hills, immediately above high water mark, where the breakers actually reach its long runners. These runners are often one hundred yards in length, and one root will sometimes cover an acre of ground."
17. Puakala. *Argemone mexicana* Linn. var. Now classed as *Argemone alba* Lestib. var. *glauca* Prain. She reported that it "grows indiscriminately on rich or poor soil, from the sea-coast to a height of about one thousand feet . . . and is one of the few native plants which do not seem to decrease, growing apparently as strongly and profusely now as it did a century ago."
18. Wiliwili. *Erythrina monosperma* Gaud. ? *Erythrina sandwicensis* Degener She reported it as "found in the driest districts, not only sustaining life, but growing luxuriantly where few other trees could exist."
21. Nehe. *Lipochaeta australis* A. Gray var. *Lipochaeta connata* (Gaud.) DC. This seems to have been confused. Sherff (1935: 28, 32) identifies the Sinclair color plate as showing *L. connata* (Gaud.) DC. of the uplands of Kauai, and the present writer agrees that the plate is a good representation of that species from Kauai. The validating specimen at Kew, collected by Mrs. Sinclair and labeled Hawaii, has, on the contrary, been made the type of *L. profusa* Sherff (1933: 95-96). Sherff wrote, "The type label gives 'Hawaii', where it is assumed that the island by that name, rather than the whole archipelago, later known as Territory of Hawaii, was meant." The same wording reappears in the later monograph by Sherff (1935: 32). The species *L. connata* is known from Kauai, Maui, and Kahoolawe islands. The Sinclair painting was doubtless made of a specimen obtained on Kauai. Mrs. Sinclair sent to the Kew Herbarium in January, 1885, 49 plants, 6 of which were not illustrated or mentioned in her subsequent book. The remaining specimens tally almost exactly with those later included in her illustrated book. Those, she stated, were all from Kauai or Niihau. There is no known evidence that she collected plants on other islands of the Hawaiian group. Since *Lipochaeta profusa* Sherff is known only from the type specimen collected in "Hawaii" by Mrs. Sinclair, it seems clear that it must have come either from Kauai or Niihau, but more probably from Niihau.
22. Ohai. *Sesbania (Agati) tomentosa* A. Gray. Now written *Sesbania tomentosa* A. Gray var. *tomentosa*. She reported, "It is a native of the lowlands on the leeward sides of the islands, where it flourishes best upon ground that is partially flooded by the heavy rains of winter." This description applies well to lowlands on Niihau.
23. Mao. *Gossypium tomentosum* Nutt. *Gossypium tomentosum* Nutt. She reported that it was "only found on the lowlands."
24. Aeae. *Lycium sandwicense* A. Gray. *Lycium sandwicense* A. Gray. She reported that it "is found upon low-lying damp ground on the margin of salt lagoons."
26. Kolokolo. *Vitex trifolia* Linn. var. *unifoliata*. Current name *Vitex trifolia* Linn. var. *simplicifolia* Cham. She reported it as a helpful sandbinder, "sometimes found growing upon soil, but pure sand is its favourite locality."
28. Nanea. *Vigna lutea* A. Gray. Now known as *Vigna marina* (Burm.) Merr. She reported it now rare, but "once plentiful on the lowlands."
- 28 (lower part). Hunakai. *Ipomoea (Batatas) acetosaefolia* Choisy. Now *Ipomoea stolonifera* (Cyrill) Gmel. From the complications of nomenclature, it is clear that the correct name of this species is now *I. stolonifera* (Cyrill) Gmel. She reported it growing "on the actual margin of the ocean, . . ."
30. Nohu. *Tribulus cistoides* Linn. *Tribulus cistoides* Linn. She reported that it "usually grows near the sea; and although it may occasionally be found a few miles inland, yet it is only upon the sea coast that it attains full beauty of form and colour."
31. Kakalaioa. *Caesalpinia Bonducella* Flem. Now classed as *Caesalpinia Bonduc* (L.) Roxb. This plant with spiny pods with two to four gray seeds is now classed as *C. Bonduc* (L.) Roxb. She reported that "it generally grows in rocky places on the lowlands, . . ."
32. Naupaka. *Scaevola Koenigii* Vahl. var. Now classed as *Scaevola frutescens* (Mill.) Krause var. *sericea* (Forst. f.) Merr. This Hawaiian plant is now classified as *S. frutescens* (Mill.) Krause var. *sericea* (Forst. f.) Merr., though from the plate or the description one could not determine it to the variety. She reported, "It is always found close to the sea, often within reach of the waves."
38. Hialoa. *Waltheria americana* Linn. *Waltheria americana* Linn. She reported, "The hialoa grows everywhere on the lowlands: . . ."

