

An Enumeration of the Plants Collected by G. Ikeda in Botel Tobago Island

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The following notes are based upon a collection of plants made in 1968 by Goken Ikeda, a teacher of Tsurumaru High School in Kagoshima city, during his trip on Isl. Botel Tobago, Taiwan. This collection, though not large in numbers, contains a new species and many others new or of interesting to the flora of Taiwan.

The island of Botel Tobago (or Kôtôsyô or Lanyu) lies southeast of Taiwan about 50 km from South Cape, the southern tip of Taiwan, and about 140 km from Batan Island at the north end of the Philippine archipelago. It is an old volcanic island geologically distinct from the main island of Taiwan, and forms a part of the volcanic chain extending from northern Luzon through the Babuyan and Batan Islands to Kasyôto (Lu Tao) and further north to Kizan Island near Keelung, Taiwan. The island, with a total area of about 139 square km, is rather mountainous, and the highest peak reaching 545 m above sea level. As the climate is warm and wet with an annual mean temperature of 25.4°C, and an annual mean rainfall of 3559 mm, the vegetation is luxuriant and the phenomena of buttressing and stilt-rooting, common in Tropical Rain forests, are often found here.

I am indebted to Dr. M. Jacobs of the Rijksherbarium at Leiden for the identification of a species of *Capparis*.

Enumeration of the plants collected.

Pteridophyta Lycopodiaceae

Lycopodium cernuum L., Sp. Pl. (1753)1103; Sasaki, Phytogeographical and floristical Stud. Islandseries of Kotosyo (1937)119.
No. 2535. Warmer parts of the world.

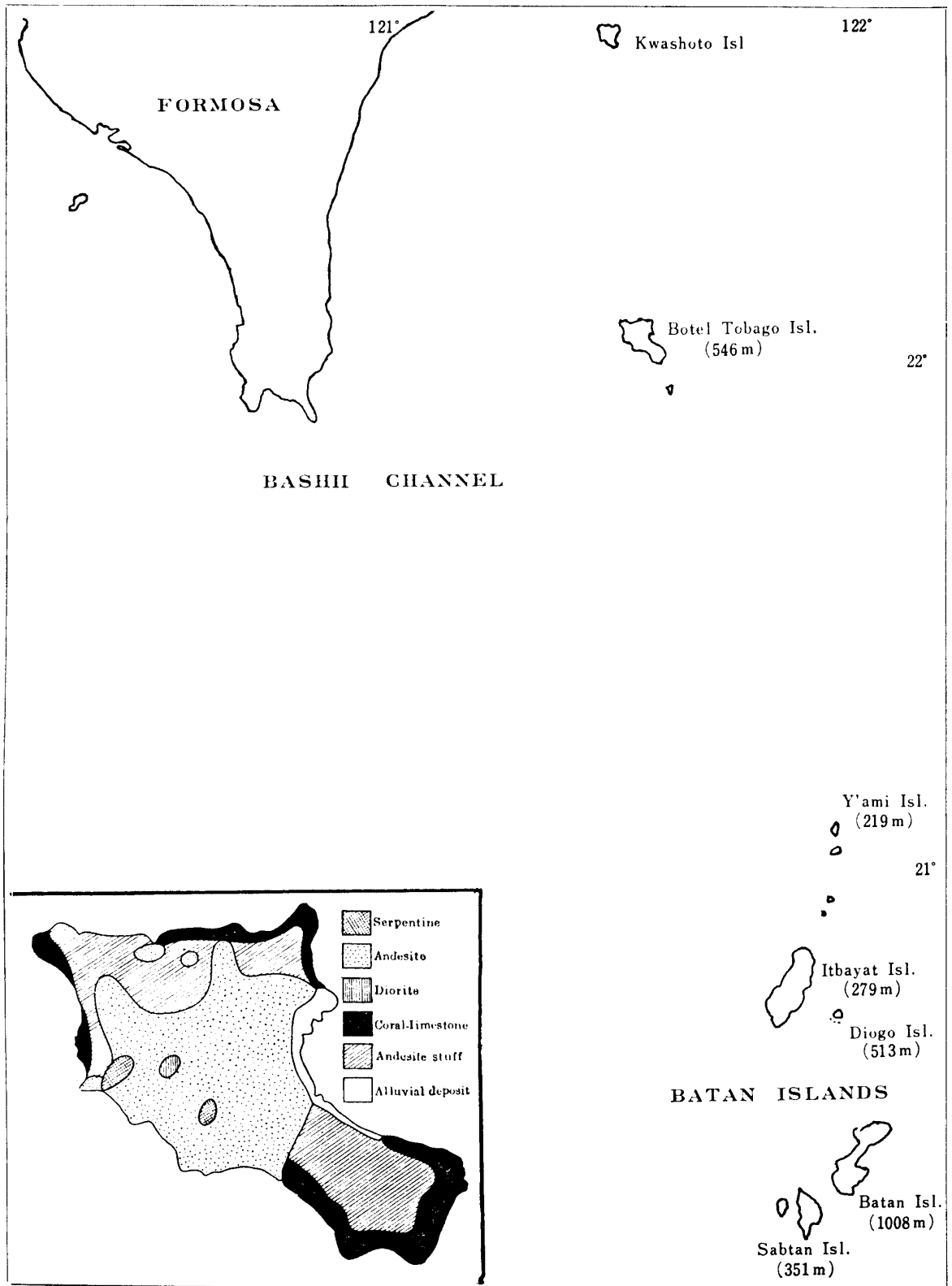


Fig. 1. Map showing the location and geology of Botel Tobago Island.

Selaginellaceae

Selaginella honinensis Baker in Journ. Bot. 23(1885); C. E. DeVol in Taiwania 12(1966)86, f. 12- *S. somai* Hay, Icon. 7(1918)101.

No. 2550. Bonins, Taiwan and the Philippines.

Selaginella ciliaris (Retz.) Spring in Bull. Acad. Bruxelles 10(1843)231; DeVol, l. c. 87, f. 13.

No. 2549. India to S. China and Taiwan, through Malaysia to Australia.

Selaginella delicatula (Desv. ex Poir.) Alston in Journ. Bot. 70(1932)282; Hatusima, Enum. Pl. Batan Isl. (1966)18; C. E. DeVol, l. c. 71, f. 2.

No. 2552. China, Taiwan, Hainan to India, Malaysia and Polynesia.

Selaginella doederleinii Hieron., Hedwig. 43(1904); C. E. DeVol, l. c. 79, f. 7. -*S. atroviridis* sensu Sasaki, l. c. 121, non Spring.

No. 2527. S. Japan to Formosa, S. China, Indo-China, S. India and Malaysia.

Equisetaceae

Equisetum ramosissimum Desf. var. **japonicum** Milde in Ann. Lugd. Bat. 1(1863)65 -*E. ramosissimum* sensu Sasaki, l. c. 118, non Desf.

No. 2533. Japan to China and Taiwan.

Marsileaceae

Marsilea crenata Presl, Rel. Haenk. 1(1825)84, t. 12, f. 13; Sasaki, l. c. 115.

No. 2536. S. Japan to Malaysia.

Osmundaceae

Plenasium banksiaefolium (Pr.) Pr. Tent. (1836)110-*Osmunda banksiaefolia* (Pr.) Kuhn, Ann. Lugd. Bat. 4(1869)299; Sasaki, l. c. 114.

No. 2540. Japan to Taiwan, S. China, Philippines and Moluccas.

Marattiaceae

Angiopteris palmiformis (Cavan) Christ, Dansk. Bot. Arki 3-9(1937)30, pl. 3, f. 8-9; Hatusima, l. c. 18-A. *D'urvilleana* sensu Nakai in Bot. Mag. Tokyo 41(1927)77, non de Vriese; Sasaki, l. c. 2.

No. 2542. Ryukyus to Taiwan and the Philippines.

Schizaeaceae

Lygodium japonicum (Thunb.) Sw. var. **microstachyum** (Desv.) Tard. & C. Chr., Pl. Gen. 1-C (1939)38; Hatusima, l. c. 19-*L. microstachyum* Desv. in Berl. Mag. 5(1811) 308; Sasaki, l. c. 112.

No. 2534. Ryukyus to Taiwan, S. China, India and Malaysia.

Parkeriaceae

Ceratopteris thalictroides (L.) Brongn. in Bull. Sci. Philom. 1821(1822)186-*Acrostichum thalictroides* L., Sp. Pl. 2(1753)1070-*Ceratopteris siliquosa* (L.) Copel. in Philip. Jour. Sci. 56(1935)107; Sasaki, l. c. 106.

No. 2575. Queensland to India and Japan.

Hymenophyllaceae

- Trichomanes auriculatum** Bl., Enum. Pl. Jav. 2(1828)225; Sasaki, l. c. 9-*Vandenboschia auriculata* (Bl.) Copel. in Philip. Journ. Sci. 67(1938)55.
No. 2531. Japan to China, N. India and Malaysia.
- Trichomanes bipunctatum** Poir. in Lam., Enc. 8(1808)69; Sasaki, l. c. 12-*Crepidomanes bipunctatum* (Poir.) Copel., l. c. (1938)59; Hatusima, l. c. 19.
No. 2551. Malay Peninsula to Indo-china, Philippines, Admiralty Islands, New Zealand and Polynesia.
- Trichomanes humile** Forst., Prodr. (1786)84; Sasaki, l. c. 13-*Crepidopteris humilis* (Forst.) Copel., l. c. (1938)58; Hatusima, l. c. 19.
No. 2558. Malaysia to Tahiti and the S. Ryukyus.
- Trichomanes javanicum** Bl., Enum. Pl. Jav. (1828)224-*Cephalomanes asplenioides* Presl, Hymen. (1843)129-*Cephalomanes oblongifolium* Presl, l. c. (1849)19, pl. 10; Hatusima, l. c. 19.
No. 2568. Burma to Malaysia, northward to the Ryukyus.
- Trichomanes minutus** Bl., Enum. Pl. Jav. (1828)223-*Gonocormis minutus* (Bl.) v. d. Bosch, Hymen. Jav. (1861)7, pl. 3-*Trichomanes parvulum* sensu Sasaki, l. c. 16, non Poir.
No. 2538. Japan to tropical Asia, Malaysia, Polynesia and Africa.
- Trichomanes radicans** Sw. var. *formosanum* (C. Chr.) comb. nov.-*T. japonicum* var. *formosanum* C. Chr. ex Matsum. in Bot. Mag. Tokyo 24(1910)239-*T. radicans* sensu Sasaki, l. c. 17
Vandenboschia radicans var. *orientalis* (C. Chr.) H. Ito in Journ. Jap. Bot. 24(1949)125
No. 2573. Eastern Asia, the species of pantropic and in N. temperate regions.

Dipteridaceae

- Dipteris conjugata** Reinw., Syloge 2(1824)3, pl. 2; Sasaki, l. c. 44; Hatusima, l. c. 24.
No. 2567. Malaysia to Fiji and the S. Ryukyus.

Cyatheaceae

- Cyathea fenicis** Copel. in Philip. Journ. Sci. 30(1908)354; 4C(1909)61; Hatusima, l. c. 21.
-*Alsophila fujiana* Nakai in Bot. Mag. Tokyo 41(1927)72; Sasaki, l. c. 21.
No. 2556. Philippines (Batan Island) and Taiwan (Isl. Botel Tobago).
- Cyathea lepifera** (J. Sm.) Copel. in Philip. Journ. Sci. 4C(1909)40; 56(1935), pl. 3, f. 5-7; Hatusima, l. c. 21-*C. pustulosa* Christ in Bull. Herb. Boiss. 2 ser. 1(1901)1019-*C. tomentosa* sensu Sasaki, l. c. 21, non Hook.
No. 2554. Bonins?, Ryukyus to the Philippines.

Pteridaceae

- Adiantum capillus-veneris** L., Sp. Pl. (1753)1096; Sasaki, l. c. 80; Hatusima, l. c. 20.
No. 2563. All warm countries.
- Lindsaea davallioides** Bl., Enum. (1828)218; Sasaki, l. c. 59; Hatusima, l. c. 20.
No. 2529, Taiwan to Malaysia.
- Lindsaea repens** Thw. var. *sessilis* (Copel.) Kramer in Blumea 15(1967)568-*Lindsaea macraeana* (Hk. et Arn.) Copel. in B. P. Bishop. Mus. Bull. 59(1929)70, excl. basionym.-*L. repens* sensu Sasaki, l. c. 61, non L.-*L. yaeyamensis* Tagawa in Act. Phyt. et Geobot. 6(1937)31; Hatusima, l. c. 20.
No. 2530. S. Ryukyus to E. Malaysia, the species of tropical Asia to the Mascarenes and Polynesia.

- Lindsaea tenera** Dry var. **commixta** (Tag.) Iwatsuki, Acta Phytotax. et Geobot. 19(1961)6-
L. commixta Tagawa, l. c. 6(1937)37-*L. orbiculata* sensu Sasaki, l. c. 60, non Mett.?
 No. 2559. S. Japan (Isl. Koshiki) to Ryukyus and Taiwan (Isl. Kasyo-to). Kramer adopted
 (op. cit. p. 593) *Lindsaea cambodgensis* Christ for the Malesian species to which the name
L. tenera Dry. has been currently applied.
- Microlepia speruncae** (L.) Moore var. **hancei** (Prantl) C. Chr. et Tard. -Blot, Not. Syst. 6(1937)
 9; Holltum, Ferns Malaya (1954)315-*M. pyramidata* Wall. ex Lacaite in Journ. Linn. Soc.
 43(1916)486; Hatusima, l. c. 20.
 No. 2539. Ryukyus to India and Malaysia.
- Microlepia strigosa** (Thunb.) Presl, Epim. (1849)95; Sasaki, l. c. 53; Hatusima, l. c. 20.
 No. 2532. Japan to Malaysia and Fiji.
- Pteris fauriei** Hieron., Hedwig. 55(1914)345; Hatusima, l. c. 20-*P. quadriaurita* sensu Sasaki, l. c.
 86, non Retz.
 No. 2528, 2584. S. Japan to Taiwan and the Philippines (Isl. Batan).
- Pteris vittata** L., Sp. Pl. (1753)1074; Hatusima, l. c. 20-*P. longifolia* sensu Sasaki, l. c. 85, non
 L.
 No. 2545. Warm countries of the Old World.
- Sphenomeris biflora** (Klf.) Tagawa in Journ. Jap. Bot. 33(1958)203-*Stenoloma littorale* Tagawa
 in Acta Phyt. et Geob. 6(1937)225-*Sphenomelis chusana* var. *littoralis* (Tagawa) H. Ito ex
 Mizushima, Misc. Rept. Inst. Nat. Resour. 38(1955)115; Hatusima, l. c. 21-*Stenoloma chusa-*
na sensu Sasaki, l. c. 54, non Ching.
 No. 2562. Japan to the Philippines and S. China.

Blechnaceae

- Woodwardia orientalis** Sw. var. **formosana** Ros., Hedwig. 56(1914)334; Hatusima, l. c. 23-*W.*
orientalis sensu Sasaki, l. c. 79, non Sw.-*W. orientalis* ssp. *prolifera* (Hook. et Arn.) Sugimoto,
 Keys Herb. Pl. Jap. 3(1966)408.
 No. 2587. Japan to Taiwan, China and the Philippines (Isl. Batan).

Davalliaceae

- Davallia solida** (Forst.) Sw., Schrader's Journ. II of 1800(1801)87; Sasaki, l. c. 51; Hatusima, l.
 c. 21.
 No. 2561. Taiwan to Malaysia and Polynesia.
- Nephrolepis auriculata** (L.) Trimen in Journ. Linn. Soc. Bot. 24(1887)152-*N. cordifolia* sensu
 Sasaki, l. c. 47, non Presl.
 No. 2577. Japan to Taiwan and other Old World tropics.
- Nephrolepis biserrata** (Sw.) Schott, Gen. Fil. (1834) text to Pl. 3; Sasaki, l. c. 46; Copel., Fern
 Fl. Philip. 1(1958)187
 No. 2580. Pantropic.
- Nephrolepis hirsutula** (Forst.) Presl, Tent. (1836)79; Hatusima, l. c. 21-*N. exaltata* sensu Sasaki,
 l. c. 46, non Schott.
 No. 2585. Pantropic.

Aspidiaceae

- Arachniodes pseudo-aristata** (Tagawa) Ohwi in Journ. Jap. Bot. 37(1962)76 -*Polystichum pseudo-aristatum* Tagawa in Acta Phytotax. et Geobot. 1(1932)91-*Rumobra aristata* sensu Sasaki, l. c. 40, non Ching?
No. 2586. Japan to Taiwan.
- Bolbitis heteroclita** (Pr.) Ching in Christ, Suppl. 3(1934)48; Hatusima, l. c. 22-*Campium heteroclitum* Copel. in Philip. Journ. Sci. 37(1928)359; Sasaki, l. c. 43.
No. 2581. India to Polynesia, northward to the S. Ryukyus.
- Ctenitis eatoni** (O. K.) Ching in Bull. Fan. Mem. Inst. Biol. 8(1938)291; Hatusima, l. c. 22-*Dryopteris eatoni* O. K., Rev. Gen. Pl. 2(1891)812; Sasaki, l. c. 25.
No. 2537. Ryukyus to Taiwan, S. China, Annam and the N. Philippines (Isl. Batan).
- Diplazium donianum** (Mett.) Tardieu-Blot, Aspl. Tonkin (1932)58, pl. 5, f. 12; Tagawa in Acta Phytotax. et Geobot. 20(1962)213, f. 1-*Athyrium fraxinifolium* sensu Sasaki, l. c. 64, non Milde
No. 2544. Ryukyus to Taiwan, S. China, Indo-China and E. India.
- Diplazium esculentum** (Retz.) Sw., Schrader's Journ. 1801(1803)312; Hatusima, l. c. 22-*Athyrium esculentum* (Retz.) Copel. in Philip. Journ. Sci. 3C(1908)295; Fern Fl. Philip. 3 (1960)405; Sasaki, l. c. 63-*Anisogonium esculentum* Presl, Tent. (1836)116
No. 2579. India to Fiji through Malaysia, northward to S. Japan.
- Diplazium subsinuatum** (Wall.) Tagawa, Colour Illustr. Japan. Pterid. (1959)203-*Athyrium lanceum* Milde in Bot. Zeit. (1870)354, non Bory 1833; Sasaki, l. c. 67-*Diplazium lanceum* Presl, Tent. Pteridogr. (1836)113
- Lomariopsis spectabilis** (Kuntze) Mettenius, Fl. Lips. (1856)22; Copel., Fern. Fl. Philip. 2 (1960)269-*Stenochlaena sorbifolia* sensu Sasaki, l. c. 78, non L.
No. 2541. S. Ryukyus to Malaysia.
- Lunathyrium japonicum** (Thunb.) Kurata in Hokuriku Journ. Geobot. 9(1961)99-*Athyrium japonicum* (Thunb.) Copel. in Philip. Journ. Sci. 3C(1908)290; Sasaki, l. c. 66; Hatusima, l. c. 21-*Lunathyrium petersonii* (Kuntze) H. Oba in Sci. Rept. Yokohama City Mus. 11(1965)53
No. 2569. India to Malaysia and Japan.
- Polystichum hancockii** (Hance) Diels in Engl. et Prantl, Nat. Pfl. -fam. 1⁴(1899)191-*Ptilopteris hancockii* Hance in Journ. Bot. (1884)139.
No. 2572. Ryukyus, Taiwan and S. China.
- Tectaria decurrens** (Pr.) Copel. in Elm., Leaf. Philip. Bot. 1(1907)236; Sasaki, l. c. 34-*Aspidium decurrens* Presl, Rel. Haenk, 1¹(1825)28.
No. 2566. Malaysia to Polynesia, northward to the Ryukyus.
- Thelypteris acuminata** (Houtt.) Morton, Amer. Fern Journ. 48(1958)139; Iwatsuki in Mem. Coll. Sci. Univ. Kyoto, ser. 13, 31³(1965)186-*Polypodium acuminatum* Houtt., Nat. Hist. 14 (1783)181-*Cyclosorus acuminatus* (Houtt.) Nakai ex H. Ito in Bot. Mag. Tokyo 51(1937) 710; Hatusima, l. c. 22.
No. 2571. Japan to Taiwan, China and the N. Philippines.
- Thelypteris decursive-pinnata** (v. Hall) Ching in Bull. Fan. Mem. Inst. Biol. 6(1936)275; Iwatsuki, l. c. 137-*Polypodium decursive-pinnatum* v. Hall, Nieuwe Verhdl. Nederl. Inst. 5(1836) 1836-*Dryopteris decursive-pinnata* O. K., Rev. Gen. Pl. 2(1891)812; Sasaki, l. c. 24.
No. 2574. Japan to Taiwan, S. China, Tonkin and Kashmir.
- Thelypteris kotoensis** (Hay.) K. Iwatsuki in Acta Phytotax. et Geobot. 21(1964)42-*Dryopteris*

kotoensis Hayata, Icon. 5(1915)279-*Cyclosorus truncatus* var. *kotoensis* (Hay.) H. Ito in Bot. Mag. Tokyo 51(1937)729.

No. 2553. N. Philippines?

