

IDENTIFICATION LIST OF *ENSETE* AND *MUSA* (MUSACEAE) IN
SE ASIA AND WEST MALESIA

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This identification list refers to specimens of Herbarium of Kyoto University (KYO), Herbarium Bogoriense (BO), Singapore Botanic Gardens' Herbarium (SING), Rijkshebarium (L), Herbarium of Forest Department, Kuching (SAR) and Herbarium of Forest Department, Sandakan (SAN). I am grateful to the curators of these herbaria for their invaluable assistance.

ENSETE Bruce ex Horan.

Ensete glaucum (Roxb.) Cheesm., Kew Bull. 1947: 101 (1948); Simmonds, Kew Bull. 1960: 212(1960); Li, Fl. Rep. Pop. Sin. 16(2): 3 (1981).--- *Musa glauca* Roxb., Hort. Beng. 19 (1814), Fl. Ind. 2: 490 (11924); Baker, Ann. Bot. 7: 209 (1894).--- *M. nepalensis* Wall. in Roxb. Fl. Ind. 2: 492 (1824); Baker, Ann. Bot. 7: 208 (1894)--- *M. gigantea* Kuntz., Rev. Gen. Pl. 2: 691 (1891)--- *E. gigantea* (Kuntz.) Nakai, Bull. Tokyo Sc. Mus. 22: 12 (1948).

NEPAL. East Nepal: Illam, 1200 m, Dec. 7, 1953, H. Hara, Kanai, Kurosawa, Murata, Togashi & Tuyama 6307401 (KYO, 3 sheets).

THAILAND. Kwaë Noë: near Koeng Chade, 200 m, May 30, 1946, Kostermans 763 (L).

SUMATRA. N. Sumatra: Medang, April 7, 1926, Lörzing 11740 (BO); Sibolangit, 450-550 m, Dec. 1, 1927, Lörzing 12546 (BO).

JAVA. Eil. Kangeran, Kajoe Waroe, Apr. 2, 1919, Backer 28062 (L); cult. Buitenzorg, Dec. 4, 1930, Bakh. v/d Brink 7615(L).

MUSA L.

Musa acuminata Coll., Men. Reale Accad. Sc. Tor. (Gen. Musa) 25: 394 (1820); Cheesm., Kew Bull. 1948: 17 (1948); Moore, Bailey 5: 176 (1957); Li, Fl. Rep. Pop. Sin. 16(2): 9 (1981). --- *M. banksii* F. v. Muell., Fragm. IV, 132 (1863-64); Baker, Ann. Bot. 7: 217 (1893).--- *M. cavendishii* Lamb. ex Paxton, Mag. Bot. 3: 51 (1837).--- *M. chinensis* Sweet, Hort. Brit. ed 2, 596 (1839).--- *M. chliocarpa* Baker--- *M. consociata* Nakai, Bull. Tokyo Sc. Mus. 22: 16 (1948).--- *M. corniculata* Lour.--- *M. humilis*

Perrot., Mem. Soc. Linn. Paris 3: 131 (1825).--- *M. megalocarpa* Nakai Bull. Tokyo Sc. Mus. 22: 17 (1948).--- *M. minor* Nakai, Bull. Tokyo Sc. Mus. 22: 18 (1948).--- *M. mirabilis* Nakai, Bull. Tokyo Sc. Mus. 22: 17 (1948).--- *M. nana* Lour., Fl. Cochinch. 644 (1790)--- *M. prematura* Nakai, Bull. Tokyo Sc. Mus. 22: 16 (1948).--- *M. rhinocerotis* Kurz., J. Agr. & Hort. Soc. Ind. 2, ser. V: 14 (1878). --- *M. sapientum* L., Sp. Pl. 1303 (1759), p.p.--- *M. sinensis* Sagot ex Baker, Ann. Bot. 7: 209 (1893); Li. Fl. Rep. Pop. Sun. 16(2): 9 (1981).--- *M. zebrina* van Hout. ex Planch., Fl. Serr. 10: 223, tab. 1061-62 (1854-55).

Cultivar. SUMATRA. West Sumatra: Lubukalung, north of Padang, Nov. 26, 1980, M. Hotta 25999 (cultivated diploid, KYO). BORNEO. Sabah: Kpg. Malutut, north of Tenom, alt. 300 m, Dec. 20, 1968, S. Kokawa & M. Hotta 2323 (cult. triploid, KYO).