39. Aalii. *Dodonaea viscosa* Linn.

Dodonaea s.p

From the plate and the description, it is not possible to determine the plant to the species. However, it may well represent *D. eriocarpa* Sm. var. *obtusior* Sherff, which occurs on both Kauai and Niihau. She reported that it "is mostly found in the dry districts of the islands, . . ."

42. Puapilo. *Capparis sandwichiana* DC.

Capparis sandwichiana DC.

She reported that it "is found on the lowlands upon broken rocky ground . . . and . . . on perpendicular cliffs, . . ."

DISCUSSION

Eliminating the one introduced ornamental and the seven species of aboriginal introduction and cultivation, there remain 37 indigenous Hawaiian plants described and illustrated in color in Mrs. Sinclair's book. Of these 37 there are 23 species unknown to Niihau but certainly natives of Kauai. The remaining 15 species occur as natives on both Kauai and Niihau. These 15 are all abundant in the lowlands and occur near the old Sinclair homestead at Kiekie on Niihau. Though they could have been obtained on Kauai, it seems probable that all or most of these 15 were gathered, painted, and studied by Mrs. Sinclair during her long residence at the remote family home on Niihau.

In 1950 the writer searched at Kew for records of the Sinclair collection from the Hawaiian Islands. A record was found that the specimens were received in January, 1885. In the file of collector's lists, there were records of the Sinclair plants. There was a reprint of the published table of contents from the book, with the numbers and vernacular names as printed but lacking the scientific names. There was also a handwritten list of determinations of 49 plants which omitted the vernacular names of 12 that were included in the book. This list included six additional plants not in the published book, as follows:

Pittosporum confertiflorum A. Gray. Haolaunui. This specimen was studied by Sherff and cited in his monograph as var. *Mannii* Sherff (1942: 557) and as coming from the locality Kaolaunui on the island of Hawaii. There is no such named and recorded locality on Hawaii or Kauai. Because of its placement at the end of the line, just as the vernacular name

"alahei" is at the end of the *Plectronia odorata* line, this word, "haolaunui," should be a Hawaiian vernacular plant name. None such has been recorded as yet, but the tree *Rauwolfia sandwicensis* is called "hao," "lau" means leaf, and "nui" means large; therefore, this would be the "large-leaved hao." Because of the known source of her plant specimens, Mrs. Sinclair doubtless collected this one too on Kauai or Niihau, probably on Kauai.

Pittosporum glabrum H. & A. Haolaunui. This specimen was determined and cited by Sherff (1942: 484) as *P. acuminatum* Mann or, as it now would be called, *P. acuminatum* Mann var. *acuminatum*. This variety was known only from Kauai, and Sherff cites the specimen as "Haolanlii (Kauai?—I cannot find this locality on maps; . . ." Again, this is obviously a Hawaiian vernacular name—the "hao with large leaves." In this case he was doubtless correct in attributing the specimen to Kauai.

Sida fallax Walp. Hawaii [Islands].

Rutacea? (Leafy fragment). Puajulo. This vernacular name is unknown today. The fragment is not known to have been identified.

Sesbania grandiflora Poir. var.? Hawaii [Islands]. This ornamental is widely cultivated in the Islands.