Thelypteris liukuensis (Chr.) K. Iwatsuki, l. c. 191-*Meniscium liukuense* Christ ex Matsum. in Bot. Mag. Tokyo 24(1910)240-*Abacopteris liukuensis* (Chr.) Tagawa in Acta Phytotax. et Geobot. 18(1959)9.

No. 2555. Ryukyus. This is very closely related to *Tb. sampsonii* from the Philippines and may not be distinct specifically as stated by Ching in 1938.

Thelypteris simplex (Hook.) K. Iwatsuki, l. c. (1964)189-*Abacopteris simplex* (Hook.) Ching in Bull. Fan. Mem. Inst. Biol. 8(1938)239-? *Dryopteris triphylla* sensu Sasaki, l. c. 32., non C. Chr.

No. 2543. Ryukyus to Taiwan, S. China and Indo-China.

Thelypteris taiwanensis (C. Chr.) K. Iwatsuki, l. c. (1965)183-*Dryopteris taiwanensis* C. Chr., Ind. Fil. (1905)297-*Cyclosorus taiwanensis* (C. Chr.) H. Ito in Bot. Mag. Tokyo 51(1937)728-*C. heterocarpus* sensu H. Ito, l. c. 52(1938)590, non Tard. et C. Chr.

No. 2557. Ryukyus to Taiwan and S. China.

Aspleniaceae

Asplenium laserpitifolium Lamk., Encycl. 2(1786)310, sensu lat.; Sasaki, l. c. 69; Hatusima, l. c. 23.

No. 2588. India to Polynesia, Seychelles and the Ryukyus. The specimen from the island may belong to *A. sublaserpitifolium* Ching in narrower sense.

Asplenium nidus L., Sp. Pl. (1753)1079; Sasaki, l. c. 71; Hatusima, l. c. 23.

No. 2589, 2560. Tropical Asia to Polynesia and Africa.

Asplenium unilaterale Lamk., Encycl. 2(1786)305; Sasaki, l. c. 74.

No. 2576. India to Africa, Malaysia, Polynesia and Japan.

Asplenium vulcanicum Bl., Enum. (1828)176; Hatusima, l. c. 23-A. *prionurus* J. Sm. in Hook. Journ. Bot. 3(1841)408; Sasaki, l. c. 73-A. *matsumurae* Christ ex Matsum. in Bot. Mag. Tokyo 24(1910)241.

No. 2547. Philippines and Taiwan (Isl. Botel Tobago).

Polypodiaceae

Colysis pothifolia (Don) Presl, Epim. Bot. (1849)148-? *Polypodium ellipticum* sensu Sasaki, l. c. 96, non Thunb.

No. 2564. Japan to Taiwan, China, Indo-China, N. India and the Philippines.

Colysis wrightii (Hook.) Ching in Bull. Fan. Mem. Inst. Biol. 4(1933)324 -*Gymnogramme wrightii* Hook., Sp. Fil. 5(1864)160, t. 303-*Polypodium wrightii* Mett. ex Diels in Engl. & Prantl, Nat. Pfl. -fam. 1⁴(1899)316.

No. 2578. Japan to Taiwan, S. China and Indo-China.

Crypsinus taeniatus (Sw.) Copel., Genera Fil. (1947)206; *Polypodium taeniatum* Sw. in Shrad. Journ. 1800-2(1801)26; Sasaki, l. c. 102; Hatusima, l. c. 23-*Polypodium falcato-pinnatum* Hay., Icon. 4(1914)247.

No. 2548. Malaysia to Taiwan (Botel Tobago).

Microsorium punctatum (L.) Copel., Univ. Calif. Pub. Bot. 16(1929)111; Hatusima, l. c. 24-*Polypodium punctatum* Mett., Polyp. (1857)36, n. 16; Sasaki, l. c. 98.

No. 2565. Old World tropics generally.

- Phymathodes scolopendria** (Burm. f.) Ching, Contr. Inst. Bot. Nat. Akad. Peiping 2(1963)63; Hatusima, l. c. 24-*Polypodium scolopendrium* Burm. f., Fl. Ind. (1768)232; Sasaki, l. c. 100-*Polypodium phymatodes* L., Mant. Pl. (1771)306.
No. 2570. Tropical Asia to Africa and Polynesia.
- Pyrrhosia adnascens**(Sw.) Ching in Bull. Chin. Bot. Soc. 1(1935)45; Hatusima, l. c. 24-*Cyclosorus adnascens* Desv. in Gesells. Naturf. Freunde Berl. Mag. 5(1811)300; Sasaki, l. c. 104.
No. 2582. Ryukyus to India, Malaysia and Polynesia.

Vittariaceae

- Antrophyum sessilifolium** (Cavan) Spring, Syst. Veg. 4(1827)67; Hatusima, l. c. 24-*A. reticulatum* sensu Sasaki, l. c. 92, non Kaulf.
No. 2546. Taiwan and the Philippines.

Gymnospermae

Podocarpaceae

- Podocarpus polystachys** R. Br. ex Mirb. in Mem. Mus. Paris 13(1825)75; Liu et al., Enum. Pl. Lanyu (Botel Tobago) in Quart. Journ. Taiwan Mus. 8(1955)284-*P. costalis* sensu Yamamoto. Suppl. Icon. Pl. Formos. 2(1927)15; Kanehira, Formos. Trees ed. 2(1936)35, f. 3.
No. 2439. Taiwan (Botel Tobago) and the N. Philippines.

Angiospermae

Dicotyledoneae

Piperaceae

- Peperomia rubrivenosa** DC. in Philip. Journ. Sci. 5(1910) Bot. 409; Liu et al., l. c. 284-*P. kotoensis* Yamamoto, Suppl. Icon. Pl. Formos. 2(1926)9, f. 4.
No. 2331. Taiwan (Botel Tobago) and the Philippines.
- Piper arborescens** var. **angustilimum** Quisumb. in Philip. Journ. Sci. 43(1930)22; Liu et al., l. c. 284.
No. 2332. Taiwan (Botel Tobago) and the Philippines. The species of Malaysia and Micronesia.
- Piper betle** L., Sp. Pl. (1753)28; Merr., Enum. Philip. Fl. Pl. 2(1923)4.
No. 2334A. India to Malaysia, cultivated in Taiwan for its leaves.
- Piper interruptum** Opiz var. **multinervium** C. DC. in Elmer, Leafl. Philip. Bot. 3(1910)785; Merr., l. c. 9-*P. interruptum* sensu Liu et al., l. c. 285, non Opiz
No. 2334. Taiwan (Botel Tobago) and the Philippines. The species of the Philippines.
- Piper philippicum** Miq., Syst. Pip. (1843); Liu et al., l. c. 285.
No. 2333. Taiwan (Botel Tobago) and the Philippines.

Chloranthaceae

- Sarcandra glabra** (Thunb.) Nakai, Fl. Sylv. Korea. 18(1930)17, t. 2; Liu et al., l. c. 285; Li, Wood. Fl. Taiwan (1963)68-*Chloranthus glaber* (Thunb.) Mak. in Bot. Mag. Tokyo 36(1912) 336.
No. 2311. Japan to S. China, India and Malaysia.

Ulmaceae

- Celtis philippensis** Blanco, Fl. Philip. (1837)197; Kanehira, l. c. 140, f. 86; Liu et al., l. c. 285; Hatusima, l. c. 24; Li, l. c. 106.
No. 2205. Hainan, Taiwan (Botel Tobago and Kasyoto), Philippines, Malaysia to N. Australia.

Moraceae

- Fatoua pilosa** Gaudich., Cot. Frey. Voy. (1826)509; Liu et al., l. c. 286.
No. 2385. Malaysia to Polynesia, northward to Japan.
- Ficus ampelos** Burm. f., Fl. Ind. (1768)226; Liu et al., l. c. 286; Hatusima, l. c. 25-*F. kingiana* Hemsl. in Hook. f., Icon. Pl. (1899) t. 2535; Kanehira, l. c. 155, f. 102; Li, l. c. 126
No. 2377. Ryukyus to Taiwan, Philippines, Moluccas and Sumatra.
- Ficus benguetensis** Merr. in Philip. Journ. Sci. 1(1906) Suppl. 46; Corner in Gard. Bull. Singap. 21(1965)89-*F. kotoensis* Hay., Icon. 8(1918)126, f. 53-*F. barlandii* var. *kotoensis* (Hay.) Sata in Journ. Soc. Trop. Agric. 6(1934)21-*F. barlandii* sensu Liu et al., l. c. 286, non Benth; Hatusima, l. c. 25.
No. 2371. Ryukyus, Taiwan and the Philippines.
- Ficus caulocarpa** Miq. in Ann. Mus. Bot. Lugd. Bat. 3(1867)287; Corner, l. c. 10-*F. stipulosa* Miq., l. c. 289; Kaneh., l. c. 162; Liu et al., l. c. 120; Hatusima, l. c. 26; Li, l. c. 120-*F. infectoria* sensu Yamamoto, Suppl. Icon. 5(1932)16, non Roxb.
No. 2390, 2391. India to Malaysia, northward to the Ryukyus.
- Ficus cumingii** Miq. var. **terminalifolia** (Elm.) Sata, Contr. Inst. Hort. & Econ. Bot. Fac. Agric. Taihoku Univ. 32(1944)239; Corner, l. c. 66-*F. kusanoi* Hay., Mater. Fl. Formos. (1911) 275; Kanehira, l. c. 156, f. 104; Li, l. c. 125-*F. Somai* Hay., l. c. (1913)121-*F. terminalifolia* Elm., Leaflet. 4(1911)1318-*F. cumingii* sensu Liu et al., l. c. 286; Hatusima, l. c. 25, non Miq.
No. 2381, 2382, 2383. Taiwan (Botel Tobago), Philippines and N. Borneo.
- Ficus erecta** Thunb. var. **beeheyana** (Hook. et Arn.) King in Ann. Bot. Gard. Culc. 1(1888) 142, t. 178, A; Corner, l. c. 41-*F. beeheyana* Hook. et Arn., Bot. Beech. Voy. (1841)271; Kanehira, l. c. 149, f. 95; Liu et al., l. c. 286; Li, l. c. 124.
No. 2372. Ryukyus, Taiwan, S. China and ?Annam.
- Ficus heteropleura** Bl., Bijdr. (1825)466; Corner, l. c. 77-*F. caudatifolia* Warb. in Perk. Frag. Fl. Philip. (1905)194; Hatusima, l. c. 25-*F. cuspidato-longifolia* Sata in Journ. Trop. Agric. Soc. 6(1934)26; Liu et al., l. c. 286, syn. nov.
No. 2374, 2375. Taiwan (Botel Tobago), Hainan, Indo-China, W. Malaysia. A new addition for the flora of Taiwan.
- Ficus microcarpa** L. f., Suppl. (1781)441; Hatusima, l. c. 25; Corner, l. c. 22-*F. retusa* var. *nitida* sensu Liu et al., l. c. 287, non King-*F. retusa* sensu auct, non L.
No. 2373. India to New Caledonia, Australia and the Ryukyus.
- Ficus pedunculosa** Miq. var. **imberbis** (Elm.) Corner, in Gard. Bull. Singapore 17(1960)426; l. c. 40-*F. luzonensis* var. *imberbis* Elm., Leaflet. 4(1911)1323-*F. pedunculosa* sensu Liu et al., l. c. 287, p. p.-*F. pedunculosa* var. *glabrifolia* Ching-en Chang in Bull. Taiwan Prov. Pingtang Inst. Agric. 6(1965)55, syn. nov.
No. 2378A. Taiwan (Botel Tobago) and the Philippines.
- Ficus pedunculosa** Miq. var. **mearnsii** (Merr.) Corner, l. c. (1960)427; l. c. 40-*F. pedunculosa* sensu Liu et al., l. c. 287, non Miq., p. p.-*F. garanbiensis* Hay., Icon. 8(1918)118, f. 42; Kanehira, l. c. 153, f. 100; Li, l. c. 122

- No. 2378, 2379. S. Taiwan and the Philippines. The species of the Philippines to N. W. New Guinea.
- Ficus pubinervis** Bl., Bijdr. (1825)452; Liu et al., l. c. 287; Corner, l. c. 31-*F. cuneato-nervosa* Yamamoto, Suppl. Icon. 1(1925)1, f. 1; Kanehira, l. c. 153, f. 100; Li, l. c. 119.
- No. 2376. Taiwan, Philippines, Moluccas, Timor, Java and Sumatra.
- Ficus ruficaulis** Merr. in Gavn. Lab. Publ. (Philip.) 17(1904)13; Enum. 2(1923)64; Corner, l. c. (1965)190-*F. antaoensis* Hay. Icon. 8(1919)122, f. 19; Kanehira, l. c. 148, f. 93; Li, l. c. 118.
- No. 2380. Taiwan. Philippines, Celebes and ? New Guinea.
- Ficus septica** Burm. f., Fl. Ind. (1768)226; Kanehira, l. c. 161, f. 110; Hatusima, l. c. 26; Li, l. c. 118-*F. bauili* Blanco, Fl. Filip. (1837)684; Liu et al., l. c. 286.
- No. 2384. Bonins, Ryukyus, Taiwan to Malaysia and N. Australia.
- Ficus tannoensis** Hay., Icon. 7(1917)36; Kanehira, l. c. 162, f. 112; Liu et al., l. c. 287; Li, l. c. 125; Corner, l. c. 37.
- No. 2387. Endemic to Taiwan.
- Ficus trichocarpa** Bl. var. *obtusa* (Hassk.) Corner, l. c. (1960)19; l. c. 59-*F. abernii* Merr. in Philip. Journ. Sci. 18(1921) Bot. 61; Enum. 2(1923)441; Liu et al., l. c. 286; Hatusima, l. c. 25.
- No. 2386. Taiwan (Botel Tobago), Philippines, Celebes, Java and Sumatra. The species of Indo-China to W. Malaysia.
- Ficus tinctoria** Forst. ssp. *swinhoei* (King) Corner in Gard. Bull. Singapore 17(1959)476; l. c. 75-*F. swinhoei* King in Ann. Mus. Bot. Lugd. Bat. 3(1867)289; Kanehira, l. c. 162, f. 111; Hatusima, l. c. 26; Li, l. c. 26.
- No. 2388, 2389. Taiwan and the Philippines. The species of Micronesia to Polynesia.
- Ficus vaccinioides** Hemsl. ex King in Ann. Bot. Gard. Calc. 1(1888)126, f. 159a; Kanehira, l. c. 164, f. 114; Liu et al., l. c. 287; Li, l. c. 128; Corner, l. c. 43.
- No. 2393. Endemic to Taiwan.
- Morus australis** Poir. in Lamk., Encycl. 4(1783)380; Kanehira, in Trans. Nat. Hist. Soc. Formos. 29(1939)22; Liu et al., l. c. 288; Li, l. c. 128; Hatusima, l. c. 26-*M. acidosa* sensu Kanehira, l. c. (1936)167, non Griff.
- No. 2392. Ryukyus, Taiwan, S. China, Philippines (Batan Island).

Urticaceae

- Boehmeria densiflora** Hook. et Arn., Bot. Beechey's Voy. (1841)217; Kanehira, l. c. 167, f. 118; Liu et al., l. c. 288; Li, l. c. 130.
- No. 2346. Ryukyus, Taiwan, S. China and the Philippines.
- Boehmeria nivea** Gaud., Bot. Freyc. Voy. (1826)4; Hatusima, l. c. 26; Liu et al., l. c. 288; Hatusima, l. c. 26-*B. frutescens* sensu auct., non Thunb.; Li, l. c. 130.
- No. 2341, 2353. A native of S. China, now naturalized in many warm countries.
- Cypholophus moluccanus** (Bl.) Miq. in Ann. Mus. Bot. Lugd. Bat. 4(1869)305; Kanehira, l. c. 169; Liu et al., l. c. 288; Hatusima, l. c. 26.
- No. 2355. Taiwan (Botel Tobago) to Malaysia and Polynesia.
- Elatostema edule** C. B. Robinson in Philip. Journ. Sci. 5(1910) Bot. 531; Liu et al., l. c. 288; Hatusima, l. c. 26.
- No. 2342. Formosa (Botel Tobago) and the Philippines.
- Gonostegia hirta** (Bl.) Miq. in Mus. Bot. Lugd. Bat. 4(1869)303; Liu et al., l. c. 288

- No. 2354. Malaysia to Australia and the Ryukyus.
Leucosyke quadrinervia C. B. Robinson in Philip. Journ. Sci. 6(1911) Bot. 28; Kanehira, l. c. 170, f. 121; Liu et al., l. c. 289, pl. 8; Hatusima, l. c. 27; Li, l. c. 135.
 No. 2351, 2352. Taiwan (Botel Tobago and Kasyoto) and the N. Philippines (Batan and Babuyan Islands)
Maoutia setosa Wedd. in Sci. Nat. Bot. 4¹(1854)194; Kanehira, l. c. 170, f. 122; Liu et al., l. c. 289, pl. 8; Hatusima, l. c. 27; Li, l. c. 137. S. Ryukyus?, Taiwan (Botel Tobago) and the Philippines.
Pilea funkikensis Hay., Icon. 6(1916)45; Liu et al., l. c. 289.
 No. 2343. Endemic to Taiwan.
Pipturus arborescens (Link) C. B. Robinson in Philip. Journ. Sci. 6(1911) Bot. 13; Kanehira, l. c. 171, f. 124; Liu et al., l. c. 289; Hatusima, l. c. 27; Li, l. c. 137, f. 46.
 No. 2356, 2357. Ryukyus, Taiwan and the Philippines.
Poikilospermum acuminatum (Trecul) Merr. in Contr. Arn. Arb. 8(1934)15; Liu et al., l. c. 288 -Chew Wee-Lek in Gard. Bull. Singapore 20(1963)47-*Conoccephalus acuminatus* Trecul in Ann. Sci. Nat. ser. 3, Bot. 8(1847)91.
 No. 2344. Taiwan (Botel Tobago) and the Philippines.
Pouzolzia zeylanica (L.) Benn., Pl. Jav. Rar. (1838)67; Liu et al., l. c. 289; Hatusima, l. c. 27-*P. indica* var. *alienata* (L.) Wedd. in DC. Prodr. 17¹(1869)221, Li, l. c. 138.
 No. 2350. India to Malaysia and the Ryukyus.
Villebrunnea trinervis Wedd. in Ann. Sci. Bot. 4(1854)196; Hatusima, l. c. 27-*Oreocnide trinervis* (Wedd.) Miq., Fl. Ind. Bat. 1(1859)270; Liu et al., l. c. 289.
 No. 2347, 2348, 2349. Taiwan (Botel Tobago), Philippines and Borneo.

Aristolochiaceae

- Aristolochia tagala** Cham. in Linnaea 7(1832)207, t. 5, f. 3; Hatusima in Sci. Bull. Agric. & Home Econ. Div. Univ. Ryukyu 3(1956)25; l. c. 26-A. *kankaoensis* Sasaki in Trans. Nat. Hist. Soc. Formos. 21(1931)251-A. *roxboughiana* var. *kankaoensis* (Sasaki) Kitamura in Acta Phytotax. et Geobot. 20(1962)135.
 No. 2260. India to Malaysia, S. Taiwan and the S. Ryukyus.

Loranthaceae

- Korthalsella japonica** (Thunb.) Engler in Engler & Prantl, Nat. Pfl. -fam. 1(1897)138-*Bifaria opuntia* (Thunb.) Merr., Enum. Philip. Fl. Pl. 2(1923)113; Liu et al., l. c. 144.
 No. 2313. Tropical Asia, Australia to Polyneisa, and northward to Japan

Polygonaceae

- Polygonum barbatum** L., Sp. Pl. (1753)362; Liu et al., l. c. 290; Hatusima, l. c. 27.
 No. 2241. India to Africa, Malaysia and the Ryukyus.
Polygonum chinense L., Sp. Pl. (1753)363; Liu et al., l. c. 290; Hatusima, l. c. 28.
 No. 2239. India to Malaysia and Japan.
Rumex crispus L., Sp. Pl. (1753)335; Liu et al., l. c. 290.
 No. 2240. A native of Europe, now naturalized in tropical and temperate countries.

Chenopodiaceae

Chenopodium ambrosioides L., Sp. Pl. (1753)219; Hatusima, l. c. 28.

No. 2138. A native of tropical America, now naturalized in most warm countries.

Chenopodium virgatum Thunb. in Not. Act. Soc. Up. 7(1815)143-C. *acuminatum* sensu Liu et al., l. c. 290, non Willd.

No. 2137, 2139. Japan to Taiwan.

Amaranthaceae

Achyranthes aspera L. var. *indica* L. Sp. Pl. (1753)204-A. *obtusifolia* Lamk., Encycl. Meth. 1 (1783)545; Liu et al., l. c. 290.

No. 2144, 2144A. Old World tropics, species pantropic.

Achyranthes bidentata Bl. var. *hachijoensis* (Honda) Hara, Fl. E. Himalaya (1966)635 in adnota-A. *japonica* var. *hachijoensis* Honda in Bot. Mag. Tokyo 46(1932)371-A. *rubrofusa* sensu Liu et al., l. c. 290, non Wright?

No. 2149. S. Japan to Taiwan. The species of tropical Asia.