Cultivar. 'Pisang seribu'(= *M. chiliocarpa* Backer) JAVA: Cult. in Hort. Tio Tek Hong (Photograph)(BO)

Subsp. halabanensis (Mejer) M. Hotta, comb. nov.--- *M. halabanensis* Meijer, Acta. Bot. Neerl. 10: 250 (1961).

SUMATRA. North Sumatra: Pematang Siantar, March 9, 1958, W. Meijer 7264 (peduncle glabrous)(L); Goerash Batoe, Asahan, H. S. Yates 1690 (peduncle glabrous ?)(L, BO). **West Sumatra:** Mt. Sago near Pajakumbuh, Jan. 21, 1958, W. Meijer 7463 (L, type material, peduncle glabrous); W. Sumatra: Anei canyon near Air Mantyir, Oct. 31, 1958, W. Meijer 7534 (peduncle glabrous)(L); Ulu Gadut, 400-600 m, Jan. 24, 1981, M. Hotta 26128 (KYO, 5 sheets); Bt. Gajabuih, Ulu Gadut, 400-650 m, Jan. 6, 1981, M. Hotta 25853 (KYO, 2 sheets), Feb. 11, 1981, M. Hotta & H. Okada 60 (KYO, 4 sheets); eastern foot of G. Sago, 700 m, Aug. 28, 1983, M. Hotta 26599 (KYO, 2 sheets); around Anai water all, 300-400 m, Jan. 11, 1981, M. Hotta 26153 (KYO, 4 sheets).

Subsp. malaccensis (Ridley) Simmonds, Kew Bull. 1956: 466 (1957). --- *M. malaccensis* Ridley, Trans. Linn. Soc. ser. II. 3: 385 (1893), Fl. Mal. Penins. 4: 294 (1924).--- *M. truncata* Ridley, J. Fed. Malay St. Mus. 4: 80 (1920). Fl. Mal. Pennins. 4: 294 (1924).

THAILAND. Kwae Noi: near Neechey, N. Wangka, April 29-May 5, 1946, Kostermans 265 (L); near Neeckey, near Wanglea, May 10, 1946, Kasin 363 (L)(det. Musa rubra Wall. ex Back.). **Penislar:** Khao Pra Tao Wild Life Research Center, Dec. 29, 1983, N. Fukuoka & M. Ito T-35673 (KYO).

MALAYA. Derlis: Bt. Besih Hangah, Nov. 17, 1927, M. R. Henderson 22883 (=> *M. acum.* subsp. *siamea* det. by Allen)(BO). **Wellesley:** Caledonia Est., Nibong Tebal, Dec. 12, 1949, Holttum 37390 (L). **Malacca:** Tampin, June 17, 1921, I. H. Burkill 6414(BO); Jungles of Malacca, Sept. 18, 1981 Ridley (type material ?)(L). **Pahang:** Pulau Tiomau, Ayer Surin, 1000 ft., May 18, 1927, Md. Nur 18947(BO); Ginting Highland, above G. Sempah, 3000 ft., July 6, 1972, B. S. Stone 10822 (fruits rather short, peduncle hairy)(L); Richmond Bungalow, Fraser's Hill, 4000 ft., A. Sha & M. Noor M.S.943 (L)(det.

M. zebrina = *M. acuminata* subsp. *malaccensis* '*microcarpa*' type fruit); Cameron highland, May 23, 1936, R. E. Holttum 31410 (L, BO); Fraser's hill, 4000 ft., Aug. 12, 1937, Corner Musa-1 (BO); Tembeling, April 24, 1931, R. E. Holttum 24714 (BO); Wellesbay, Nibong Tebol, Dec. 12, 1940, M. R. Henderson 37390 (BO); Ulu Brang, 800 ft., July 1937, L. Mosey & Kiah 33733 (BO); Raub, Feb. 29, 1936, E. J. H. Corner 30773 (L, BO). **Kedah:** Ulu Lugong, March 23, 1938, Kiah 35007 (L, BO, SAN). **Kemaman:** Ulu Ayam, 500 ft., Nov. 5, 1935, Corner 30269 (fruit '*microcarpa*' type) (L).