Plectronia odoratum H. & A. Alahei. This is now classed as *Canthium odoratum* (Forst.) Seem., and its well-known Hawaiian vernacular names are now written "walahee" and "alahee."

It is obvious that Mrs. Sinclair had no good paintings of these five species. Hence, they were not included in her book. They are discussed here in order to establish their origin from the island of Kauai or Niihau, not from

the island of Hawaii. The two species of *Pittosporum* and the Rutaceae were certainly from Kauai; the *Canthium* probably was too; the cultivated *Sesbania* and the native *Sida* may have been on either Kauai or Niihau. It probably should be pointed out that Niihau, though with a mountainous upland, is rather low, the highest point being 1,281 feet in altitude. Besides being too low to get a heavy rainfall, the island is situated exactly in the lee of the large island, Kauai, and thus has little chance of rain during the prevailing trade-wind weather. Though this upland was once forested, the indications are that the trees were small and of the dry, lower forest type. Kauai is a higher island with the broad summit of Waialeale attaining 5,080 feet altitude. Its rainfall there is 451 inches annually, probably the maximum of precipitation that can be taken from these clouds. In consequence, as these same clouds drift over Niihau, only 40 miles to the leeward, there is little or no rain ready to fall on a small ridge only 1,281 feet high. These geographic and meteorologic facts are the basis for the present interpretation that all of the Sinclair plants which are of the rain-forest type must certainly have come from Kauai.

The vernacular names of Hawaiian plants as recorded by Mrs. Sinclair are of some interest. She could have learned them locally or she could have compiled them. For light on the latter possibility, the writer has checked those books or accounts by explorers or botanists published previous to her book. The following published no Hawaiian vernacular names: Cook; Chamisso; Lay and Collie; Meyen; Nuttall; Brackenridge, Pickering, Peale, Rich, and their commander Wilkes; Wawra; and Mann and Brigham. There were other collectors during this period from 1788 to 1885, but the following published nothing during this century: Menzies; Bloxam; Doug-

las; Macrae; Didrichsen; Rémy; and Hillebrand; though some of them published later or their works were later issued posthumously. The following recorded no native names, even on their specimens: Menzies; Chamisso; Lay and Collie; Nuttall; Macrae; and Wawra. Almost without exception the writer has searched the records for vernacular names, either in the published works of these early collectors or on the original specimens. Mrs. Sinclair's record of Hawaiian vernacular names is sufficiently different in wording or in spelling, so that it is perfectly clear that she obtained these common names from the Hawaiian native people in her vicinity on Kauai or Niihau islands.

REFERENCES

- [BRITTEN, JAMES.] 1886. Notices of books. *Jour. Bot., Brit. and Foreign* 24: 27.
- DEGENER, OTTO. 1932-. *Flora Hawaiiensis* 1-4- [Privately published].
- HILLEBRAND, WILLIAM. 1888. *Flora of the Hawaiian Islands*. 96+673 pp., frontispiece, 4 maps. C. Winter, Heidelberg.
- ST. JOHN, HAROLD. 1940. Hawaiian plants named by Endlicher in 1836. Hawaiian plant studies 8. *Bernice P. Bishop Mus., Occas. Papers* 15(22): 229-238.
- SHERFF, E. E. 1933. New or otherwise noteworthy Compositae. IX. *Bot. Gaz.* 95: 78-103.
- . 1942. Revision of the Hawaiian members of the genus *Pittosporum* Banks. *Field Mus. Nat. Hist., Bot. Ser.* 22(10): 467-566.
- SINCLAIR, MRS. FRANCIS, JR. 1885. *Indigenous flowers of the Hawaiian Islands*. Five pages unnumbered; 44 colored plates, each with one unnumbered page of text. Sampson Low, Marston, Searle, and Rivington, London.
- WEISS, J. E. 1889. 620. F. Sinclair jun. beschreibt . . . *Justs Bot. Jahresber.* 14(2): 221.