Alternanthera sessilis (L.) DC. in Cat. Hort. Monspel (1813)77; Liu et al., 290.

No. 2145. Old World tropics.

Amaranthus tricolor L., Sp. Pl. (1753)989; Backer, in Fl. Males. ser. 1, 4²(1949)77-A. *mangostanus* L., Cent. Pl. 1(1755)32.

No. 2146. (green-leaved form). Possibly native in tropical Asia.

Cyathura prostrata (L.) Bl., Bijdr. (1825)549; Liu et al., l. c. 290; Hatusima, l. c. 28.

No. 2147. Africa to Malaysia, Australia and Taiwan.

Deeringia polysperma Moq. in DC., Prodr. 13(1849)236; Liu et al., l. c. 290; Hatusima, l. c. 28

No. 2148. S. Ryukyus, Taiwan to Malaysia.

Nyctaginaceae

Boerhavia diffusa L., Sp. Pl. (1753)33; Liu et al., l. c. 291; Hatusima, l. c. 28.

No. 2318. Pantropic.

Pisonia aculeata L., Sp. Pl. (1753)1026; Kanehira, l. c. 177, f. 129; Liu et al., l. c. 291; Li, l. c. 153, f. 55.

No. 2317. Pantropic.

Aizoaceae

Mollugo pentaphylla L., Sp. Pl. (1753)89; Liu et al., l. c. 291.

No. 2308. Indo-malaya to Japan.

Tetragonia tetragonioides (Pallas) O. K., Rev. Gen. (1891)264-T. *expansa* Murr. in Comm. Gitting 6(1783)13; Liu et al., l. c. 291

No. 2307. Australia to China and Japan.

Portulacaceae

Portulaca pilosa L., Sp. Pl. (1753)445; Merr., Enum. Philip. Fl. Pl. 2(1923)136.

No. 2288. Introduced from tropical America.

Portulaca oleracea L., Sp. Pl. (1753)445; Liu et al., l. c. 291; Hatusima, l. c. 28.

No. 2287. All warm countries.

Portulaca pachyrrhiza Gagnep. in Bull. Soc. Bot. France 56(1909)41; Hatusima, l. c. 28-? P.

insularis Hosokawa in Trans. Nat. Hist. Soc. Formos. 22(1932)229.

No. 2289. Taiwan, Philippines and Indo-China. A new addition for the flora of Taiwan.

Ranunculaceae

Clematis tashiroi Maxim. in Mel. Biol. 12(1888)713; Liu et al., l. c. 292.

No. 2396, 2397. Ryukyus and Taiwan.

Clematis grata Wall. var. **ryukyunensis** Tamura in Acta Phytotax. et Geobot. 15(1953)17-? *C. gouriana* sensu Liu et al., l. c. 291, non Roxb.

No. 2398. Ryukyus, new to the flora of Taiwan.

Lardizabalaceae

Stauntonia hexaphylla Decne. in Ann. Sci. Nat. ser. 2, 12(1839)105; Kanehira, l. c. 180; Liu et al., l. c. 292-*S. hexaphylla* f. *rotundata* Wu in Notitzbl. Bot. Gart. Mus. Berlin Dahl. 13 (1936)369, syn. nov.; Li, l. c. 165.

No. 2191 (a form of f. *rotundata*). Japan to S. Korea, Taiwan and China.

Menispermaceae

Cocculus orbiculatus (L.) DC., Syst. 1(1817)523-*C. trilobus* (Thunb.) DC., l. c. 522-Liu et al., l. c. 292; Hatusima, l. c. 177.

No. 2242. Japan to the N. Philippines. The specimen of this number is characterized by its smaller leaves.

Cyclea insularis (Mak.) Hatusima in Mem. Facult. Agric. Kagoshima Univ. 5³(1966)29-*Cissampelos insularis* Makino in Bot. Mag. Tokyo 24(1910)227-*Paracyclea insularis* (Mak.) Yamamoto et Kudo in Bot. Mag. Tokyo 46(1932)157; Yamamoto in Trop. Agric. Taihoku Imp. Univ. 12(1940)245. Japan to Formosa (Botel Tobago) and the Philippines (Batan Island).

Stephania merrillii Diels in Engl., Pfl. -reich 46(1910)268; Liu et al., 292; Hatusima, l. c. 30-*S. sasakii* Hay. ex Yamamoto, Suppl. Icon. Pl. Formos. 4(1928)14; Li, l. c. 185.

No. 2245. Taiwan (Botel Tobago) and the Philippines.

Magnoliaceae

Kadsura japonica (L.) Dunal, Monogr. Ann. (1817)57; A. C. Smith in Sargentia 7(1947)180; Li, l. c. 160-*K. matsudai* Hay., Icon. 9(1920)4-? *K. philippinensis* sensu Liu et al., l. c. 292, pl. 9, non Elm.

No. 2329. Japan to S. Korea and Taiwan.

Michelia compressa Sarg. var. **formosana** Kanehira in Trans. Nat. Hist. Soc. Formos. 20(1930)384; l. c. (1936)192, f. 139; Liu et al., l. c. 292-*M. cumingii* Merr. et Rolfe in Philip. Journ. Sci., 3(1908) Bot. 100; Merr., Enum. 2(1923)153, syn. nov. *M. formosana* (Kaneh.) Masamune in Ann. Rep. Taihoku Bot. Gard. 3(1933)57; Li, l. c. 187.

No. 2330. S. Ryukyus, Taiwan and the Philippines. The species of S. Japan and the Ryukyus.

Lauraceae

Cassytha filiformis L., Sp. Pl. (1753)35; Liu et al., l. c. 30.

No. 2369. Pantropic.

- Cinnamomum japonicum** Sieb. in Verh. Batav. Genootsch. Kunst & Wetensch. 12(1830)23; Li, l. c. 204; Ching-en Chang in Bull. Taiwan Prov. Pingtung Inst. Agric. 6(1965)56.
No. 2362. Japan to Taiwan (Isl. Botel Tobago). Li reduced the alliance of this species from the mainland of Taiwan, such as *C. insularimontanum*, *C. pseudo-loureirii*, *C. acuminatifolium*, to the synonyms of this species, but I think they are all distinct.
- Endiandra coriacea** Merr. in Govern. Lab. Pub. (Philip.) 35(1906)14; Kanehira, l. c. 205, f. 150; Liu et al., l. c. 293; Li, l. c. 209, f. 77.
No. 2370. Taiwan (Botel Tobago) and the Philippines.
- Litsea acuminata** (Bl.) Kurata, Illus. Imp. For. Trees Jap. 2(1968)48, pl. 24-*Iozoste acuminata* Bl. in Mus. Bot. Lugd. Bat. 1(1851)364-*Litsea nantoensis* Hay., Mater. Fl. Formos. (1911) 251, syn. nov. -*Actinodaphne nantoensis* (Hay.) Hay., Icon. 3(1913)165; 5(1915)172, f. 60a; Kanehira, l. c. 196, f. 143; Liu et al., l. c. 293; Li, l. c. 200, f. 73-A. *longifolia* (Bl.) Nakai in Bot. Mag. Tokyo 41(1927)517-A. *morrisonensis* var. *nantoensis* (Hay.) Yamamoto in Journ. Soc. Trop. Agric. 4(1932)52-*Fiwa longifolia* (Bl.) Nakai et *nantoensis* (Hay.) Nakai in Journ. Jap. Bot. 14(1938)193.
No. 2363. Japan to Taiwan.
- Litsea garciae** Vidal, Rev. Pl. Vasc. Filip. (1886)288; Liu et al., l. c. 293; Li, l. c. 216-L. *kawakamii* Hay., Icon. 3(1913)165; Kanehira, l. c. 217, f. 162.
No. 2359. Taiwan (Botel Tobago) and the Philippines.
- Neolitsea sericea** (Bl.) Koidz. in Bot. Mag. Tokyo 40(1926)343-*N. sieboldii* (O. K.) Nakai in Bot. Mag. Tokyo 41(1927)520; Allen in Missouri Bot. Gard. 25(1938)421-*N. glauca* (Sieb.) Koidz. in Bot. Mag. Tokyo 32(1918)257, excl. syn.
No. 2368. Japan to Taiwan, China and Indo-China. A new addition for the flora of Taiwan. var. *aurata* (Hay.) Hatusima, stat. et comb. nov. -*Litsea aurata* Hay., Mater. Fl. Formos. (1911)246-*Tetradenia aurata* (Hay.) Hay., Icon. 3(1913)167; 5(1915)174, f. 61c-*Neolitsea aurata* (Hay.) Koidz. in Bot. Mag. Tokyo 23(1918)256; Kanehira, l. c. 255; Allen, l. c. 422; Liu et al., l. c. 293; Li, l. c. 221, excl. syn. *N. kotoensis*
No. 2364. S. Japan to Taiwan, S. China.
- Neolitsea villosa** (Bl.) Merr. in Philip. Journ. Sci. 4(1909) Bot. 261; 5(1910) Bot. 329; Enum. 2(1923)192-*Litsea villosa* Bl. in Mus. Bot. Lugd. Bat. 1(1851)349-*Tetradenia kotoensis* Hay., Icon. 5(1915)174, f. 61, syn. nov. -*Litsea kotoensis* (Hay.) Kanehira, Formos. Trees (1917) 443-*Neolitsea kotoensis* (Hay.) Kanehira et Sasaki in Trans. Nat. Hist. Soc. Formos. 20 (1930)381; Kanehira, l. c. 226, f. 169; Liu et al., l. c. 293.
No. 2358. Philippines, Moluccas to Malay Peninsula. A new addition for the flora of Taiwan.
- Persea thunbergii** (S. et z.) Kostermans in Commun. For. Res. Inst. Bogor 57(1957)35; in Reinwardtia 6(1962)194; Li, l. c. 226; Hatusima, l. c. 30-*Machilus thunbergii* S. et Z., Fl. Jap. (1836)704; Kanehira, l. c. 222, f. 165; Liu et al., l. c. 293.
No. 2360, 2361. Japan to Taiwan and the N. Philippines (Batan Island).

Capparidaceae

- Capparis lanceolaris** DC. Prodr. 1(1824)248; Jacobs in Fl. Males. ser. 1, 6¹(1960)77, f. 11-C. *oblongata* Merr. Gov. Lab. Publ. Philip. n. 35(1906)15; Hatusima, l. c.; C. Chang in Taiwan Ringyo Kikan (Journ. Forest. Taiwan) 3²(1966)15, f. 4
No. 2401. E. Malaysia.

Cruciferae

- Rorippa indica** (L.) Hieron, Cat. Afr. Pl. Welw. 1(1896)XXVI; Hara in Journ. Jap. Bot. 30 (1955)197-*Nasturtium indicum* (L.) DC., Syst. 2(1821)199; Liu et al., l. c. 294. No. 2208. Japan to Malaysia and India.

Crassulaceae

- Sedum formosanum** N. E. Br. in Gard. Chron. 24(1884)134; Liu et al., l. c. 294; Hatusima, l. c. 31. No. 2201. S. Japan to Taiwan and the Philippines (Patan Island).

Saxifragaceae

- Deutzia pulchra** Vidal, Rev. Pl. Vasc. Filip. (1886)124; Kanehira, l. c. 238, f. 179; Liu et al., l. c. 294; Li, l. c. 241, f. 89.

No. 2437. Taiwan and the Philippines.

- Hydrangea lobbii** Max. in Mem. Acad. Sci. St. Petersburg. 8¹⁰(1867)15; Liu et al., l. c. 294; Li, l. c. 248-*H. macrosepala* Hay., Icon. 3(1913)108; Kanehira, l. c. 244, f. 187-*H. scandens* var. *chinensis* (Max.) McClintock in Proc. Calif. Acad. Sci. IV, 29(1957)206, p. p.

No. 2436. Taiwan and the Philippines.

Pittosporaceae

- Pittosporum moluccanum** (Lamk.) Miq., Illustr. 1(1870)76; Hatusima, l. c. 31; Li, l. c. 258-*P. littorale* Merr. in Philip. Journ. Sci. 5(1910) Bot. 179; Liu et al., l. c. 295-*P. viburnifolium* Hay., Icon. 3(1913)32; Kanehira, l. c. 251, f. 195.

No. 2395. Moluccas, Lesser Sunda Islands, Celebes, Philippines and Taiwan.

Hamamelidaceae

- Distylium racemosum** S. et Z., Fl. Jap. 1(1835)179, pl. 94; Liu et al., l. c. 295; Li, l. c. 265.

No. 2261. Japan to Taiwan.

Rosaceae

- Prunus fragrans** (Elm.) Kalkm. in Blumea 18(1965)74-*Pygeum fragrans* Elm. Leaflet. Philip. Bot. 2(1908)475, p. p. -*P. megaphyllum* Elm. ex Merr. in Philip. J. Sci. 10(1915) Bot. 312; Liu et al., l. c. 295

No. 2269. Taiwan (Botel Tobago) and the Philippines.

- Raphiolepis indica** (L.) Lindl. ssp. *umbellata* (Thunb.) Hatusima, comb. nov.-*Laurus umbellata* Thunb., Fl. Jap. (1784)175-*Raphiolepis integerrima* Hook. et Arn., Bot. Beech. Voy. (1841) 263; Liu et al., l. c. 295-*R. japonica* S. et Z., Fl. Jap. 1(1853)162, t. 85-*R. mertensii* S. et Z., l. c. 164

No. 2270. Ryukyus to Taiwan. The species of Taiwan, S. China and Indo-China.

- Rubus fraxinifolius** Poir. in Lamk., Encycl. 6(1804)242; Hatusima, l. c. 31-*R. kotoensis* Hay., Icon. 3(1913)90; Liu et al., l. c. 296-*R. fraxinifolius* var. *kotoensis* (Hay.) Koidz. in Journ. Coll. Sci. Univ. Tokyo 34²(1913)144-*R. alnifolius* Lévl. var. *kotoensis* (Hay.) Li, l. c. 320

No. 2271, 2272. Malaysia to Taiwan.

- Rubus tagallus** Cham. & Schlecht. in Linnaea 2(1827)9; Merr., Enum. 2(1923)230-*R. taiwanianus* Matsum. in Bot. Mag. Tokyo 16(1913)4; syn. nov.; Liu et al., l. c. 296; Li, l. c. 317

No. 2268. Taiwan and the Philippines.

Connaraceae

Rourea minor (Gaertn.) Leenhouts in Fl. Malesiana 1⁵(1957)514; Li, l. c. 329, f. 114; Hatusima, l. c. 31-*Rourea volubilis* Merr. in Philip. Govern. Lab. Publ. 27(1905)36, pro specim.; Kanehira, l. c. 288, f. 244-*Santaloides volubilis* (Blanco) Schellens., Beitr. Verg. Anat. Syst. Conn. (1910)51, pro specim., non *Cnestis volubilis* Blanco; Liu et al., l. c. 296.

No. 2122. Indo-Malaya to N. Australia and Taiwan (Botel Tobago).

Leguminosae

Acacia confusa Merr. in Philip. Journ. Sci. 5(1910) Bot. 27; Kanehira, l. c. 289, f. 245; Li, l. c. 332, f. 116.

No. 2166. Taiwan and the N. Philippines.

Alysicarpus nummularifolius (L.) DC., Prodr. 2(1825)353; Liu et al., l. c. 296; Hatusima, l. c. 32. No. 2116. Old World tropics.

Canavalia cathartica Thou in Desv. Journ. Bot. 1(1813)81-*C. microcarpa* (DC.) Pip. in Prodr. Biol. Soc. Washing. 30(1917)177-*C. rosea* (Sw.) sensu Liu et al., l. c. 296, non DC.

No. 2112. Madagascar to Malaysia and the Ryukyus.

Cassia tora L., Sp. Pl. (1753)376; de Wit in Webbia 11(1955)276.

No. 2123. Pantropic, where native unknown.

Christia obcordata (Poir.) Bakh. f. in Backer & Bakh. f., Fl. Java 1(1963)612; Hatusima, l. c. 32-*Lourea obcordata* (Poir.) DC., Prodr. 2(1825)324; Liu et al., l. c. 218.

No. 2115. Burma to S. China, Ryukyus, Malaysia and Australia.

Crotalaria pallida Ait., Hort. Kew. 3(1789)20; Polhill in Kew Bull. 22(1968)262-*C. mucronata* Desv. in Journ. de Bot. 3(1814)76; Hatusima, l. c. 32

No. 2113. A native of tropical Africa, now pantropic.

Derris lianoides Elm., Leaflet. Philip. Bot. 1(1907)228; Liu et al., l. c. 297.

No. 2127. Taiwan (Botel Tobago) and the Philippines.

Desmodium scorpiurus (Sw.) Desv. in Journ. Bot. 1(1813)122; Hatusima, l. c. 32.

No. 2121. A native of tropical America, now naturalized in Old World tropics.

Desmodium triflorum (L.) DC., Prodr. 2(1825)334; Hatusima, l. c. 32.

No. 2117. Pantropic.

Desmodium umbellatum (L.) DC., Prodr. 2(1825); Liu et al., l. c. 297; Hatusima, l. c. 32.

No. 2119. Tropical Asia to Australia and Polynesia.

Indigofera trifoliata L., Amoen. Acad. 4(1759)327; Liu et al., l. c. 298; Hatusima, l. c. 33.

No. 2125. India to Australia and the Ryukyus.

Indigofera Zollingeriana Miq., Fl. Ind. Bat. 1(1855)310; Liu et al., l. c. 297; Hatusima, l. c. 33. -*I. galeoides* var. *liukiuensis* Matsum. in Matsum. et Ito, Tent. Fl. Liukiu. (1899)404-*I. kotoensis* Hay., Mater. Fl. Formos. (1911)75-*I. okinawae* Ohwi in Journ. Jap. Bot. 12(1936)659-*I. kotoensis* var. *liukiuensis* (Matsum.) Ohwi in Acta Phytotax. et Geobot. 12(1943)111.

No. 2111. S. Ryukyus, Taiwan (Botel Tobago) to Malaysia and New Caledonia.

Mucuna nigricans Steud., Nomencl. ed. 2(1840)163; Liu et al., l. c. 298; Li, l. c. 355.

No. 2118. India to Malaysia and the S. Ryukyus.

Ormocarpum cochinchinense (Lour.) Merr. in Philip. Journ. Sci. Bot. 5(1910)76; Liu et al., l. c. 298.

No. 2126. Old World tropics.

Pongamia pinnata (L.) Pierre in Fl. For. Cochinch. 5(1907)t. 384, sub textu in nota; Kanehira, l. c. 305; Liu et al., l. c. 298; Li, l. c. 359.

No. 2120. Indo-Malaya to N. Australia, Polynesia and the Ryukyus.

Sophora tomentosa L., Sp. Pl. (1753)573; Liu et al., l. c. 298; Hatusima, l. c. 34; Li, l. c. 361, f. 129.

No. 2124. Pantropic strand plant.

Vigna marina (Burm.) Merr., Interpret. Herb. Amb. (1917)285; Liu et al., l. c. 298; Hatusima, l. c. 34.

No. 2128. Pantropic strand plant.

Vigna reflexo-pilosa Hay. in Journ. Coll. Sci. Imp. Univ. Tokyo 30(1911)82; Ohashi et Ohwi in Journ. Jap. Bot. 41(1969)29-*Phaseolus reflexo-pilosus* (Hay.) Ohwi in Acta Phytotax. et Geobot. 12(1943)67-*Azukia reflexo-pilosa* (Hay.) Ohwi, Fl. Jap. (1953)691

No. 2114. S. Japan to Taiwan.

Oxalidaceae

Oxalis corniculata L., Sp. Pl. (1753)435; Hatusima, l. c. 34-*O. repens* Thunb., Diss. Oxal. (1781) 16, t. 1; Liu et al., l. c. 299.

No. 2441. Warmer parts of the Old World.

Rutaceae

Melicope triphylla (Lam.) Merr. in Philip. Journ. Sci. 7(1912) Bot. 375; Liu et al., 299; Hatusima, l. c. 34-*M. awadan* (Hats.) Hatusima & Ohwi in Journ. Jap. Bot. 16(1940)527.

No. 2412. Ryukyus, Taiwan (Botel Tobago) and the Philippines.

Murraya paniculata (L.) Jack var. **omphalocarpa** (Hay.) Swingle in Weber & Batchelor, Citrus Industry 1(1943)197; Li, l. c. 379-*M. omphalocarpa* Hay., Icon. 3(1913)51; 5(1915)14; Kanehira, l. c. 315, f. 316; Liu et al., l. c. 299-*M. paniculata* sensu Hatusima, l. c. 35, non Jack.

No. 2407, 2408. Taiwan (Isl. Botel Tobago and Kasyoto) and the N. Philippines (Batan Island).

Zanthoxylum integrifolium (Merr.) Merr., Enum. 2(1923)327; Kanehira, l. c. 317; Liu et al., l. c. 209; Hatusima, l. c. 35-*Fagara integrifolia* Merr. in Philip. Journ. Sci. l. Suppl. 68(1906) Bot. 411; Li, l. c. 373.

No. 2409, 2410. Taiwan (Botel Tobago) and the N. Philippines.

Meliaceae

Aglaia elliptifolia Merr. in Philip. Journ. Sci. 3(1908) Bot. 413; Kanehira, l. c. 323, f. 270; Liu et al., l. c. 300; Hatusima, l. c. 35; Li, l. c. 393 (ut *ellipticifolia*).