JAVA. Blume 2282b (L), 2271a (L), 2271a (L). Java: Cult. in Mt. Gard. Tjibodas (diploid fertile), Dec. 7, 1960, A. Kostermans 261 (L, BO); Batavia, Sept. 15, 1918, C. A. Backer 26021 (BO); Taaioeroean, Djatiroto, May 16, 1913, C. A. Backer 7906 (BO); G. Tikoekoer, March 30, 1914, C. A. Backer 12866 (L, BO); Banjoemas, Sept. 1919 (BO); Panggerango, March 19, 1904 (BO); Mt. Salak, 1904, Valetone s.n. (BO), Sept. 1919, Vrietyk s.n. (BO); Pad Smeroehoeve, near Sendore, Pasoeroean, June 12, 1935, van Steenis 7286 (BO); G. Aseupan, Batavia, July 2, 1935, van Steenis 5425 (BO); G. Taroengpaeng, Buitenzorg, Dec. 22, 1930, R. C. Backhaizen v. d. Brink 7689 (BO); Pasoeroean (Java), June 9, 1918, Backer 14254 (BO); G. Salak, Batavia, Aug. 14, Vrotyk, s. n. (BO); Tjibodas, Jan. 29, 1925, M. L. A. Bruggeman 526 (BO); Semarang, 50 m, March 12, 1920, J. G. B. Beumee 5088 (BO); Rembang, 100 m, Aug. 1920, J. G. B. Beumee 5218 (BO); Bantam, Apr., 1915, S. H. Koorders 41041-b (BO); Tjibodas, Preanger, April, 13, S. H. Koorders 42199-b (BO), 42853-b (BO); Madjenang, Jan. 23, 1915, Backer 18688 (= *M. cerifera* sensu Backer)(BO); G. Sanggaboewana, N. van Tjiandjoer, 100 m, April 1, 1918, Backer 23921 (BO); Mt. Pangerango, Psir Datar, March 15, 1904, Backer 19 (L); Djasinga, Batavia, Sept. 15, 1918, Backer 26021 (L); Besoeki, O. helling G. Taroeb, 1400 m, July 12, 1938, van Steenis 1938 (peduncle hairy, fruits short bulbisiana type) (L); G. Gede, 1300-1500 m, May 15, 1981, H. Okada 3441 (KYO); ; G. Salak, Buitenzorg, 800-1200 m, Sept 27, 1913, Backer 9401 (L, BO).

BALI. West mountains above Bungabungan villege, 500 m, June 22, 1976, W. Meijer 10618 (BO).

Subsp. *microcarpa* (Becc.) Simmonds, Kew Bull. 1956: 467 (1957).--- *M. microcarpa* Becc. Nelle For. di Borneo 623 (1902).

BORNEO. Sarawak: Bt. Raya, 3rd div., March, 18, 1963, P. S. Ashton 17773 (SAR, K), Jan. 21, 1972, T. C. Whitmore S27325 (SAR); Ulu Tubau, Bintulu, April 8, 1963, P. S. Ashton S17709 (SAR, K); Sg. Bok, a branch of Tinjar river, 4th div., 50-100 m, March 11, 1969, M. Hotta 6119 (KYO, 2 sheets). **Sabah:** Mt. Malutut, Tenom, 300 m, Dec. 20, 1968, S. Kokawa & M. Hotta 2322 (KYO, 3 sheets), Dec. 21, 1968, S. Kokawa & M. Hotta 2400 (KYO, 4 sheets); along the road between Babagon and Mts. Alab, 300 m, Dec. 15, 1968, S. Kokawa & M. Hotta 2299 (KYO), 2301 (KYO); Menetendok river, Mt. Kinabalu, 2900 ft, March 24, 1933, C. E. Carr 26737 (SING); H.Q. and Tenumpok, 1500-1650 m, Jan. 4, 1969, S. Kokawa & M. Hotta 3110 (KYO, 4 sheets); vicinity of Telupid, Oct. 24, 1968, S. Kokawa & M. Hotta 432

(KYO, 2 sheets); Kalabakan, Tawau, June 7, 1959, W. Meijer SAN19269 (SAN); Sg. Pangi, alt. 150 m, Dec. 1968, 24, S. Kokawa & M. Hotta 2659 (KYO); Batu 2 Kiulu, Tampanuli, Aug. 29, 1959, W. Meijer SAN19761 (SAN).