No. 2300. S. Taiwan and the Philippines.

Aglaia iloilo (Blanco) Merr. in Philip. Journ. Sci. 9(1914) Bot. 533; Enum. 2(1923)375-*Melia iloilo* Blanco, Fl. Filip. ed. 2(1845)241.

No. 2301. Philippines, new to the flora of Taiwan.

Dysoxylum kusukusense (Hay.) Kanehira & Hatusima in Trans. Nat. Hist. Soc. Formos. 29 (1939)24; Li, l. c. 395, f. 145-*Cbisobeton kusukusense* Hay., Icon. 3(1913)52, f. 7-Kanehira, l. c. 326, f. 281.

No. 2299. S. Taiwan.

Malpighiaceae

- Hiptage bengalensis** (L.) Kurcz in Journ. Asia. Soc. Beng. 43²(1874)136; Kanehira, l. c. 328; Liu et al., l. c. 300; Li, l. c. 401.
No. 2220; Indo-Malaya to Taiwan and the Ryukyus.

Euphorbiaceae

- Acalypha hontauyuensis** Keng in Journ. Wash. Acad. Sci. 41(1951)204; Taiwania 6(1955)31; Liu et al., l. c. 300; Li, l. c. 413.
No. 2090. Taiwan (Botel Tobago). This species is tentatively maintained as distinct. More material is needed to ascertain its actual status.
- Acalypha angatensis** Blanco, Fl. Filip. ed. 1(1837)750; Hatusima, l. c. 35; Li, l. c. 411, f. 151-*A. formosana* Hay., Mater. Fl. Formos. (1911)267; Keng, l. c. 31-*A. amentacea* sensu Liu et al., l. c. 300, non Roxb.
No. 2091. Taiwan and the Philippines.
- Antidesma hontauschanensis** Ching-en Chang in Forestry Journal (Forest Ass. Taiwan Prov. Inst. Agric. Pintung) 6(1964)2, pl. 2.
No. 2096. Taiwan (Botel Tobago) and the N. Philippines. This species may not be distinct from *A. spicatum* Blanco from the Philippines. I have collected this species in Camiguin Island, N. Philippines.
- Breynia accrescens** Hay. in Journ. Coll. Sci. Tokyo 20(1904)22, t. 1H; Kanehira, l. c. 332, p. p.; Keng, l. c. 37; Liu et al., l. c. 301; Li, l. c. 418-*B. rhamnoides* sensu Hay., l. c. (1904)22, non Muell. Arg.; Hatusima, l. c. 36
No. 2092. Ryukyus, Taiwan and the Philippines.
- Excoecaria agallocha** L., Syst. Nat. ed. 10(1789)1288; Kanehira, l. c. 339; Keng, l. c. 44; Liu et al., l. c. 302; Li, l. c. 425.
No. 2094. Tropical Asia to Polynesia and the Ryukyus.
- Excoecaria kawakamii** Hay., Icon. 3(1913)173; Kanehira, l. c. 340, f. 297; Keng, l. c. 48; Liu et al., l. c. 302; Li, l. c. 340, f. 162.
No. 2095. Endemic, known only from Botel Tobago and Kasyoto.
- Claoxylon brachyandrium** Pax et Hoffm. in Engl. Pfl. -reich 63(1914)115; Keng, l. c. 37; Liu et al., l. c. 301; Hatusima, l. c. 36; Li, l. c. 421, f. 159-*C. kotoensis* Hay., Icon. 9(1920)101; Kanehira, l. c. 334, f. 289.
No. 2098. S. Taiwan and the Philippines.
- Daphniphyllum glaucescens** var. *oldhamii* Hemsl. in Journ. Linn. Soc. Bot. 26(1894)429-*D. glaucescens* ssp. *teijsmannii* (Zoll. ex Teysm. & Binn.) Huang in Taiwania 12(1955)170-*D. teijsmannii* Zoll. ex Teysm. & Binn., Natuurk. Tijdschr. Nederl. Ind. 27(1864)52.
No. 2102, 2102A. Japan to Taiwan, S. China and Indo-China. A very variable species difficult to distinguish any varieties. Huang (op. cit.) admits the occurrence of *D. glaucescens* ssp. *luzonese* Huang in Botel Tobago, but the above specimens quite match Ryukyu specimens.
- Drypetes karapinensis** (Hay.) Pax & Hoffm. in Engl., Pfl. -reich 81(1922)248; Kanehira, l. c. 335-*Cyclostemon karapinense* Hay., Icon. 5(1915)198-*C. biiranense* Hay., Icon. 6(1916)42, t. 8-*Drypetes biiranensis* (Hay.) Pax & Hoffm., l. c. 248-*Putranjiva matsumurae* Kiodz. in Bot. Mag. Tokyo 38(1924)116, syn. nov. -*P. formosana* Kaneh. & Sasaki, Catalog. Gov. Herb. Formos. (1930)312-*Drypetes matsumurae* (Koidz.) Kanehira, l. c. 337-*D. formosana* (Kaneh.

- et Sasaki) Kanehira, l. c. 336, f. 292-*Liodendron matsumurae* (Koidz.) Keng, l. c. (1951)202-*L. formosana* (Kaneh. et Sasaki) Keng, l. c. 202; Liu et al., l. c. 302; Li, l. c. 430.
No. 2105. Ryukyus and Taiwan.
- Euphorbia hirta** L., Sp. Pl. (1753)454; Keng, l. c. 43; Hatusima, l. c. 36.
No. 2093; Pantropic.
- Euphorbia tashiroi** Hay., Icon. 9(1920)104; Keng, l. c. 45; Liu et al., l. c. 302.
No. 2108. Endemic to Taiwan.
- Euphorbia thymifolia** L., Sp. Pl. (1753)454; Keng, l. c. 44; Liu et al., l. c. 302
No. 2107. Pantropic except Australia.
- Euphorbia vachelii** Hook. et Arn., Bot. Beechey Voy. 5(1836)212; Keng, l. c. 45; Liu et al., l. c. 301-*E. serrulata* Reinw. ex Bl., Bijdr. (1826)635, non Vellozo (1790).
No. 2110. India to Malaysia, Australia, Polynesia and the Ryukyus,
- Gelonium glomerulatum** (Bl.) Hassk., Cat. Hort. Bogor. (1844)237; Liu et al., l. c. 302; Hatusima, l. c. 36. -*G. aequoreum* Hance in Journ. Bot. (1866)173; Kanehira, l. c. 341, f. 295; Keng, l. c. 49; Li, l. c. 426, f. 163.
No. 2100. Taiwan to Malaysia.
- Glochidion rubrum** Bl., Bijdr. (1825)586; Hatusima, l. c. 36; Li, l. c. 427-*G. fortunei* sensu Henry in Trans. Asia. Soc. Jap. 24, suppl. (1896)82; non Hance; Kanehira, l. c. 344, f. 299; Keng, l. c. 51; Liu et al., l. c. 302.
No. 2104. S. Ryukyus to Malaysia.
- Homalanthus fastuosus** F. -Vill. Novis App. (1880)196; Keng, l. c. 54; Liu et al., l. c. 302; Hatusima, l. c. 36; Li, l. c. 429, f. 165.
No. 2097. Taiwan (Botel Tobago) and the Philippines.
- Macaranga sinensis** Muell. -Arg. in DC., Prodr. 5²(1866)1011; Keng, l. c. 57; Liu et al., l. c. 302; Hatusima, l. c. 36; Li, l. c. 432, f. 166-*M. dipterocarpoidea* Merr. in Journ. Sci. Philip. 1 (1906) Suppl. 205; Kanehira, l. c. 350, f. 305.
No. 2109. Taiwan (Kasyoto and Botel Toabgo), S. China and the Philippines.
- Macaranga tanarius** Muell. -Arg., l. c. 997; Kanehira, l. c. 351, f. 306; Liu et al., l. c. 303; Hatusima, l. c. 36; Li, l. c. 431.
No. 2101. S. Asia to Australia and the Ryukyus.
- Phyllanthus amarus** Schum. et Thorn., Konigl. Danske Vidensk. Selsk. Skr. 4(1829)195; Hatusima, l. c. 37-*P. niruri* sensu Keng, l. c. 62, non L.
No. 2106. Pantropic weed, possibly of tropical American origin.
- Phyllanthus urinaria** L., Sp. Pl. (1753)982; Liu et al., l. c. 303.
No. 2099. Pantropic weed.
- Securinega suffruticosa** Rehd. var. *amamiensis* Hurusawa in Bot. Mag. Tokyo 40(1949)71-*S. suffruticosa* sensu Liu et al., l. c. 303, non Rehd. Ryukyus, a new addition for the flora of Taiwan. The species of Japan, mainisland of Taiwan, and China.

Buxaceae

- Buxus liukiensis** (Mak.) Makino in Bot. Mag. Tokyo 16(1902)179; Sasaki in Trans. Nat. Hist. Soc. Formos. 18(1928)179; Hatusima, Rev. Asia. Buxus (1942)291, f. 9; -*B. intermedia* sensu Liu et al., l. c. 304, non Kanehira-*B. microphylla* var. *intermedia* (Kaneh.) Li, l. c. 440, f. 170, p. p.
No. 2302, 2303. S. Ryukyus and Taiwan. A long-pedicelled variety of this species, var.

longipedicellata Hatusima, occurs in central ranges of Taiwan.

Anacardiaceae

Rhus succedanea L., Mant. (1771)221; Kanehira, l. c. 366, f. 321; Liu et al., l. c. 304; Li, l. c. 449, f. 174.

No. 2223. India to China, Taiwan and Japan.

Semecarpus gigantifolia Vidal, Synopsis Atlas 22(1883) t. 36, f. A; Liu et al., l. c. 304; Hatusima, l. c. 37; Li, l. c. 451, f. 175.

No. 2222. S. Taiwan and the Philippines.

Aquifoliaceae

Ilex integra Thunb., Fl. Jap. (1784)77; Hu in Journ. Arb. 34(1954)150.

No. 2305. Japan to E. China. A new addition for the flora of Taiwan.

Ilex kusanoi Hay., Mater. Fl. Formos. (1911)55; Kanehira, l. c. 375, f. 331; Hu in Journ. Arn. Arb. 34(1953)143, excl. syn. *I. poneantha* Koidz.; Liu et al., l. c. 304; Hatusima, l. c. 37; Li, l. c. 458.

No. 2306. S. Ryukyus, Taiwan(Botel Tobago and Kosyoto) and the Philippines (Isl. Batan).

Celastraceae

Euonymus cochinchinensis Pierre, Fl. Forest Cochinch. 4(1894)4, t. 309; Liu et al., l. c. 304; Li, l. c. 470; Hatusima, l. c. 37-*E. miyakei* Hay. in Matsum. & Hay., Enum. Pl. Formos. (1906)83, t. 7; Kanehira, l. c. 388.

No. 2134. Taiwan (Botel Tobago), Indo-China, and the Philippines.

Maytenus emarginata (Willd.) Ding Hou in Fl. Males. ser. 1, 6²(1962)241-*Gymnosporia spinosa* (Blanco) Merr. & Rolfe in Philip. Journ. Sci. 3(1908) Bot. 109; Liu et al., l. c. 305; Hatusima, l. c. 38-*G. trilocularis* Hay., Icon. 3(1913)59; Kanehira, l. c. 393; Li, l. c. 474.

No. 2135. Taiwan (Botel Tobago) to Malaysia, Ceylon and N. Australia.

Microtropis japonica (Fr. et Sav.) Hall. f., Meded. Rijks, Herb. 1910(1911)33; Liu et al., l. c. 305-*M. kotoensis* (Hay.) Koidz. in Bot. Mag. Tokyo 50(1926)334; Kanehira, l. c. 395.

No. 2136. Japan to Taiwan (Botel Tobago).

Staphyleaceae

Turpinia ternata Nakai in Journ. Arn. Arb. 5(1924)78; Kanehira, l. c. 400, f. 358; Liu et al., l. c. 305; Li, l. c. 480.

No. 2203, 2204. S. Japan to Taiwan.

Icacinaceae

Gonocaryum calleryanum (Baill.) Becc., Malesia 1(1877)123; Liu et al., l. c. 305; Hatusima, l. c. 38 *G. diospyrosifolium* Hay., Icon. 2(1912)106; Kanehira, l. c. 400, f. 359.

No. 2312. S. Taiwan and the Philippines.

Nothapodytes foetida (Wight) Sleumer in Notizbl. Bot. Gart. Berlin 15(1940)247; Li, l. c. 483-*Mappia ovata* var. *insularis* Matsum. in Bot. Mag. Tokyo 15(1901)55; Liu et al., l. c. 305.

No. 2313A. S. Ryukyus, Taiwan(Botel Tobago), Ceylon, Cambodia to S. India.

Sapindaceae

- Cardiospermum halicacabum** L. var. **microcarpum** (H B K) Bl., *Rumphia* 3(1847)185; Liu et al., l. c. 305; Hatusima, l. c. 39.
No. 2211. Pantropic.
- Pometia pinnata** Forst., *Car. Gen.* (1776)109, t. 55; Liu et al., l. c. 305; Hatusima, l. c. 39; Li, c. 497, f. 192.
No. 2212. Malaysia to Polynesia and Taiwan.

Sabiaceae

- Meliosma Oldhami** Max. var. **rhoifolia** (Max.) Hatusima, comb. nov. *Meliosma rhoifolia* Max. in *Mel. Biol.* 6(1867)262; Kanehira, l. c. 416, f. 371; Liu et al., l. c. 305; Li, l. c. 503.
No. 2210. Ryukyus to Taiwan. The species of S. Korea and China.

Rhamnaceae

- Berchemia lineata** DC., *Prodr.* 2(1885)23; Kanehira, l. c. 418, f. 374; Liu et al., l. c. 508, f. 196.
No. 2286. Ryukyus, Taiwan, S. China and Tonkin.
- Colubrina asiatica** Brongn. in *Ann. Sci. Nat.* 1(10) (1827)369; Kanehira, l. c. 420, f. 376; Liu et al., l. c. 306; Li, l. c. 508, f. 197.
No. 2285. Indo-Malaya to Africa, Australia, Polynesia and the Ryukyus.
- Sageretia thea** (Osbeck) M. C. Johnst. in *Journ. Arn. Arb.* 49(1968)378-*S. theezans* (L.) Brongn., *Mem. Fam. Rhamn.* (1826)53; Kanehira, l. c. 427, f. 385; Liu et al., l. c. 306; Li, l. c. 516.
No. 2284. India to China, Philippines, Ryukyus, S. Japan and S. Korea.

Vitaceae

- Ampelopsis brevipedunculata** (Max.) Trautv. var. **hancei** (Planch.) Rehd. in *Journ. Arn. Arb.* 2(1922)177; Hatusima, l. c. 38; Li, l. c. 521, f. 202-A. *beterophylla* var. *hancei* Planch. in DC., *Monogr. Phan.* 5(1887)457; Liu et al., l. c. 306.
No. 2256. S. Japan to Taiwan, S. China, Indo-China and the Philippines.
- Cissus adnata** Roxb., *Fl. Ind.* 1(1820)405; Liu et al., l. c. 306; Hatusima, l. c. 306.
No. 2259, 2254. Taiwan (Botel Tobago) to Malaysia, India and Madagascar.
- Cyrtia japonica** (Thunb.) Gagnep. var. **dentata** (Mak.) Honda, *Nom. Pl. Jap.* (1939)504-*Cissus japonica* var. *dentata* Mak. in *Bot. Mag. Tokyo* 23(1909)249.
No. 2257. S. Ryukyus and Taiwan.
- Leea manillensis** Walp. in *Nov. Act. Akad. Nat. Cur.* 19(1843) Suppl. 1, 314; Kanehira, l. c. 430; Liu et al., l. c. 306; Hatusima, l. c. 39; Li, l. c. 430, excl. fig. 203.
No. 2255. Taiwan (Botel Tobago) and the Philippines.
- Leea sambucina** (L.) Willd., *Sp. Pl.* 1(1797)1177; Matsum. & Hay., *Enum. Pl. Formos.* (1906) 93-*L. manillensis* sensu Kanehira, l. c. 430, p. p., non Walp.; Li, l. c. 524, p. p.
No. 2258. S. Taiwan, Indo-China, Malaysia and India. This is easily distinguishable from *L. manillensis* Walp. by its more numerous and smaller leaflets with acute apices.
- Leea philippinensis** Merr. in *Philip. Journ. Sci.* 1(1906) Suppl. 89; 3(1908) Bot. 419; Liu et al., l. c. 39; Hatusima, l. c. 39.
No. 2253. Taiwan (Botel Tobago) and the Philippines.
- Vitis flexuosa** Thunb. in *Trans. Linn. Soc.* 2(1793)103; Liu et al., l. c. 306.
No. 2252. Japan to Korea, Taiwan, Philippines to India.

Elaeocarpaceae

Elaeocarpus argenteus Merr. in Gov. Lab. Publ. (Philip.) 29(1905)26; Enum. 3(1923)14.

No. 2314. Philippines, new to the flora of Taiwan.

Elaeocarpus multiflorus F. Vill., Novis App. (1880)31; Merr. Enum. 3(1923)18-*E. arthropus* Ohwi in Journ. Jap. Bot. 26(1951)236-? *E. elmeri* sensu Liu et al., l. c. 307, pl. 12, non A. DC.

No. 2315. S. Ryukyus, Taiwan (Botel Toabgo and Kasyoto) and the Philippines. New to the flora of Taiwan.

Elaeocarpus decipiens Hemsl. in Journ. Linn. Soc. Bot. 23(1889)94; Li, l. c. 534, f. 207-*E. sylvestris* sensu Kanehira et Hatusima in Trans. Nat. Hist. Soc. Formos. 29(1936)157, non Poir.

No. 2316. Bonins, S. Japan, Ryukyus, Taiwan, S. China to India.

Malvaceae

Abutilon indicum Sweet, Hort. Brit. (1826)54; Liu et al., l. c. 307; Hatusima, l. c. 39; Li, l. c. 543, f. 210.

No. 2266. Pantropic.

Hibiscus tiliaceus L., Sp. Pl. (1753)694; Kanehira, l. c. 440, f. 397; Liu et al., l. c. 307; Hatusima, l. c. 40; Li, l. c. 545, f. 211

Malvastrum coromandelianum (L.) Garcke in Bonplandia 5(1857)297; Liu et al., l. c. 307; Li, l. c. 547, f. 212.

No. 2265. Pantropic weed, native of tropical America.

Sida insularis Hatusima in Journ. Jap. Bot. 35(1960)361, f. 1; l. c. 39; Li, l. c. 551-? *S. rhombifolia* sensu Liu et al., l. c. 307, non L.

No. 2264. Ryukyus, Taiwan and the N. Philippines (Batan Island)

Urena lobata L., Sp. Pl. (1753)692; Hatusima, l. c. 40-*U. lobata* var. *tomentosa* Hochr. in Ann. Conserv. Gard. Bot. Geneve 5(1901)14; Liu et al., l. c. 307; Li, l. c. 553.

No. 2263. Pantropic.

Sterculiaceae

Pterospermum niveum Vidal, Rev. Pl. Vas. Filip. (1816)67; Kanehira, l. c. 445, f. 402; Liu et al., l. c. 308; Hatusima, l. c. 40; Li, l. c. 562, f. 221.

No. 2416. Taiwan (Kasyoto and Botel Tobago) and the Philippines.

Sterculia ceramica R. Br. in Benn. Pl. Jav. Rar. (1844)233; Kanehira, l. c. 448, f. 404; Liu et al., l. c. 308; Hatusima, l. c. 40; Li, l. c. 569, f. 223.

No. 2417, 2418. Taiwan (Botel Tobago), Philippines and Moluccas.

Theaceae

Eurya emarginata (Thunb.) Mak. in Bot. Mag. Tokyo 18(1904)19; Kanehira, l. c. 463, f. 423; Liu et al., l. c. 590; Hatusima in Mem. Facult. Agric. Kagoshima Univ. 4(1960)23; Li, l. c. 590-? *E. chinensis* sensu Liu et al., l. c. 308, non Brown.

No. 2129. Japan, S. Korea to Formosa and China.

Guttiferae

Calophyllum inophyllum L., Sp. Pl. (1753)513; Kanehira, l. c. 473, f. 433; Liu et al., l. c. 308;

Hatusima, l. c. 40; Li, l. c. 601, f. 235.

No. 2250. India to tropical E. Africa, Malaysia, Polynesia and the Ryukyus.

Garcinia linii C. Chang in Forestry Journ. (Taiwan) 6(1964)1, pl. 1.-*G. subelliptica* sensu Liu et al., l. c. 304, non Merr.

No. 2251. Endemic to Botel Tobago. I have tentatively adopted this name, it belongs to the Sect. *Discostigma* Engl.

Flacourtiaceae

Flacourtia rukam Zoll. & Morr., Syst. Verz. (1854)33; Liu et al., l. c. 309.

No. 2438. Malaysia and Micronesia.

Begoniaceae

Begonia fenicis Merr. in Philip. Journ. Sci. 3(1908) Bot. 421; Liu et al., l. c. 309; Hatusima, l. c. 41-*B. kotoensis* Hay., Mater. Fl. Formos. (1911)124

No. 2198. R. Ryukyus, Taiwan (Botel Tobago and Kasyoto) and the N. Philippines (Batan and Babuyan Islands).

Thymelaeaceae

Wikstroemia retusa A. Gray in Journ. Bot. Brit. & For. 3(1865)303; Hatusima, l. c. 41-*W. obovata* Hemsl. in Forb. et Hemsl. in Journ. Linn. Soc. 26(1894)400-*W. indica* sensu Liu et al., l. c. 309, non C. A. Mey.

No. 2419, 2420. Ryukyus, Taiwan (Botel Tobago) and the N. Philippines (Batan Island). A new addition for the flora of Taiwan.

Elaeagnaceae

Elaeagnus philippinensis Perr. in Mem. Soc. Linn. Paris 3(1824)114; Merr., Enum. 3(1923)134; Hatusima, l. c. 41.

No. 2157, 2159. Taiwan (Botel Tobago) and the Philippines, new to the flora of Taiwan.

Elaeagnus kotoensis Hay., Icon. 9(1919)20; Sasaki in Trans. Nat. Hist. Soc. Formos. 18(1928) 485; Kanehira, l. c. 485, f. 446-*E. macrophylla* sensu Liu et al., l. c. 310; Li in Lloydia 153 (1952) 159; l. c. 624.

No. 2158. Endemic to Botel Tobago.

Lythraceae

Pemphis acidula Forst., Char. Gen. (1886)68, t. 34; Kanehira, l. c. 489, f. 451; Hatusima, l. c. 41; Li, l. c. 628.

No. 2192. Tropical coasts of the Old World.

Lecythidaceae

Barringtonia asiatica (L.) Kurz in Journ. As. Soc. Beng. 45²(1876)131; Kanehira, l. c. 490, f. 452; Liu et al., l. c. 310; Li, l. c. 629, f. 248.

No. 2130. Malaysia to Australia, Polynesia and the S. Ryukyus.

Myrtaceae

Acmena acuminatissima (Bl.) Merr. et Perry in Journ. Arn. Arb. 19(1938)12; C. Chang in Bull. Taiwan Prov. Inst. Agric. Pintang 5(1964)49-*Eugenia cumingiana* Vidal, Phan. Cuming.

- Philip. (1885)173-*E. cuspidato-obovata* Hay., Icon. 3(1913)116; Kanehira, l. c. 501, f. 462 No. 2429, 2434. Taiwan (Botel Toabgo), S. China, Burma, Siam to Malaysia.
- Syzygium kusukusense** (Hay.) Mori in Trans. Nat. Hist. Soc. Formos. 28(1938)504; Li, l. c. 650; Hatusima, l. c. 42-*Eugenia kusukusensis* Hay., Icon. 3(1913)119; Kanehira, l. c. 503, f. 365; Liu et al., l. c. 310; C. Chang, l. c. 54 No. 2432. Formosa and the Philippines (Batan Island).
- Syzygium lanyuense** C. Chang, l. c. (1964)51, pl. 2-*Eugenia similis* sensu Liu et al., l. c. 311, non Merr.?
No. 2430, 2433. I have tentatively adopted this name. Endemic to Botel Tobago.
- Syzygium paucivenium** (C. B. Rob.) Merr. in Philip. Journ. Sci. Bot. 49(1951)408; C. Chang, l. c. 52, pl. 3-*Eugenia kashotensis* Hay., Mater. Fl. Formos. (1911)113; Kanehira, l. c. 503, f. 465; Li, l. c. 650.
No. 2431. Taiwan (Kasyoto and Botel Tobago) and the Philippines.

Melastomataceae

- Astronia ferruginea** Elm., Leaf. Philip. Bot. 4(1911)1205; Liu et al., 311; Hatusima, l. c. 42; Li, l. c. 651, f. 258-*A. cumingiana* sensu Kanehira, l. c. 507, f. 469, non Vidal.
No. 2063. S. Taiwan and the Philippines.
- Melastoma affine** D. Don in Mem. Wern. Soc. 5(1823)288-*M. polyanthum* Bl., Flora 2(1831) 481; Liu et al., l. c. 311, Li, l. c. 660-*M. membranaceum* Merr. in Philip. Journ. Sci. 3(1908) Bot. 423; Hatusima, l. c. 42, syn. nov.
No. 2064. India to Malaysia, S. China and Taiwan.
- Memecylon lanceolatum** Blanco, Fl. Philip. (1837)301; C. Chang in Forestry Journ. (Pingtang, Taiwan) 6(1964)3, pl. 4.
No. 2066. Taiwan (Botel Tobago) and the Philippines. The specimen from Botel Tobago somewhat differs from the specimens from the Philippines by its shorter peduncles and pedicels.
- Otanthera scaberrima** (Hay.) Ohwi in Journ. Jap. Bot. 12(1936)386; Liu et al., l. c. 311; Li, l. c. 661, f. 268-*Osbeckia scaberrima* Hay., Enum. Pl. Formos. (1911)115; Kanehira, l. c. 513, f. 475.
No. 2065. Endemic to Taiwan.

Onagraceae

- Ludwigia octovalvis** (Jacq.) Raven in Kew Bull. 15(1962)476; Reinwaldtia 6(1963)356-*Jussiaea villosa* Lamk. Encycl. 3(1789)331; Liu et al., l. c. 311.
No. 2309, 2221. Africa, India, Malaysia to Australia, Polynesia, tropical America and S. Japan.

Araliaceae

- Boerlagiodendron pectinatum** Merr. in Philip. Journ. Sci. 3(1908) Bot. 253, 424; Kanehira, l. c. 520, f. 480; Liu et al., l. c. 312; Hatusima, l. c. 42; Li, l. c. 666.
No. 2297. Taiwan (Kasyoto and Botel Tobago) and the N. Philippines (Batan Island).
- Dendropanax trifidus** (Thunb.) Mak. ex Hara in Journ. Jap. Bot. 16(1940)260; Enum. Sperm. Jap. 3(1954)284.
No. 2298. Japan to S. Korea and the Ryukyus. A new addition for the flora of Taiwan.

Schefflera octophylla (Lour.) Harms in Engl. & Prantl, Nat. Pfl. -fam. 8(1894)38; Kanehira, l. c. 527, f. 487; Liu et al., l. c. 312; Li, l. c. 671, f. 278; Hatusima, l. c. 43.

No. 2296. S. Japan to Taiwan, S. China and the Philippines (Batan Island).

Schefflera odorata (Blanco) Merr. & Rolfe in Philip. Journ. Sci. 3(1908) Bot. 117, 424; Enum. 3(1923); Liu et al., l. c. 312; Hatusima, l. c. 43.

No. 2295. Taiwan (Botel Tobago), Caroline Islands (Isl. Palau) and the Philippines.

Umbelliferae

Centella asiatica Urban in Mart. Fl. Bras. 11¹(1878)287; Liu et al., l. c. 312; Hatusima, l. c. 43.

No. 2141. Pantropic.

Hydrocotyle javanica Thunb., Diss. Hydrocoty. (1798) no. 17, pl. 2; Liu et al., l. c. 312; Hatusima, l. c. 43-*H. pseudo-conferta* Masamune in Trop. Agric. Soc. Formos. 4(1932)301; Liu et al., l. c. 312.

No. 2140. Malaysia to the Ryukyus.

Hydrocotyle maritima Honda in Bot. & Zool. 2(1934)1825.

No. 2142. Japan to Korea, China, Indo-China and Taiwan.

Peucedanum japonicum Thunb., Fl. Jap. (1784)117; Liu et al., l. c. 312; Hatusima, l. c. 43.

No. 2143. Japan to Taiwan and the Philippines (Batan Island).

Myrsinaceae

Ardisia cornudentata Mez in Engl., Pfl. -reich 9(IV 236) (1902)144; Kanehira, l. c. 500, f. 520; Walker in Quart. Journ. Taiwan Mus. 12(1959)174, f. 7; Li, l. c. 710.

No. 2405. Endemic to Taiwan.

Ardisia quinqueгона Bl., Bijdr. (1826)689; Kanehira, l. c. 564, f. 523; Liu et al., 213; Walker, l. c. 170, f. 4; Li, l. c. 709.

No. 2402. Ryukyus to Taiwan, S. China and Malaysia.

Ardisia sieboldii Miq. in Ann. Mus. Bot. Lugd. Bat. 3(1867)190; Kanehira, l. c. 564, f. 523; Walker, l. c. 171, f. 5; Li, l. c. 709, f. 291.

No. 2406. Japan to Taiwan.

Ardisia squamulosa Presl, Rel. Haenk. 2(1835)65; Liu et al., l. c. 312; Walker, l. c. 710; Hatusima, l. c. 43; Li, l. c. 562-*A. kotoensis* Hay., Mater. Fl. Formos. (1911)180; Kanehira, l. c. 562.

Maesa tenera Mez in Engl., Pfl. -reich 9(1902)28; Liu et al., l. c. 313; Walker, l. c. 166, f. 3; Hatusima, l. c. 43; Li, l. c. 719, f. 293-*M. formosana* Mez, l. c. 29; Kanehira, l. c. 567, f. 525.

No. 2394. Mauritius, India to Taiwan, S. China, Indo-China and the Philippines (Batan Island).

Primulaceae

Lysimachia mauritiana Lam., Encycl. 3(1789)592; Liu et al., l. c. 313; Hatusima, l. c. 44.

No. 2394. Mauritius, India to New Caledonia, Hawaii, Mariana Islands and Japan.

Sapotaceae

Palaquium formosanum Hay., Mater. Fl. Formos. (1911)184; Kanehira, l. c. 570, f. 528; Liu et al., l. c. 313; Hatusima, l. c. 44; Li, l. c. 296.

No. 2131. Taiwan and the N. Philippines (Batan and Babuyan Islands).

Planchonella obovata (R. Br.) Lam. in Bull. Jard. Bot. Buitenz. ser. 3, 8(1925)209, f. 58; Hatusima, l. c. 44-*Sideroxylon ferrugineum* Hook. et Arn., Bot. Beechy. Voy. (1841)266; Kane-

hira, l. c. 571, f. 529-*Pouteria obovata* (R. Br.) Baehni in *Candollea* 9(1943)329; Liu et al., l. c. 313; Li, l. c. 727, f. 297.

No. 2132, 2133. Malaysia to Australia, Caroline Islands, and northward to the Bonins and the Ryukyus.

Ebenaceae

Diospyros discolor Willd., Sp. Pl. (1805)1108; Liu et al., l. c. 613; Hatusima, l. c. 44; Li, l. c. 731, f. 298-*D. utilis* Hemsl. in *Ann. Bot.* 9(1895)154; Kanehira, l. c. 572, f. 530.

No. 2277. S. Taiwan and the Philippines.

Diospyros ferra (Willd.) Bakh. var. **buxifolia** (Rottb.) Bakh, in *Gard. Bull. Straits Settlements* 7(1933)192; Hatusima, l. c. 44; Li, l. c. 735, f. 299-*Maba buxifolia* (Rottb.) Pers., *Syst.* 2 (1807)606; Kanehira, l. c. 579, f. 536.

No. 2278, 2279. Tropical Africa and Asia through Malaysia to tropical Australia and the S. Ryukyus.

Diospyros nitida Merr. in *Gov. Lab. (Philip.)* 35(1906)57; *Enum.* 3(1923)294; Liu et al., l. c. 314. The specimen from Botel Tobago differs from the Philippine specimens by its glabrous branchlets.

No. 2280. Taiwan (Botel Tobago) and the Philippines.

Symplocaceae

Symplocos cochinchinensis (Lour.) Moore in *Journ. Bot.* 52(1914)148; Li, l. c. 738-*S. kotoensis* Hay., *Icon.* 5(1915)106, f. 31; Kanehira, l. c. 593, f. 584; Li, l. c. 439-*S. ferruginifolia* Kanehira in *Trans. Nat. Hist. Soc. Formos.* 20(1930)383-*S. patens* sensu Li in *Journ. Wash. Acad. Sci.* 43(1953)109, non Presl; Liu et al., l. c. 314.

No. 2249. Ryukyus, Taiwan, S. China and Indo-China.

Styracaceae

Styrax japonicum S. et Z., *Fl. Jap.* 1(1837)53, t. 23; v. Steenis, *Fl. Males.* 24(1949)52-*S. kotoensis* Hay., *Icon.* 5(1915)121; Kanehira, l. c. 606, f. 564; Liu et al., l. c. 314-*S. philippinensis* Merr. et Quis. in *Philip. Journ. Sci.* 56(1936)313-*S. japonicum* var. *kotoense* (Hay.) Masamune & Suzuki in *Trans. Nat. Hist. Soc. Formos.* 30(1939)338; Li, l. c. 715-*S. japonicum* var. *iriomotense* Masam. in l. c. 25(1935)250.

No. 2262. Japan, Korea, China, Ryukyus, Taiwan (Botel Tobago) and the Philippines (Batan Island).

Oleaceae

Linociera ramiflora (Roxb.) Wall., *Cat. No.* 2824 (1831); Kanehira, l. c. 613, f. 570; Liu et al., l. c. 765, f. 307.

No. 2319, 2310. India to Malaysia, N. Australia and Taiwan (Botel Tobago)

Loganiaceae

Geniostoma rupestre Forst., *Char. Gen. Pl.* (1776)12, t. 12; Leenhouts in *Fl. Males. ser. 1*, 6² (1962)371-*G. batanense* Merr. in *Philip. Journ. Sci.* 3(1908) Bot. 427; Hatusima in *Journ. Jap. Bot.* 24(1949)82 et l. c. 45; Liu et al., l. c. 314-*G. kasyotense* Kaneh. et Sasaki in *Trans. Nat. Hist. Soc. Formos.* 24(1934)400, f. 3-*G. glabra* sensu Li, l. c. 778, f. 312, non Matsum.

No. 2442. Taiwan (Isls. Kasyoto and Botel Tobago) to Malaysia, N. Australia and Samoa.

Gentianaceae

Centaurium japonicum (Max.) Druce in Rept. Bot. Exch. Cl. Brit. Isl. 4(1917)613; Hara in Journ. Jap. Bot. 13(1937)25-*Erythroea spicata* (L.) sensu Masamune, Fl. & Geobot. Yakus. (1934)372, non Pers.; Liu et al., l. c. 315.

No. 2165. Ryukyus to Taiwan.

Nymphoides cristatum (Roxb.) O. K., Rev. Gen. Pl. 2(1891)429-*Limnanthemum cristatum* (Roxb.) Griesb., Gent. (1839)342; Liu et al., l. c. 315.

No. 2164. India to S. China, Taiwan and S. Ryukyus.

Apocynaceae

Alyxia insularis Kaneh. et Sasaki in Trans. Nat. Hist. Soc. Formos. 24(1934)402, f. 4; Kanehira, l. c. 626, f. 583; Liu et al., l. c. 315; Li, l. c. 782, f. 313; Endemic? to Botel Tobago. Liu et al. referred this species to *A. concatenata* Merr. from which differs by its larger elliptic fruits. Li supposed this may be conspecific with *A. luzonensis* Merr.

Anodendron affine (Hook. et Arn) Druce in Rep. Bot. Exch. Club. Brit. Isles 4(1917)605; Kanehira, l. c. 627, f. 584; Li, l. c. 782, f. 314.

No. 2339. Japan to Taiwan and S. China.

Parsonsia laevigata (Moon) Alston in Ann. Roy. Bot. Gard. Peradenya 11(1929)203-*Parsonsia belicandra* Hook. et Arn., Bot. Beech. Voy. (1841)197; Hatusima, l. c. 45-*Cynanchum formosanum* sensu Li, l. c. 799, f. 322, non Hemsl.

No. 2335. Ryukyus to Malaysia.

Tabernaemontana subglobosa Merr. in Philip. Journ. Sci. 7(1912) Bot. 242; Hatusima, l. c. 45-*T. dichotoma* sensu Hayata, Icon. 3(1913)151; Kanehira, l. c. 632, f. 589; Liu et al., l. c. 315; Li, l. c. 792, f. 319.

No. 2336, 2337. Taiwan and the Philippines.

Trachelospermum asiaticum Nakai var. **brevisepalum** (Schneid.) Tsiang in Sunyatsenia 2(1934) 134-*T. liukiense* Hatusima in Journ. Jap. Bot. 16(1940)28, f. 4-*T. foetidum* sensu Liu et al., l. c. 315, non Nakai-*T. gracilipes* var. *liukiense* (Hats.) Kitamura in Acta Phytotax. et Geobot. 20(1962)148-*T. gracilipes* sensu Li, l. c. 794, f. 320, non Hook. f.

No. 2340. Ryukyus and Taiwan. The species of Japan.

Asclepiadaceae

Cynanchum liukiense Warb. in Rept. Sp. Nov. Fedde 3(1907)305; Hatusima, l. c. 45.

No. 2326. S. Ryukyus, Taiwan((Botel Tobago) and the Philippines. A new addition for the flora of Taiwan.

Marsdenia formosana Masamune in Journ. Soc. Trop. Agric. 2(1930)241-? *M. iriomotensis* Masamune in Trans. Nat. Hist. Soc. Formos. 29(1939)56.

No. 2327. S. Ryukyus and Taiwan.

Marsdenia tinctoria R. Br. var. **ryukyuensis** Masamune in Trans. Nat. Hist. Soc. Formos. 29 (1939)60-*M. tinctoria* sensu Liu et al., l. c. 316, non R. Br. -*M. tinctoria* var. *tomentosa* Masamune, l. c. 60-*M. tomentosa* sensu Li, l. c. 804, non Morr. et Decne.

No. 2328. Ryukyus, Taiwan and S. China. The species of Indo-Malaya.

Tylophora ovata (Lindl.) Hook. ex Steud., Nomencl. Bot. ed. 2(1841)726-*T. hispida* Decne. in

DC., Prodr. 8(1844)610; Hatusima, l. c. 46-*T. hispida* var. *Brownii* Hay., Mater. Fl. Formos. (1911)196; Liu et al., l. c. 316.

No. 2325. S. Ryukyus, Taiwan, S. China, N. Philippines (Isl. Batan) and Indo-China.

Convolvulaceae

Ipomoea gracilis R. Br., Prodr. (1810)484; Liu et al., l. c. 316.

No. 2228, 2229. Pantropic.

Ipomoea pes-caprae (L.) Roth, Nor. Pl. Sp. (1821)109; Liu et al., l. c. 316; Hatusima, l. c. 46.

No. 2227. Pantropic.

Stictocardia tiliifolia (Desr.) Hall. f. in Bot. Jahrb. 18(1894)159-*S. campanulata* (L.) House in Muhlenbergia 5(1909)72; Liu et al., l. c. 316.

No. 2226. India to Malaysia and the Ryukyus.

Dichondra micrantha Urban, Symb. Antill 9(1924)243-*D. repens* sensu Liu et al., l. c. 46, non Forst.

No. 2230. W. India, Mexico, N. America, New Caledonia, Malaysia to China and S. Japan.

Boraginaceae

Carmona retusa (Vahl) Masamune in Trans. Nat. Hist. Soc. Formos. 30(1940)61-*Ebretia microphylla* Lam., Tab. Encycl. 1(1791)425; Kanehira, l. c. 637, f. 594; Hatusima, l. c. 47; Li, l. c. 814-*Carmona microphylla* (Lam.) Johnston in Journ. Arn. Arb. 32(1951)17; Liu et al., l. c. 317.

No. 2413. India to Malaysia, S. China and Ryukyus.

Ehretia dichotoma Bl., Bijdr. (1825)842-*E. philippinensis* DC., Prodr. 9(1845)504-*E. ovalifolia* var. *liukiensis* Matsum in Bot. Mag. Tokyo 15(1901)57-*E. takaminei* Hatusima in Journ. Jap. Bot. 27(1952)210, syn. nov. -*E. lanyuensis* Liu et Chuang in Quart. Journ. Taiwan Mus. 13(1960)63, f. 1, syn. nov. -*E. longiflora* sensu Li, l. c. 812, p. p., quoad pl. ex Botel Tobago, non Champ.

No. 2415. S. Ryukyus, Taiwan (Botel Tobago) to Malaysia.

Messerschmidia argentea (L. f.) Johnston in Journ. Arn. Arb. 16(1935)164; Liu et al., l. c. 317; Li, l. c. 813; Hatusima, l. c. 47-*Tournefortia argentea* L. f., Suppl. Pl. (1781)133; Kanehira, l. c. 640, f. 597.

Verbenaceae

Callicarpa formosana Rolfe in Journ. Bot. 20(1882)358; Kanehira, l. c. 643, f. 599; Liu et al., l. c. 821, f. 330.

No. 2235, 2238. Ryukyus (Isl. Okinawa), Taiwan, S. China and the Philippines.

Callicarpa japonica Thunb. var. *luxurians* Rehd. in Sarg. Pl. Wils. 3(1916)369-*C. kotoensis* Hay., Mater. Fl. Formos. (1911)219; Kanehira, l. c. 644, f. 600; Liu et al., l. c. 317-*C. japonica* var. *kotoensis* (Hay.) Masamune in Trans. Nat. Hist. Soc. Formos. 30(1940)63-*C. longifolia* sensu Li, l. c. 821, non Lam. quoad pl. ex Botel Tobago.