Subsp. *sumatrana* (Becc.) = subsp. *malaccensis* ? --- *M. sumatrana* Becc. ex Andre, L'ill. Hort. 27: 37, pl. 375 (1880); Ridley, Kew Bull. 1926: 90 (1926).

SUMATRA. Aceh: Boer ni Biae, Aug. 31, 1934, van Steenis 3950 (BO). **North Sumatra:** Sibolangit Garden, plant from Sibajak, Sept. 7, 1927, Lörzing 11919 (det. to *M. zebrina*, peduncle dense hairy, fruit 'microcarpa type?')(L). **West Sumatra:** G. Talang, 1900 m, Nov. 8, 1918, Bunnemeijer 5559 (BO); Singalan, alto Padang, 1878, O. Beccari 148 (L); G. Singalang, 2300 m, May 27, 1918, Bunnemeijer 2655 (BO); G. Kerinci, 2200 m, Bunnemeijer 10346 (BO); Krinci pick, 500 m, March 4, 1920, Bunnemeijer 8426 (BO); Sg. Kering, G. Kerinci, March 3, 1954, A. H. G. Alston 14120 (BO); Sibiroet isl., Sept. 23, 1924, Iboet 250 (BO). **South Sumatra:** Aer Telanai, Palembang, 450 m, Nov. 11, 1929, van Steenis 3950 (BO). Lampong: De giesting, Lampong, 500 m alt., Oct. 1956, Landbouwconsulent Tandjoengkara s.n. (L).

Subsp. *rubrobracteata* M. Hotta, nom. nud. (subsp. nov.)

SUMATRA. West Sumatra: Sg. Dareh and Sijunjung, 100-200 m, Aug. 20, 1981, Hotta, Okada & R. Tamin 105 (KYO, 5 sheets).

Subsp. ?

BORNEO. South Kalimantan: Djaru Dum, Muara Uja, alt. 100 m, Nov. 18, 1971, J. Dransfield & D. Saerudin 2218 (BO, L, K).

Musa balbisiana Coll., Men. Reale Accad. Sc. Tor. (Gen. Musa) 25: 56 (1820); Cheesm., Kew Bull. 1948: 11 (1948); Simmonds, Kew Bull. 1956: 472 (1957); More, Baileya 5: 177 (1957); Li, Fl. Rep. Pop. Sin. 16(2): 8 (1981). --- *M. brachycarpa* Backer, Handb. Pl. Jav. 3: 135 (1924).--- *M. troglodytarum* L., Sp. Pl. ed 2, 1478 (1763), p.p.--- *M. liukuensis* Makino ex Kuroiwa, Bot. Mag. Tokyo 14: 141 (1900).--- *M. textilis* sensu Li, Fl. Rep. Pop. Sin. 16(2): 13 (1981), non Nee.

SIKKIM. Sikkim, J. D. Hooker 5 (L).

THAILAND. E. Prov. Nakhorn Ratchasima: from foot of Khao Khieo to Wang Takrai waterfall, Kaho Yai, 200-600 m, Nov. 21, 1982, H. Koyama et al. T-30187 (KYO); Phu Kradung, 900-1200 m, Oct. 30, 1984, G. Murata et al. T-40223 (KYO).

JAVA. Res. Bezoeki: Djember, Aug. 8, 1919 (BO), ibid. Sept. 1919, s.n. (BO); Kedatan O., Djember, Aug. 8, 1919 (type material of *M. brachycarpa* det by Becker, peduncle glabrous, fruit ovoid *M. balbisiana* type)(L); Cult. in Tuin Musa Econ. Bot. Backer 954 (L, BO)(peduncle glabrous, flower axis slightly hairy); G. Taroeb, Besoeki, 1400 m, July 12, 1938, van Steenis 10731 (as *M. brachycarpa*, peduncle glabrous)(BO).

JAPAN. Kagoshima: Miyanouratajiri (cult.), Yakushima, Sept. 8, 1909, Y.Nakano s.n. (KYO), (Cult.), Sept. 1921, G. Koidzumi s.n.(KYO); Kagoshima, Aug 29, (M.44), Z. Tashiro s.n. (KYO); Yamakawa, Aug. 9, 1924, Z. Tashiro s.n. (KYO).