No. 2237. S. Japan, S. Korea, Ryukyus, Taiwan (Botel Tobago). The species of Japan, Korea and China.

Clerodendron inerme Gaertn., Fruct. 1(1788)271; Kanehira, l. c. 651, f. 606; Liu et al., l. c. 318; Hatusima, l. c. 47; Li, l. c. 827, f. 332.

No. 2167. Indo-Malaya to the Ryukyus.

- Phyla nodiflora** (L.) Greene in Pittonia 4(1899)46-*Lippia nodiflora* L., Sp. Pl. (1753)20; Liu et al., l. c. 318; Hatusima, l. c. 47.
No. 2234. Japan to Taiwan, S. China and the Philippines.
- Premna obtusifolia** R. Br., Prodr. Fl. Nov. Holland. (1810)512; Li, l. c. 830; Hatusima, l. c. 47-*P. odorata* Blanco, Fl. Filip. (1837)488; Kanehira, l. c. 654, f. 610; Liu et al., l. c. 318; Li, l. c. 830.
No. 2232, 2233. Ryukyus to Malaysia and Australia.
- Stachytarpheta jamaicensis** (L.) Vahl, Enum. 1(1804)206; Hatusima, l. c. 47.
No. 2236. A native of tropical America, now pantropic.
- Vitex rotundifolia** L. f., Suppl. (1781)294; Kanehira, l. c. 653, f. 609; Liu et al., l. c. 318; Li, l. c. 834-*V. trifolia* ssp. *litoralis* v. Steenis in Blumea 8(1957)516; Hatusima, l. c. 47.
No. 2231. Japan to Malaysia.

Labiatae

- Coleus formosanus** Hay. in Matsum. & Hay., Enum. Pl. Formos. (1906)320; Liu et al., l. c. 318; Hatusima, l. c. 48-*C. pubescens* Merr. in Philip. Journ. Sci. 3(1908) Bot. 432.
No. 2274, 2275. S. Ryukyus (Isl. Yonakuni), Taiwan (Kashoto and Botel Tobago) and the N. Philippines (Batan and Babuyan Islands).
- Leucas mollissima** Wall., Pl. As. Rar. 1(1830)62; Liu et al., l. c. 318; Hatusima, l. c. 48.
No. 2276. Ryukyus, Taiwan, S. China to India and Malaysia.
- Scutellaria tashiroi** Hay., Icon. 8(1919)85; Yamazaki in Journ. Jap. Bot. 44(1969)175-*S. luzonica* var. *playfairi* Yamamoto in Journ. Trop. Agric. Formos. 6(1934)559; Liu et al., l. c. 319.
No. 2273; Ryukyus and Taiwan.

Solanaceae

- Physalis minima** L., Sp. Pl. (1753)179; Hatusima, l. c. 48-? *P. angulata* sensu Liu et al., l. c. 319.
No. 2190. Pantropic weed.
- Solanum biflorum** Lour., Fl. Cochinch. (1790)126-*Lycianthes biflora* (Lour.) Bitt. in Abhandl. Nat. Brem. 242(1919)461; Liu et al., l. c. 319.
No. 2187. India to S. China, Taiwan, Ryukyus and S. Japan.
- Solanum ferox** L., Sp. Pl. ed. 2(1762)267; Liu et al., l. c. 319; Hatusima, l. c. 48.
No. 2188. Pantropic.
- Solanum indicum** L., Sp. Pl. (1753)187; Liu et al., l. c. 319; Hatusima, l. c. 48; Li, l. c. 836, f. 336
No. 2189. India to Malaysia, S. China, Taiwan and the S. Ryukyus (Isl. Irabu).
- Solanum luzonense** Merr. var. **glabrum** Merr. in Philip. Journ. Sci. 13(1918) Bot. 59; Enum. 3 (1923)427; *S. luzonense* sensu C. Chang in Taiwan Ringyo Kikan 3²(1966)29, f. 27, non Merr. -? *S. cumingii* sensu Liu et al., l. c. 319, non Dunal.
No. 3191. Taiwan (Isl. Botel Tobago) and the Philippines.

Scrophulariaceae

- Lindernia ruellioides** (Colsm.) Pennell in Brittonia 2(1936)182; Kew Bull. 22(1968)54, f. 11, 1-4. -*L. antipoda* sensu Liu et al., l. c. 320, non Alston.
No. 2215. India to S. China, Malaysia and Japan.
- Lindernia crustacea** F. Muell., Sens Austral. Pl. (1882)97; Liu et al., l. c. 320; Hatusima, l. c. 48.

No. 2216, 2217, 2218, 2219. Cosmopolitan.

Scoparia dulcis L., Sp. Pl. (1753)116; Hatusima, l. c. 48.

No. 2214. A native of tropical America, now pantropic.

Torenia concolor Lindley var. *formosana* Yamazaki in Journ. Jap. Bot. 30(1954)363-*T. concolor* sensu Liu et al., l. c. 320, non Lindl.

No. 2213. Endemic to Taiwan. The species of Indica to China.

Orobanchaceae

Aegiretia indica L., Sp. Pl. (1753)632; Liu et al., l. c. 320.

No. 2199. India to Malaysia and Japan.

Gesneriaceae

Cyrtandra umbellifera Merr. in Philip. Journ. Sci. 3(1908)435; Hatusima, l. c. 49-*C. kotoensis* Hosokawa in Trans. Nat. Hist. Soc. Formos. 25(1935)412, syn. nov.; Liu et al., l. c. 320.

No. 2247. Taiwan (Botel Tobago) and the N. Philippines (Isl. Batan). A new addition for the flora of Taiwan.

Lycionotus ikedae Hatusima, sp. nov, Pl. 3.

Suffrutex epiphyticus. Caulis longe repens in sicco ca. 3 mm. crassus, radicans, pauce ramosus, apice sursum erectus 15-30 cm. altus et ca. 3 mm. crassus, carnosulis, glaber, plus minusve irregulariter curvatus. Folia opposita vel tri-verticillata, obovato-elliptica vel elliptica (2)3-4(6) cm. longa et ca. 2 cm (1.5-3) lata, apice obtusa, basi acuta, margine pauce (utrinque 4-6 juga) crenato-serrata, utrinque glabra, in sicco subtus fusco-cinerascentia, costa supra vix subtus elevata, nervis lateralibus utraque pagine obsoletis. Petiolis 5-10 mm. longis, glabris. Flores in cymis axillaribus 1-3 floris in apice ramulorum aggregati, pedunculati, pedunculo 2-3.5 cm. longo 1 mm. crasso, pedicelli tenues ca. 5 mm. longi. Calycis lobi subulati ca. 4.5 mm. longi, glabri, basi 1.2 mm. lati, glabri. Corolla bilabiata albo-purpurascentia, tubo ca. 7 mm longo, basi ca. 2 mm. lato, sursum sensim ampliato, extus dimidio inferiore densiuscule glanduloso, cetera glabro. Labium posticum bilobatum ca. 3.5 mm longum, lobis rotundatis integris, lobis anticum trilobatum. Stamina 4, 2 fertilia antica tubo paulo longiora, filamentis partibus liberis ca. 4 mm. longis complanatis apicem versus paulo dilatatis ad apicem dense glanduloso-puncticulatis, antheris rotundatis 2.2 mm. longis, 2 sterilia valde rudimentaria oblonga ca. 3 mm longa antheris destitutis. Ovarium ca. 1 cm longum tubulosum, stylus ca. 2 mm longus, stigma complanato-capitato. Discus tubuloso-cupularis ca. 2 mm longus. Capsula prematura linearis ca. 4.5 cm. longa.

No. 2246. This is most closely related, according to the description, to *L. brachycarpus* Rehd. from W. Szechuan, China, but differs from it by its not 5-7-subverticillate but opposite or tri-verticillate leaves with obtuse apices and its much smaller flowers with glandular hairs on the upper surface of lower one third of corolla tubes. *L. pauciflora* Max. is easily distinguished from this species by its narrower leaves and its larger flowers.

Acanthaceae

Justicia procumbens L., Sp. Pl. (1753)15, sensu latior; Liu et al., l. c. 321; Hatusima, l. c. 50.

No. 2426, 2422 (a form of var. *decumbens* (Yamamoto) Hatusima). Japan to Indo-Malaya and Australia.

Hemigraphis cumingiana (Nees) F. Vill, Novis. App. (1880)153; Liu et al., l. c. 321.

No. 2425. Taiwan (Botel Tobago), Philippines and Celebes.

Hemigraphis reptans (Forst.) T. Anders. ex Hemsl. Bot. Voy. Challenger 1(3) (1884)173-*H. parabolica* (Nees) et *H. primuliaefolia* (Nees) F. Vill., Novis. App. (1880)153-*H. okamotoi* Masamune in Trans. Nat. Hist. Soc. Formos. 25(1936)248-*H. oblongifolia* Merr. in Philip. Journ. Sci. Bot. 11(1916)204; Liu et al., l. c. 321.

No. 2424, 2423. S. Ryukyus, Taiwan (Botel Tobago), Philippines, Moluccas to Polynesia.

?**Strobilanthes tashiroi** Hay., Icon. 9(1920)85-? *S. formosana* sensu Liu et al., l. c. 321, non S. Moore.

No. 2427(sterile). Ryukyus.

Strobilanthes glandulifera Hatusima in Sci. Bull. Agric. & Home Econ. Div. Univ. Ryukyu 3 (1956)22-? *S. formosana* sensu Liu et al., l. c. 321, non S. Moore.

No. 2421, 2428. Ryukyus, new to the flora of Taiwan.

Plantaginaceae

Plantago asiatica L., var. **densiuscula** Pilger in Notitzbl. Bot. Gart. Berlin-Dahlem 8(1922)108.

No. 2200. E. Asia to Malaysia.

Rubiaceae

Argostemma solaniflorum Elm., Leaf. Philip. Bot. 1(1906)2; Liu et al., l. c. 321; Hatusima, l. c. 50-*A. iriomotensis* Masamune in Trans. Nat. Hist. Soc. Formos. 25(1935)248.

No. 2074. S. Ryukyus, Taiwan (Botel Toabgo), Philippines and Celebes.

Canthium gynochthodes Bail., Adansonia 12(1878)199; Hatusima, l. c. 50-*Plectronia gynochthodes* (Bail.) Merr. Enum. 3(1923)536; C. Chang in Forest. Journ. (Pingtang, Taiwan) 6 (1964)3

No. 2087. Taiwan (Botel Tobago) and the Philippines.

Geophila repens (L.) I. M. Johnston in Sargentia 8(1949)281-*G. hederacea* (Jacq.) O. K., Rev. Gen. Pl. (1891)300; Liu et al., l.c. 322; Hatusima l. c. 50.

No. 2069. Pantropic.

Hedyotis biflora (L.) Lamk., Tabl. Encycl. 1(1791)272; Hatusima, l. c. 50-*Oldenlandia biflora* L., Sp. Pl. (1753)119; Liu et al., l. c. 204.

No. 2083A-C. India to S. China, Taiwan, Malaysia and Polynesia.

Hedyotis coreana Lév. in Fedde Rept. 11(1912)64; Hatusima in Journ. Jap. Bot. 36(1961) 297-*Oldenlandia paniculata* var. *parvifolia* A. Gray ex Max. in Bull. Akad. St. -Pet. 29(1883) 164-*O. crassifolia* DC., Prodr. 4(1830)427.

No. 2089. Japan, S. Korea, Ryukyus and Taiwan.

Hedyotis diffusa Willd., Sp. Pl. (1797)566-*Oldenlandia diffusa* (Willd.) Roxb. Hort. Beng. (1814)11; Liu et al., l. c. 323.

No. 2072. India to Malaysia and Japan.

Hedyotis tenelliflora Bl., Bijdr. (1826)971; Liu et al., l. c. 322; Hatusima, l. c. 50.

No. 2085. Malaysia to the Ryukyus.

Knoxia corymbosa Willd., Sp. Pl. 1(1753)582.

No. 2070. India to Malaysia, Taiwan and the Ryukyus.

Lasianthus cyanocarpus Jack in Trans. Linn. Soc. 14(1825)125; Kanehira, l. c. 670; Liu et al., l. c. 322; Liu and Chao in Taiwaniana 10(1964)128, f. 5.

No. 2073. Ryukyus, Taiwan, S. China to India.

- Lasianthus fordii** Hance in Journ. Bot. (1885)324; Yamazaki in Journ. Jap. Bot. 39(1964)352; Liu and Chao, l. c. 128, f. 6; Hatusima, l. c. 51-*L. tashiroi* Matsum. in Bot. Mag. Tokyo 15 (1901)37; Kanehira, l. c. 671; Liu et al., l. c. 322; Li, l. c. 855.
No. 2084. Ryukyus, Taiwan, S. China and the Philippines.
- Lasianthus hiiranensis** Hay., Icon. 9(1919)62; Liu and Chao, l. c. 134, f. 9.
No. 2081. Endemic to S. Taiwan.
- Lasianthus wallichii** Wight in Calc. Journ. Nat. Hist. 6(1846)503-*L. plagophyllus* Hance in Journ. Bot. N. S. 4(1875)196; Kanehira, l. c. 670; Li, l. c. 857; Liu and Chao, l. c. 147, f. 16-*L. bordenii* Elm., Leaflet. Philip. Bot. 1(1906)11; Liu et al., l. c. 322.
No. 2086. India to S. China, Taiwan to the Ryukyus.
- Morinda citrifolia** L., Sp. Pl. (1753)176; Kanehira, l. c. 671, f. 623; Liu et al., l. c. 322; Li, l. c. 860; Hatusima, l. c. 51.
No. 2079A, B. India to Polynesia and the Ryukyus.
- Mussaenda parivflora** Miq. var. *yaeyamensis* (Masam.) Yamazaki in Journ. Jap. Bot. 39(1964) 320-*M. parviflora* sensu Liu et al., l. c. 323.
No. 2067. S. Ryukyus, new to the flora of Taiwan. The species of Ryukyus and Taiwan.
- Neonauclea reticulata** (Havil.) Merr. in Journ. Wash. Acad. Sci. 5(1915)542; Kanehira, l. c. 676, f. 630; Liu et al., l. c. 323; Li, l. c. 866, f. 349; Hatusima, l. c. 51.
No. 2075. Taiwan and the Philippines.
- Ophiorrhiza japonica** Miq. var. *acutifolia* (Hay.) Ohwi in Acta Phytotax. & Geobot. 7(1938) 195; Hatusima in Rept. Cooper. Invest. Sci. & Indust. Ryukyu Isls. by Kagoshima Univ. & Ryukyu Univ. 1(1961)65.
No. 2068. Ryukyus and S. Taiwan.
- Ophiorrhiza kuroiwai** Mak. in Bot. Mag. Tokyo 20(1906)5; Hatusima, l. c. 62 et l. c. (1966)51-*O. parviflora* Hay., Icon. 2(1911)90 non Reinw. & Korth. -*O. kotoensis* Hatusima in Journ. Jap. Bot. 14(1938)239.
No. 2076. Ryukyus, S. Taiwan and the Philippines.
- Psychotria cephalophora** Merr. in Philip. Journ. Sci. 3(1908) Bot. 438; Kanehira, l. c. 678, f. 631; Liu et al., l. c. 323; Li, l. c. 866-*P. kotoensis* Hay., Icon. 9(1920)62.
No. 2077. Taiwan (Botel Tobago) and the N. Philippines (Babuyan Islands).
- Psychotria manillensis** Bartl. ex DC. Prodr. 4(1830)522; Liu et al., l. c. 323; Hatusima, l. c. 51-*P. liukiensis* Hatusima in Journ. Jap. Bot. 13(1937)674, f. 1.
No. 2078. Ryukyus, Taiwan (Botel Toabgo) and the Philippines.
- Psychotria serpens** L., Mant. Pl. 2(1771)204; Kanehira, l. c. 679, f. 633; Liu et al., l. c. 323; Li, l. c. 867.
No. 2088. S. Japan, Ryukyus, Taiwan and S. China.
- Tarenna kotoensis** (Hay.) Kanehira et Sasaki in Kanehira, l. c. 682, f. 638; Liu et al., l. c. 324; Hatusima, l. c. 52; Yamazaki in Journ. Jap. Bot. 44(1969)64-*T. zeylanica* sensu Li, l. c. 873, non Gaertn.
No. 2082. Taiwan (Botel Tobago) and the N. Philippines (Batan Island).
- Uncaria philippinensis** Elm., Leaflet. Philip. Bot. 1(1906)38, 5(1913)1903; Merr., Enum. 3(1923)
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- Randia rolfei** (Vid.) Hatusima, comb. nov. -*Villaria rolfei* Vidal, Phan. Cuming. Philip. (1885) 180; Liu et al., l. c. 325-*Gardenia rolfei* (Vid.) Hatusima, l. c. 50, syn. nov.
Hab. Taiwan (Botel Tobago) and the Philippines.

510-*U. setiloba* sensu Sasaki, List Pl. Formos. (1928)385; Liu et al., l. c. 324.

No. 2080. S. Taiwan and the Philippines. A new addition for the flora of Taiwan.

Wendlandia luzonensis DC., Prodr. 4(1830)412; Kanehira, l. c. 690, f. 645; Liu et al., l. c. 324; Li, l. c. 882.

No. 2071. India. Indo-China, Philippines and Taiwan (Kasyoto and Botel Tobago)

Caprifoliaceae

Sambucus chinensis Lindl. in Trans. Hort. Soc. London 6(1826)297-*S. formosana* Nakai in Bot. Mag. Tokyo 31(1917)211; Liu et al., l. c. 324; Li, l. c.889, f. 360-*S. formosana* var. *arborescens* Kanehira et Sasaki in Kanehira, l. c. 694.

No. 2399. Japan to Taiwan and China.

Cucurbitaceae

Bryonopsis laciniosa Naud. in Ann. Sci. Nat. Bot. 5⁶(1866)30; Liu et al., l. c. 324; Hatusima, l. c. 52.

No. 2185. Tropical Africa, Asia and Australia.

Melothria maderaspatana Cogn. in DC., Monogr. Phan. 3(1881)625; Liu et al., l. c. 324.

No. 2184. Paleotropic.

Campanulaceae

Codonopsis lancifolia (Roxb.) Moeliono, Fl. Malesiana ser. 1, 6¹(1960)120-*Campanumoea lancifolia* (Roxb.) Merr., Enum. 3(1923)587.

No. 2310. India to Malaysia and the Ryukyus.

Goodeniaceae

Scaevola micrantha Presl, Rel. Haenk. 2(1835)58; Merr., Enum. 3(1923)590; Leenhouts in Fl. Malesiana 5³(1957)342, f. 5h.

NO. 2248A. Borneo, Talaud Islands and the Philippines. New to the flora of Taiwan.

Scaevola sericea Vahl, Symb. Bot. 2(1791)37; Fosberg & Sachet in Taxon 5(1956)7; Li, l. c. 899, f. 362; Hatusima, l. c. 52-*S. frutescens* Krause in Engl., Pfl. -reich. 54(1912)125, f. 25; Kanehira, l. c. 704; Liu et al., l. c. 325.

No. 2248. Ryukyus, Taiwan to Malaysia, Madagascar, Australia and Polynesia.

Compositae

Ageratum conyzoides L., Sp. Pl. (1753)839; Liu et al., l. c. 325; Hatusima, l. c. 53.

No. 2044. A pantropic weed of tropical American origin.

Artemisia japonica Thunb., Fl. Jap. (1784)310; Liu et al., l. c. 325; Hatusima, l. c. 53.

No. 2050. Japan, Korea, China, Taiwan and the Philippines (Batan Island).

Bidens pilosa L. var. *minor* (Bl.) Scherff. in Bot. Gaz. 80(1925)387; Liu et al., l. c. 325; Hatusima, l. c. 53.

No. 2058. Pantropic.

Blumea lacera DC., Prodr. 5(1836)436; Kitamura, Comp. Jap. (1937)258; Liu et al., l. c. 325; Hatusima, l. c. 53.

No. 2041A. Tropical Africa. Indo-Malaya, S. China to Taiwan and the Ryukyus.

Blumea hieraciifolia (D. Don) DC. in Wight, Contr. (1834)15; Randeria in Blumea 10(1960)246-*B. sericans* Hook. f., Fl. Brit. Ind. 3(1881)362; Liu et al., l. c. 326.

No. 2046. India to Malaysia, China, Taiwan and the Ryukyus.

- Blumea sinuata** (Lour.) Merr. in Trans. Amer. Phil. Soc. n. s. 24(1935)388; Kitamura, l. c. 257-
B. laciniata DC., Prodr. 5(1836)436; Liu et al., l. c. 325.
No. 2041. Indo-Malaya, S. China, Taiwan and the Ryukyus.
- Carpesium cernuum** L., Sp. Pl. (1753)856; Kitamura, Comp. Jap. 1(1937)277.
No. 2040. S. Europe to Asia.
- Cirsium albescens** Kitamura in Acta Phytotax. et Geobot. 1(1932)56; 3(1934)3, pl. 13, f. 1;
Liu et al., l. c. 526.
No. 2057. This is very closely related to *C. brevicaule* and may be a form of it.
No. 2057. Endemic to Taiwan.
- Crepidiastrum lanceolatum** (Houtt.) Nakai in Bot. Mag. Tokyo 34(1920)150; Kitamura, Comp.
Jap. 4(1955)106; Hatusima, l. c. 53.
No. 2056. Japan to S. Korea, China, Taiwan and the Philippines (Batan Island).
- Crassocephalum crepidioides** (Benth.) S. Moore in Journ. Bot. 1(1912)211; Hatusima, l. c. 53.
No. 2054. A native of tropical Africa, now in most warmer regions of the Old World.
- Crossostephium chinense** (L.) Mak. in Bot. Mag. Tokyo 20(1906)33; Kitamura, Comp. Jap. 2
(1940)339; Liu et al., l. c. 326.
No. 2039. S. China, Taiwan, Ryukyus and the N. Philippines (Batan Island)
- Eclipta prostrata** (L.) Mant., Pl. 2(1771)286; Hatusima, l. c. 52-*E. alba* Hassk., Pl. Jav. Rar.
(1848)528; Liu et al., l. c. 326.
No. 2062. Cosmopolitan.
- Emilia sonchifolia** DC., Prodr. 6(1837)302; Liu et al., l. c. 326; Hatusima, l. c. 53.
No. 2060. Pantropic weed of the Old World origin.
- Erigeron sumatrensis** Retz., Obs. 5(1789)28; Hatusima, l. c. 54.
No. 2045. Possibly may be a native of tropical America, now in most warm countries of the
world.
- Eupatorium formosanum** Hay. var. **quasitripartitum** (Hay.) Kitamura in Acta Phytotax. et
Geobot. 1(1932)284; Comp. Jap. 1(1937)295; Hatusima, l. c. 54.
No. 2049. Ryukyus, Taiwan and the N. Philippines (Batan Islands).
- Farfugium japonicum** (L.) Kitamura in Acta Phytotax. et Geobot. 8(1936)268-*Ligularia tus-*
silaginea Mak. in Bot. Mag. Tokyo 18(1904)52; Liu et al., l. c. 327.
No. 2043. Japan, Ryukyus, Taiwan and S. China.
- Gynura elliptica** Yabe & Hayata in Journ. Coll. Sci. Tokyo 18⁸(1904)25, f. 2; Liu et al., l. c.
327; Hatusima, l. c. 54.
No. 2053. Taiwan (Kasyoto and Botel Tobago) and the N. Philippines (Batan and Babuyan
Islands).
- Lactuca indica** L., Mant. 2(1771)278; Liu et al., l. c. 327; Hatusima, l. c. 54.
No. 2040, 2059. India to Malaysia and Japan.
- Mikania cordata** (Burm.) B. L. Robins. in Contr. Herb. 104(1934)65; Koster in Blumea 1(1935)
504; Hatusima, l. c. 54-*M. scandens* Clarke, Comp. Ind. (1871)35; Liu et al., l. c. 327.
No. 2055. India to Taiwan, Malaysia and tropical Africa.
- Siegesbeckia orientalis** L., Sp. Pl. (1753)900; Liu et al., l. c. 327; Hatusima, l. c. 54.
No. 2048. Common in warmer regions of the Old World.
- Sonchus arvensis** L., Sp. Pl. (1753)793; Liu et al., l. c. 327.
No. 2061. All warm countries.
- Synedrella nodiflora** Gaertn., Fruct. 2(1791)456, f. 17; Liu et al., l. c. 327; Hatusima, l. c. 54.

No. 2039. Pantropic weed of American origin.

Vernonia cinerea Less. in *Linnaea* 4(1829)291; Liu et al., l. c. 327; Hatusima, l. c. 54.

No. 2052. Old World tropics.

Wedelia robusta (Mak.) Kitamura, *Comp. Jap.* 3(1942)258-*W. prostrata* var. *robusta* Mak. in *Journ. Jap. Bot.* 1(1917)23, f. 2.

No. 2051. Japan to Taiwan.

Youngia japonica (L.) DC., *Prodr.* 7(1838)194; Kitamura, *Comp. Jap.* 4(1955)177; Hatusima, l. c. 55-*Y. formosana* (Hay.) Hara in *Journ. Jap. Bot.* 14(1938)53; Liu et al., l. c. 328.

No. 2047. India to Japan, Malaysia, Australia and Polynesia.

Monocotyledoneae

Typhaceae

Typha angustifolia L., *Sp. Pl.* (1753)971; C. A. Backer, *Fl. Males*, ser. 1, 4³(1951)243, f. 1-*T. capensis* Rohrb. sensu Sasaki, *List. Pl. Formos.* (1928)54, non Rohrb.

No. 2225. Throughout the world between the arctic circle and lat. 35°S.

Typha orientalis Presl, *Epim. Bot.* (1847)239-*T. shuttleworthii* Koch & Sonder sensu Liu et al. in *Quart. Journ. Taiwan Mus.* 10(1957)57.

No. 2224. Japan to China, Taiwan and the Philippines.

Pandanaceae

Freycinetia formosana Hemsl. in *Kew Bull.* (1896)166; Kanehira, l. c. 63, f. 23; Li, l. c. 901, f. 363; Hatusima, l. c. 55.-*F. batanensis* Martelli in *Webbia* 3(1910)29, 309; Sasaki in *Trans. Nat. Hist. Soc. Formos.* 26(1936)134; Liu et al., l. c. 57.

No. 2590. S. Ryukyus, Formosa and the Philippines.

Gramineae

Apluda mutica L., *Sp. Pl.* (1753)82; Liu et al., l. c. 58; Hatusima, l. c. 55.

No. 2458. India to Malaysia, Australia, Polynesia and the Ryukyus.

Arthraxon hispidus (Thunb.) Mak. in *Bot. Mag. Tokyo* 26(1912)214; Liu et al., 58.

No. 2474. Japan to Taiwan, China and the Philippines.

Arundo formosana Hackel in *Bull. Herb. Boiss.* 7(1899)724; Liu et al., l. c. 58; Hatusima, l. c. 55.

No. 2454, 2469. S. Ryukyus, Taiwan and the N. Philippines (Isl. Batan).

Bambusa multiplex (Lour.) Raeusch., *Nom. Bot. ed.* 3(1797)14; Li, l. c. 908.

No. 2449. Native of S. E. Asia, probably introduced in Botel Tobago.

Brachiaria subquadripara (Trin.) Hitchc. in *Lingnan Sci. Journ.* 7(1931)214-*B. distachya* sensu auct. *Jap.*

No. 2466, 2467. India to Malaysia and the Ryukyus.

Capillipedium kwashotense (Hay.) Hsu in *Journ. Jap. Bot.* 37(1967)280; Hatusima, l. c. 55-*Bothriochloa kwashotensis* (Hay.) Ohwi in *Acta Phytotax. et Geobot.* 11(1942)168; Liu et al., l. c. 58.

No. 2460, 2461. S. Ryukyus, Taiwan (Kasyoto and Botel Tobago) and the Philippines (Isl. Batan).

Coix lachryma-jobi L., *Sp. Pl.* (1753)972; Liu et al., l. c. 59.

No. 2486. India to Malaysia and Japan.

Cyrtococcum patens (L.) A. Camus in *Bull. Mus. Hist. Nat. Paris* 27(1921)118; Hatusima, l. c. 56.

- No. 2456, 2457. India to Malaysia and the Ryukyus.
Dactyloctenium aegypticum (L.) Richt., Pl. Europe 1(1889)68; Liu et al., l. c.; Hatusima, l. c. 56.
 No. 2476. Pantropic.
- Digitaria henryi** Rendle in Journ. Linn. Soc. Bot. 36(1904)323; Yamamoto in Journ. Trop. Agric. Formos. 9(1937)382, f. 28; Liu et al., l. c. 59; Hatusima, l. c. 56.
 No. 2473. S. Japan, Ryukyus, Taiwan and the Philippines, introduced in Hawaii.
- Digitaria timorensis** (Kunth) Bal. in Morot, J. de Bot. 4(1890)138; Hatusima, l. c. 56-*D. chinensis* sensu auct plur., non Hornem.; Liu et al., l. c. 59.
 No. 2450, 2451. India to Japan, Malaysia and Polynesia.
- Digitaria violascens** Link, Hort. Berol. 1(1827)229; Bor, Grass. Ind. (1960)307.
 No. 2472. Pantropic.
- Echinochloa crus-galli** (L.) Beauv. var. *formosana* Ohwi in Acta Phytotax. et Geobot. 11(1942) 28.
 No. 2483. Ryukyus, Taiwan and ?Malaysia.
- Eleusine indica** (L.) Gaertn., Fruct. 1(1788)8; Liu et al., l. c. 59; Hatusima, l. c. 56.
 No. 2484. All warm countries.
- Eragrostis tenella** (L.) P. Beauv. ex Roem. et Schult., Syst. Veg. 2(1817)576; Liu et al., l. c. 60; Hatusima, l. c. 57.
 No. 2465. Old World tropics generally.
- Eriochloa procera** (Retz.) C. E. Hubb. in Kew Bull. 1930(1930)256; Liu et al., l. c. 60; Hatusima, l. c. 57.
 No. 2468. India to tropical Africa, Malaysia and the Ryukyus.
- Ichnanthus vicinus** (F. M. Bail.) Merr., Enum. 1(1922)70; Liu et al., l. c. 60.
 No. 2447. Indo-Malaya to Australia and the Ryukyus.
- Imperata cylindrica** (L.) Beauv. var. *major* (Nees) C. E. Hubb. ex Hubb. et Vaughan, Grass. Maur. (1940)96; Hatusima, l. c. 57-*I. cylindrica* var. *koebnigii* (Retz.) Dur. et Schinz, Consp. Fl. Agr. 5(1894)694; Liu et al., l. c. 60.
 No. 2480. Warmer parts of Asia, Africa and Australia.
- Isachne debilis** Rendle in Journ. Linn. Soc. 36(1904)322; Liu et al., l. c. 60; Hatusima, l. c. 57.
 No. 2444. Taiwan and the Philippines.
- Isachne globosa** (Thunb.) O. K., Rev. Gen. Pl. 2(1891)778; Liu et al., l. c. 60.
 No. 2488. Tropical Asia, Malaysia and Japan.
- Ischaemum setaceum** Honda in Bot. Mag. Tokyo 38(1924)54; Liu et al., l. c. 60; Hatusima, l. c. 57.
 No. 2459. S. Ryukyus, Taiwan (Botel Tobago and South Cape) and the N. Philippines (Isl. Batan).
- Leptochloa panicea** (Retz.) Ohwi in Bot. Mag. Tokyo 55(1941)311; Bor, l. c. 517.
 No. 2463. Pantropic.
- Lepturus repens** (G. Forst.) R. Br., Prodr. Fl. Nov. Holl. (1810)207; Liu et al., l. c. 60; Hatusima, l. c. 57.
 No. 2455. Ceylon through Malaysia to N. Australia, Polynesia and the Ryukyus.
- Lophatherum gracile** Brongn. in Duper. Voy. Bot. (1828)50, t. 8; Liu et al., 61.
 No. 2448. Indo-Malaya to Japan.
- Miscanthus sinensis** Anders. var. *condensatus* (Hack.) Mak. in Bot. Mag. Tokyo 27(1913)254; Hatusima, l. c. 57.

- No. 2446. S. Japan to the N. Philippines.
- Oplismenus compositus** (L.) Beauv. var. **intermedius** (Honda) Ohwi in Acta Phytotax. et Geobot. 11(1942)35
- No. 2470. Ryukyus and Taiwan, species of S. E. Asia.
- Oplismenus compositus** (L.) Beauv. var. **patens** (Honda) Ohwi in Bull. Nat. Sci. Mus. 33(1953) 67-*O. patens* Honda in Fedde Rept. 20(1924)360
- No. 2475. S. Japan to Taiwan.
- Panicum repens** L., Sp. Pl. ed. 2(1762)87; Liu et al., l. c. 61.
- No. 2481. All warm countries.
- Paspalum conjugatum** Berg. in Act. Helvet 7(1772)129, t. 8; Hatusima, l. c. 58.
- No. 2462. A native of tropical America, now pantropic.
- Paspalum orbiculare** G. Forst., Fl. Insul. Aust. Prodr. (1786)7; Hatusima, l. c. 58.
- No. Inida to Malaysia, Polynesia and S. Japan.
- Pogonatherum crinitum** (Thunb.) Kunth, Enum. Pl. 1(1833)478; Hatusima, l. c. 58.
- No. 2487. India to Malaysia and Japan.
- Rottboelia exaltata** L. f., Suppl. (1781)114; Hatusima, l. c. 58.
- No. 2485. Common in tropical Asia, Africa, Malaysia and Australia.
- Sacciolepis indica** (L.) Chase in Proc. Biol. Soc. Washingt. 1(1908)8; Ohwi l. c. (1942)48.
- No. 2482. Indo-Malaya, Australia and Japan.
- Setaria italica** (L.) Beauv., Ess. Agrost. (1812)51; Bor, l. c. 362.
- No. 2471. Cultivated in all warm counties, escaped from cultivation in Botel Tobago.
- Setaria pallide-fusca** (Schumach) Stapf et C. E. Hubb. in Kew Bull. 1930(1930)259; Hatusima, l. c. 58.
- No. 2452. Warmer parts of the Old World.
- Sporobolus diander** (Retz.) Beauv., Agrost. (1812)26; Hatusima, l. c. 58.
- No. 2464. India to Malaysia, Australia and the Ryukyus.
- Thaumastochloa cochinchinensis** C. E. Hubb., Icon. (1936) sub. t. 3313, p. 2; Ohwi, l. c. 178.
- No. 2445. Indo-China to Formosa, Philippines and Caroline Islands.
- Thuarea involuta** (Forst.) Roem. et Schult., Syst. 2(1817)782; Hatusima, l. c. 59.
- No. 2477. Ryukyus to Malaysia, tropical Asia, Australia and Polyneisa.
- Thysanolaena maxima** (Roxb.) O. K., Rev. Gen. Pl. 2(1891)794; Ohwi, l. c. 10(1941)272; Bor, l. c. 650.
- No. 2443. India to Malaysia and Taiwan.
- Zoisia matrella** (L.) Merr. in Philip. Journ. Sci. 7(1912) Bot. 20; Ohwi, l. c. 10(1941)268; Hatusima, l. c. 59.
- No. 2479, 2479A. Tropical Asia, Malayia, Africa, Australia and W. Polynesia.
- Zoisia tenuifolia** Willd. ex Trin. in Mem. Acad. St. Peter. ser. 6, 4(1836)96; Ohwi, l. c. 269.
- No. 2478. S. Japan to Malaysia and Mauritius.

Cyperaceae

- Bulbostylis barbata** (Rottb.) C. B. Clarke in Hook. f., Fl. Brit. Ind. 6(1893)651; Ohwi, Cyper. Jap. 2(1944)42.
- No. 2500. Africa to Malaysia, India, Australia and Japan.
- Carex bilateralis** Hay., Mater. Fl. Formos. (1911)380; Icon. 6(1916)127, f. 40 e-i; Koyama in Journ. Facult. Sci. Univ. Tokyo III, 8⁴(1962)163.

- No. 2490, 2491. Endemic to Taiwan. T. Koyama says that the leaves of this species are usually less than 1/3 as long as culms, but No. 2490 differs in its longer leaves nearly as long as culms. This species may be better to treat as a variety of *C. teinogyna* Boott.
- Carex sociata** Boott in A. Gray, Bot. Jap. (1859)420; Ohwi, Cyperac. Jap. 2(1943)376; Hatusima, l. c. 59.
No. 2520, 2523. S. Japan to Taiwan, S. China and the Philippines.
- Carex wahuensis** C. A. Meyer ssp. **robusta** (Fr. et Sav.) Koyama in Kitamura, Murata et Koyama, Colour. Illus. Herb. Pl. Jap. 3(1964)271, f. 475, comb. nud. -*C. boottiana* Hook. et Arn., Bot. Beech. Voy. (1841)273
No. 2504. S. Japan to Taiwan. The species of Hawaii.
- Cyperus brevifolius** (Rottb.) Hassk., Cat. Hort. Bog. (1844)24; Koyama in Quart. Journ. Taiwan Mus. 14(1961)190-**Kyllingia brevifolia** Rottb., Desc. et Icon. (1773)13, t. 4, f. 3.
No. 2510. Pantropic
- Cyperus compressus** L., Sp. Pl. (1753)46; Koyama, l. c. 174; Hatusima, l. c. 59
No. 2518. Warm countries of the world.
- Cyperus cyperinus** (Retz.) Suringer, Het. Gesel. Cyp. Mal. Archip. (1898)154, f. 6 et 10; Koyama, l. c. 187; Hatusima, l. c. 59.
No. 2496, 2497. Pantropic.
- Cyperus cyperoides** (L.) O. K., Rev. Gen. Pl. 3(1898)333; Koyama, l. c. 186; Hatusima, l. c. 59.
No. 2526. Pantropic.
- Cyperus difformis** L., Cent. Pl. (1756)6; Koyama, l. c. 174.
No. 2506. Tropical to temperate regions of the world.
- Cyperus globosus** Allioni, Auctuar. Fl. Pedemont. (1789)49; Koyama, l. c. 184.
No. 2501. Africa, Central Asia, to India to Malaysia, Manchuria and Japan.
- Cyperus haspan** L., Sp. Pl. (1753)45; Koyama, l. c. 175.
No. 2502. Warmer parts of the Old World.
- Cyperus javanicus** Houtt., Nat. Hist. 2¹³(1782)t. 88, f. 1; Koyama, l. c. 188; Hatusima, l. c. 59.
No. 2522, 2524. Tropical Africa, through Malaysia to Polynesia and the Ryukyus.
- Cyperus nutans** Vahl var. **subprolixus** (Kükenth.) Koyama, l. c. 168-*C. eleusinoides* sensu Hay., Enum. Pl. Formos. (1906)471, non Kunth.
No. 2498. Ryukyus and Taiwan. The species of Africa to India and Malaysia.
- Cyperus pedunculatus** (R. Br.) Kern in Act. Bot. Neerl. 7(1958)798, f. 4; Koyama, l. c. 190-*Remirea maritima* Aubert, Hist. Pl. Guian. Franc. 1(1775)45, t. 24.
No. 2492. Pantropic.
- Cyperus pilosus** Vahl, Enum. Pl. 2(1806)354; Koyama, l. c. 172.
No. 2507. Indo-Malaya to Japan.
- Cyperus polystachyos** Rottb., Descr. & Icon. Rar. Pl. (1773)39, t. 11, f. 1; Koyama, l. c. 185; Hatusima, l. c. 60.
No. 2493, 2494. All warm countries.
- Cyperus rotundatus** L., Sp. Pl. (1753)45; Koyama, l. c. 170; Hatusima, l. c. 60.
No. 2512. All warm countries.
- Cyperus sanguinolentus** Vahl, Enum. Pl. 2(1806)351; Koyama, l. c. 183.
No. 2495. Warmer parts of the Old World.
- Eleocharis acicularis** (L.) Roem. et Schult. var. **longiseta** Svenson in Rhodora 31(1929)189.
No. 2513. Japan to China and Indo-China. The species of Europe to N. America.

- Fimbristylis dichotoma** (L.) Vahl f. **floribunda** (Miq.) Ohwi in Journ. Jap. Bot. 14(1938)577; Koyama, in Journ. Fac. Sci. Univ. Tokyo III, 8³(1961)111; Hatusima, l. c. 60.
No. 2515, 2516, 2525. Japan to Malaysia, S. E. Asia and Africa.
- Fimbristylis miliacea** (L.) Vahl, Enum. Pl. 2(1806)287; Koyama, l. c. 108.
No. 2505. Old World tropics generally.
- Fimbristylis ovata** (Burm. f.) Kern in Blumea 15(1967)126-*F. monostachya* (L.) Hassk. (1848) 61; Koyama, l.c. 117
No. 2503. Africa, India, Malaysia to Australia and Japan.
- Fimbristylis cymosa** R. Br. ssp. **umbellato-capitata** (Hillebr.) Koyama in Micronesica 1(1964)82; Hatusima, l. c. 60.
No. 2517. Ceylon to Malaysia, Pacific Islands and the S. Ryukyus.
- Fimbristylis cymosa** R. Br. ssp. **spathacea** (Roth) Koyama in l. c. (1964)83-*F. spathacea* Roth, Nov. Sp. Pl. (1821)24.
No. 2491. S. Japan to Taiwan, Malaysia, India and Micronesia.
- Fimbristylis aestivalis** Vahl var. **squarrosa** (Vahl) Koyama in Journ. Fac. Sci. Univ. Tokyo III, 8³(1961)116-*F. squarrosa* Vahl, Enum. Pl. 2(1806)289.
No. 2508. Japan to Malaysia, India, N. Africa and S. Europe.
- Hypolytrum formosanum** Ohwi, Cyper. Jap. 2(1944); Koyama, l. c. (1961)82.
No. 2519. Endemic to Taiwan.
- Scirpus lineolatus** Fr. et Sav., Enum. Pl. Jap. 2(1877)544; Koyama, in Journ. Fac. Sci. Univ. Tokyo III, 7⁶(1958)304.
No. 2509. Japan to Formosa.
- Scleria terrestris** (L.) Fassett in Rhodora 26(1924)159; Koyama, l. c. (1961)138; Hatusima, l. c. 60.
No. 2521. S. E. Asia, Malaysia to Australia.

Palmae

- Calamus formosanus** Becc. in Rec. Bot. Survey Ind. 2(1902)211; Kanehira, l. c. 71; Li, l. c. 917, f. 366.
No. 2207. Endemic to Taiwan.
- Pinanga bavensis** Becc. in Webbia 3(1910)193; Li, l. c. 919-*Pinanga tashiroi* Hay., Icon. 3 (1913)196; Kanehira, l. c. 74, f. 29-*Pseudopinanga tashiroi* (Hay.) Burret in Notizbl. Bot. Gart. Berlin 13(1936)194.
No. 2206. Indo-China, S. China and Formosa (Botel Tobago).

Araceae

- Alocasia macrorrhiza** (L.) Schott, Melet. (1832)18; Hatusima, l. c. 60.
No. 2321. India to Malaysia and S. Japan.
- Homalomena philippinensis** Engl. in Engl. & Krause, Pfl. -reich. 55(1912)55, f. 33; Hatusima, l. c. 61.
No. 2322. Philippines. A new addition for the flora of Taiwan.
- Raphidophora liukiensis** Hatusima in Acta Phytotax. et Geobot. 20(1962)57, f. 1; l. c. 61.
No. 2324. S. Ryukyus, Taiwan and the Philippines. A new addition for the flora of Taiwan.
- Rhaphidophora pinnata** (L.) Schott in Bonplandia 5(1857)45-*Epipremnum mirabile* Schott, Gen. Aroid. (1858)t. 79-*E. pinnatum* (L.) Engl., Pflanzenreich 37(1908)60, f. 25

No. 2323. Ryukyus to S. China, India and Malaysia.

Commelinaceae

Aclisia secundiflora (Bl.) Bakh. f. in Backer et Backh. f., Fl. Java 3(1968)658-*Pollia sorzogonensis* (E. Meyer) Steud., Nomencl. ed. 2(1841)368-; Hatusima, l.c. 61-*P. secundiflora* (Bl.) Bakh. f. in Backer, Bcknopte Fl. Jav. Afl. 10(1949)61

No. 2194. S. Ryukyus, Formosa to Malaysia.

Aneilema nudiflorum (L.) Wall., Cat. no. 5224(1830); Merr. in Journ. Arn. Arb. 18(1937)65-*Commelina nudiflora* L., Sp. Pl. (1753)41, p. p. -*Murdannia nudiflora* (L.) Brenan in Kew Bull. 1952(1952)189.

No. 2196. India to China, Taiwan, Ryukyus and Malaysia.

Belosynapsis ciliata (Bl.) Rolla Rao in Notes Roy. Bot Gard. Edinb. 25(1967)188-*Cyanotis capitata* C. B. Clarke in DC. Monogr. Phan. 3(1881)198; Hatusima, l. c. 61-? *C. Kawakamii* Hay. in Hay. et Matsum., Enum. Pl. Formos. (1906)449-*C. cristata* (Bl.) Bakh. f. in Backer, Benopte Fl. Java Abl. x a. Fam. 211(1949)6 in clavi.

No. 2193. Indo-China to Malaysia. A new addition for the flora of Taiwan.

Commelina auriculata Bl., Enum. Pl. Jav. 2(1830)168; Hatusima, l. c. 61.

No. 2195. S. Japan to Malaysia and Australia.

Cyanotis cristata (L.) D. Don, Prodr. Fl. Nepal. (1825)46 in nota.

No. 2197.(a glabrous form). Tropical Africa to Malaysia, India, S. China. A new addition for the flora of Taiwan.

Pontederiaceae

Monochoria vaginalis (Burm. f.) Presl, Rel. Haenk. 1(1827)128; Backer in Fl. Males. 4³(1951) 256.

No. S. E. Asia to Malaysia and Japan.

Liliaceae

Dianella ensifolia (L.) DC. in Red. Lil. 1(1802) t. 1-*D. nemorosa* Lam., Encycl. 2(1786)276; Hatusima, l. c. 62.

No. 2151. Malaysia to S. Japan.

Dracaena angustifolia Roxb., Hort. Beng. (1814)24; Hatusima, l. c. 61-*Pleomele angustifolia* (Roxb.) N. E. Br. in Kew Bull. (1914)277; Merr., Enum. 1(1923)205.

No. 2152. India to Indo-China, S. Taiwan, Malaysia, Micronesia and Australia.

Heterosmilax japonica Kunth, Enum. Pl. 5(1850)270; Koyama in Quart. Journ. Taiwan Mus. 10(1957)20; Li, l. c. 922, f. 270.

No. 2155, 2155A. S. Japan to Taiwan.

Lilium longiflorum Thunb. in Trans. Linn. Soc. 2(1794)333; Hatusima, l. c. 62.

No. 2156. Ryukyus, Taiwan, S. China and the Philippines (Isl. Batan).

Liriope tawadae Ohwi in Acta Phytotax. et Geobot. 5(1936)55-*L. muscari* (Decne.) Bailey, Gentes Herb. 2, fasc. 1(1929)33, f. 18-*L. platyphylla* Wang & T. Tang in Acta Phytotax. Sin. 1(1951)332.

No. 2150. Japan to Taiwan, China and the Philippines.

Smilax bracteata Presl, Reliq. Haenk. 1(1827)131; Koyama, l. c. (1957)18; Li, l. c. 925; Hatusima, l. c. 62-*S. stenopetala* A. Gray in Mem. Amer. Acad. 2⁶(1859)612.

- No. 2154. S. Japan to Taiwan, S. China, Indo-China and the Philippines.
Tricyrtis formosana Baker in Journ. Linn. Soc. London, Bot. 17(1879)465; Masamune in Journ. Trop. Agric. Formos. 2¹(1930)46.
 No. 2153. Endemic to Taiwan.

Amaryllidaceae

- Agave americana** L., Sp. Pl. (1753)323.
 No. 2160, naturalized. A native of tropical America.
Crinum asiaticum L., Sp. Pl. (1753)292; Hatusima, l. c. 62.
 No. 2161. India to Polynesia and Japan.
Curculigo capitulata (Lour.) O. K., Rev. Gen. Pl. (1891)703; Hatusima, l. c. 62.
 No. 2162. Malaysia to Australia and Taiwan.
Curculigo orchioides Gaertn., Fruct. 1(1788)63, t. 16; Hatusima, l. c. 62.
 No. 2163. India to Malaysia and Japan.

Dioscoreaceae

- Dioscorea bulbifera** L., Sp. Pl. (1753)1033; Yamamoto, Suppl. Icon. Pl. Formos. 3(1927)8; Burkill in Fl. Malesiana Ser. 1, 4³(1951)311, f. 4a-b et 5 f.
 No. 2291. Atlantic coast of Africa to tropical Asia and Polynesia.
Dioscorea cirrhosa Lour., Fl. Cochinch. (1790)625; R. Kunth in Engler, Pfl. -reich IV, 43(1924) 288-D. *rhizogonoides* Oliv. in Hook. Ic. Pl. 19(1889) t. 1868.
 No. 2290. S. Ryukyus, Taiwan, S. China, Philippines and Ceram.
Dioscorea cumingii Prain et Burk. var. *ramosii* Burkill, l. c. (1951)317; Hatusima, l. c. 62-D. *heptaphylla* Sasaki in Trans. Nat. Hist. Soc. Formos. 21(1931)47.
 No. 2292. Taiwan (Botel Tobago) and the N. Philippines (Batan and Babuyan Islands). The species of the Philippines.
Dioscorea collettii Hook. f. in Fl. Brit. Ind. 6(1892)290; R. Kunth, l. c. 253; Yamamoto, l. c. 6.
 No. 2293. Burma, S. China and Taiwan.
Dioscorea flabellifolia Prain & Burk. in Elmer, Leafl. 5(1913)1593; Burk., l. c. (1951)309; Hatusima, l. c. 62.
 No. 2294. N. Borneo, Philippines and Caroline Islands (Isl. Palau). A new addition to the flora of Taiwan.

Zingiberaceae

- Alpinia flabellata** Ridl. in Philip. Journ. Sci. 4(1909) Bot. 188; Hatusima, l. c. 63-A. *yaeyamensis* Masam. in Trans. Nat. Hist. Soc. Formos. 24(1934)208.
 No. 2283. S. Ryukyus to the Philippines. A new addition to the flora of Taiwan.
Alpinia intermedia Gagnep. in Bull. Soc. Bot. Fr. 48(1902)83.
 No. 2281. S. Japan to Taiwan.
Alpinia kawakamii Hay., Icon. 5(1915)222; 9(1920)121-*Languas kawakamii* (Hay.) Sasaki in Trans. Nat. Hist. Soc. Formos. 14(1924)84.
 No. 2282. Endemic to Taiwan.
Alpinia speciosa (Wendl.) K. Schum., Fl. Kaiser-Wilhelmsl. (1887)29; in Engl. Bot. Jahrb. 27 (1887)284, t. 3, f. A. B. ; Pfl. -reich. 20(1904)339, f. 40, D-F.
 No. 2593. S. Japan, Ryukyus, Taiwan to India and Malaysia.

Maranthaceae

- Donax connaeformis** (Forst. f.) K. Schum. in Engl. Bot. Jahrb. 15(1893)440; Hatusima, l. c. 63.
No. 2209. Java, Borneo to New Guinea, the Aru and Admiralty Islands, New Hebrides, the Mariana Islands, Philippines and Taiwan (Botel Tobago).

Orchidaceae

- Blettia kotoensis** Schltr., Fedde Rept. 10(1911)256-B. *kotoensis* Hay., Mater. Fl. Formos. (1911)323.
No. 2179. Endemic to Taiwan.
- Calanthe furcata** Batem. ex Lindl. in Bot. Reg. 24(1838) Misc. 28; Hatusima, l. c. 63.
No. 2176. Malaysia to Polynesia, Micronesia, S. China, Taiwan, the Ryukyus and Bonins.
- Dendrobium miyakei** Schltr., Orch. Sino-Jap. (1919)64; Hatusima, l. c. 63.
No. 2177. Taiwan (Kasyoto and Botel Tobago) and the N. Philippines (Isl. Batan).
- Dendrobium somai** Hay., Icon. 6(1916)70.
No. 2180 (sterile). Endemic to Taiwan.
- Dendrobium ventricosum** Kranzl. in Engl. Pfl. -reich. IV, 50, II. B. 21(1910)209; Hatusima, l. c. 63-D. *equitans* Kranzl., l. c. 228, syn. nov.
No. 2174. Taiwan (Kasyoto and Botel Tobago) and the Philippines.
- Dendrochilum formosanum** (Schltr.) Schltr., Orch. Sino-Jap. Prodr. (1919)185; Yamamoto, Suppl. Icon. Pl. Formos. 2(1926)5; Sasaki in Trans. Nat. Hist. Soc. Formos. 19(1929)414
No. 2171. Endemic to Taiwan.
- Eria nudicaulis** Hay., Icon. 2(1912)138.
No. 2178. Endemic to Taiwan.
- Goodyera** aff. *hachijoensis* Yatabe var. *yakushimensis* (Nak.) Ohwi, Fl. Jap. (1953)369.
No. 2169 (sterile). Ryukyus.
- Goodyera rubicunda** (Bl.) Lindl. in Bot. Reg. 25(1839) Misc. 61; Hatusima, l. c. 63.
No. 2181. Ryukyus, Formosa, Taiwan to Malaysia.
- Hetaeria** aff. *oblongifolia* Bl., Fl. Jav. Orch. (1858)85; Hatusima, l. c. 64.
No. 2173 (sterile). Java, Moluccas, New Guinea, Philippines. ?New to the flora of Taiwan.
- Phalaenopsis aphrodite** Reichb. f., Hamb. Gartenz. 18(1862)35.
No. 2172. S. Taiwan and the Philippines.
- Spathoglottis plicata** Bl., Bijdr. (1825)401, f. 76; Hatusima, l. c. 64.
No. 2183. Malaysia to Micronesia and the S. Ryukyus.
- Stauorchilus ionsma** Schltr., Orch. Sino-Jap. Prodr. (1919)287.
No. 2175. Endemic to Taiwan.
- Zeuxine** sp. aff. *cognata* Ohwi et Koyama in Bull. Nat. Hist. Mus. Tokyo 41(1957)274, f. 4 cum Pl. 41.
No. 2168, 2170. Ryukyus (Isl. Senkaku).

Correction:

Page 306

- Portulaca pilosa** L., Sp. Pl. (1753)445 ssp. *pilosa*- R. Geesink in Blumea 17(1969)295-P. *pachyrrhiza* Gagnep. in Bull. Bot. France 56(1909)41
No. 2288 (race *pilosa*), 2289 (race *pachyrrhiza*). Indo-Malay to Australia and Polynesia, northward to the Bonins.

Summary

In this paper 489 species were enumerated, the new species, new records for the flora of Taiwan, and new names adopted are as follows:

New species:

Lycionotus ikedae Hatusima

New records for the flora of Taiwan:

Southern elements:

Ficus heteropleura Bl.

Portulacca pachyrrhiza Gagnep.

Neolitsea villosa Merr.

Aglaia iloilo Merr.

Elaeocarpus argenteus Merr.

Elaeocarpus multiflorus F. Vill.

Elaeagnus philippinensis Perr.

Cyrtandra umbellifera Merr.

Uncaria philippinensis Elm.

Scaevola micrantha Presl

Raphidophora liukiensis Hatusima

Homalomena philippinensis Engl.

Belosynapsis ciliata Rolla Rao

Cyanotis cristata D. Don

Dioscorea flabellifolia Prain & Burk.

Alpinia flabellata Ridl.

?*Hetaeria oblongifolia* Bl.

Northern elements:

Clematis grata var. *ryukyuensis* Tamura

Neolitsea sericea Koidz.

Securinega suffruticosa var. *amamiensis* Hurusawa

Ilex integra Thunb.

Wikstroemia retusa A. Gray

Dendropanax trifidus Mak.

Cynanchum liukiense Warb.

Strobilanthes glandulifera Hatusima

Mussaenda parviflora var. *yaeyamensis* Yamazaki

New names:

Trichomanes radicans var. *formosanum* (C. Chr.) Hatusima

Neolitsea sericea var. *aurata* (Hay.) Hatusima

Raphiolepis indica ssp. *umbellata* (Thunb.) Hatusima

Meliosma oldhami var. *rhoifolia* (Maxim.) Hatusima

Randia rolfei (Vid.) Hatusima

It is very important in considering the flora of the island to notice that the volcanic chain, mentioned in the introduction to this paper, is migration route for birds flying from Japan through the Ryukyus to the Philippines and further south, and that the Black (Japan) Current flows northward near the east coast of the islands. Therefore, many species of plants from the Ryukyus and the Philippines, which are never or rarely found on the main island of Taiwan are seen on this island.

In 1933, T. Kano advanced the opinion, based chiefly upon the avifauna and the distribution of *Pachyrrhynchid* weevils from the island, that the northern end of the Neo-Wallace line should be lengthened from Bashii Channel between Taiwan and the Batan Islands, Philippines, northward to the channel between the main island of Taiwan and Botel Tobago and Kasyoto, thence bending eastward. But, so far as the flora of the island is concerned, I cannot follow his proposed modification, because most southern elements in the island bear seeds or fruits which can be disseminated by birds, wind, or sea currents and no representatives are found of species bearing large seeds or fruits distributable only with difficulty by the above agencies, such as the *Fagaceae*.

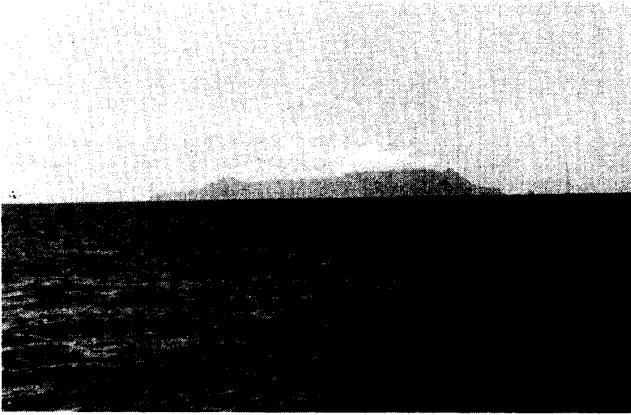
Explanation of Plates.

Plate 1.

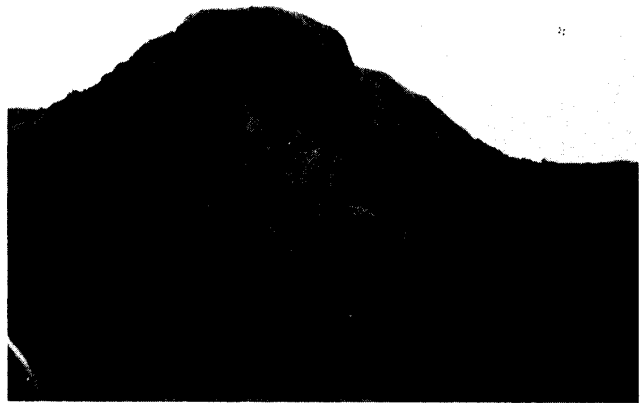
- A. A distant view of Isl. Botel Tobago.
- B. Southern coast of the island.
- C. Northern side of the island.
- D. The highest peak (547 m.) of the island.
- E. A view of the village of Iratai and its vicinity.
- F. A part of central range.

Plate 2.

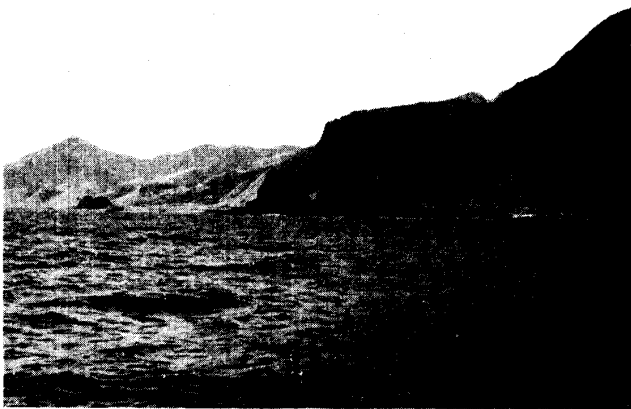
- A. A view of Taro field (*Alocasia esculenta*).
- B. Collection of Betel nuts (*Areca catechu*) by natives.
- C. A view of strand pasture chiefly consists of *Zoysia matrella*, *Ipomoea pescaprae*, *Indigofera zollingeriana*, *Pandanus tectorius*, etc.
- D. A community of naturalized *Agave americana*.
- E. *Freycinetia formosana* on a *Ficus* species.



A



D



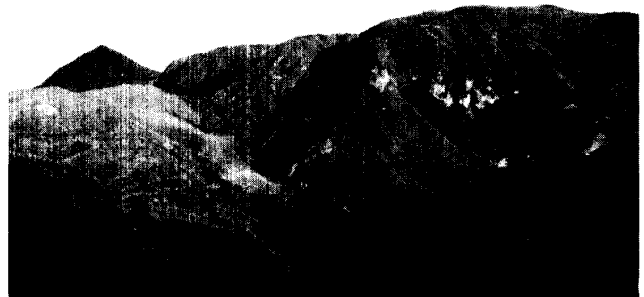
B



E

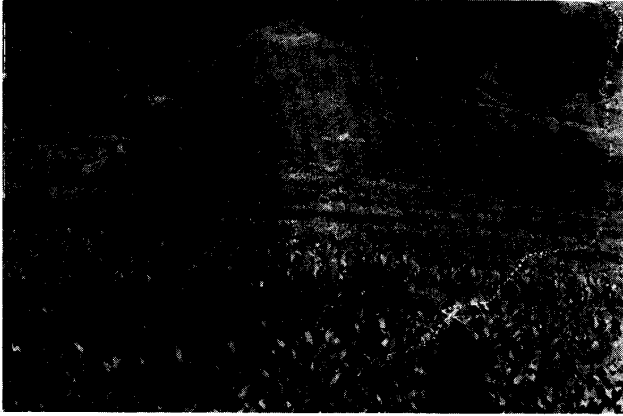


C



F

A



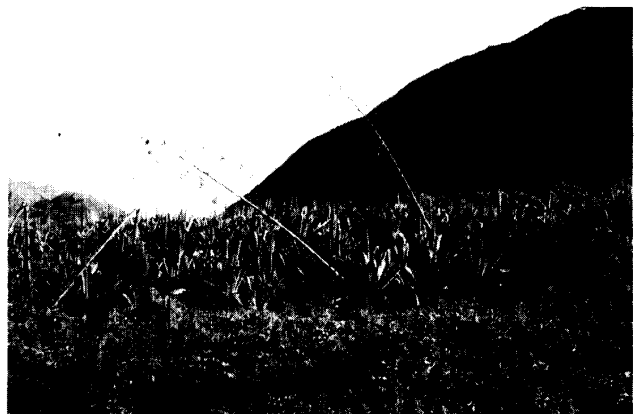
B



C



D



E





Lycionotus ikedae Hatusima (type)