Musa basjoo Sieb. et Zacc., Vewrh. Batav. Gen. 12: 18 (1830); Backer, Ann. Bot. 7: 210 (1894); Moore, Bailey 5: 179 (1957); Li, Fl. Rep. Pop. Sin. 16(2) 12 (1981).

JAPAN. Hiroshima: Aki, Aug. 31, 1917, N. Kinashi s.n.(KYO). **Osaka:** Settsu, Aug. 7, 1918, N. Kinashi s.n. (KYO). **Kyoto:** cult. in Bot. Gard. Kyoto Univ., Oct. 16, 1972, G.Murata 22204 (6sheets, KYO). **Kumamoto:** Takenokawa, Itsukimura, 300 m, Nov. 3, 1967, M. Tamura & M. Hotta 261 (2 sheets, KYO).

Musa beccarii Simmonds, Kew Bull. 14: 200 (1960).

BORNEO. Sabah: Sandakan, May 19, 1951, A. Cuadera 3022 (L), April 1, 1951, H. G. Keith 1637 (L, BO, 2 sheets, SAN, SING), June 13, 1950, Kadir bin Abdul 2852 (L, SAN, SING), July 2, 1949, A. Cuadra 2347 (L, SING), May 22, 1950, Agama et Kadir 2826 (L, BO, 2 sheets, SAN, SING); M. 15.5, Sandakan, JFeb. 4, 1938, Puasa 8843 (SING); M. 17, Sandakan, June 9, 1935, Puasa 4912 (SING); along Kelapid Road, Labuk & Sugut, about 60 km west of Sandakan, Oct. 18, 1968, S. Kokawa & M. Hotta 30 (KYO, 3 sheets); Goman-tong cave, Sandakan, Oct. 31, 1968, S. Kokawa & M. Hotta 532 (KYO); Tame-gang Timber Camp, Kinabatangan, Nov. 23, 1968, S. Kokawa & M. Hotta 1511 (KYO, 2 sheets); vicinity of Telupid, Labuk & Sugut, Oct. 24, 1968, S. Kokawa & M. Hotta 433 (KYO, 2 sheets); Lun Maanggis, Sandakan, Aug. 2, 1949, Cuadra A2347 (SAN, 2 sheets); Sapayaga F. R., Sandakan, May 24, 1949, Cuadra A2285 (SAN, 2 sheets), 2288(SING); Kori, Kinabatangan, Nov. 1, 1948, Cuadra A2154 (SAN, 2sheets, SING); Lower Sugut, Sandakan, Oct. 4, 1961, W. Meijer 27640 (2 sheets, SAN); Mile 17, Labuk Road, Sandakan, March 25, 1963, Makmin Amir 35603 (SAN), Aug. 22, 1972, Leopold Madani SAN75793 (SAN, 2 sheets); Mile 16, Labuk Road, Sandakan, Aug. 6, 1959, W. Meijer SAN19679 (SAN, 4 sheets); Mamahat Camp, Sandakan, Nov. 22, 1962, Jawanting SAN32635 (SAN, 2 sheets); Suan Lamba, March 5, 1941, Taloen 10793 (SING).

Musa borneensis Becc., Nelle For. di Borneo 622 (1902); Cheesm., Kew Bull. 1950: 151 (1950).

BORNEO. Central Kalimantan: Upper Katingan river, 200 m, Dec. 23, 1982, Mugea 4367 (L).

M. cf. bornennsis Becc.

BORNEO. Sabah: Mile 16, 1/2 Labuk Road, Aug. 6, 1959, W. Meijer 19679 (L).

Musa campestris Becc., Nelle Foreste di Borneo, 622, fig. 79 (1902); M.

Hotta, J. Jap. Bot. 42: 350 (1967).

BORNEO. Sarawak: G. Gading, Lundu, 1st div., Sept. 21, 1974, James et al. S35094 (SAR); Batu Lawi, Kalabit highland, Marudi, 4th div., Aug. 10, 1963, H. P. Fuchs 21261 (L); Batu Lawi, Kelabit Highland, 1250 m, April 29, 1970, Nooteboom & P. Chai 2294 (L, 3 sheets, SAR); Sg. Bok, a branch of Tinjar river, alt. 50-100 m, 4th div., March 11, 1969, M. Hotta 6120 (KYO). **Brunei:** Bt. Peradayan, Brunei Tembrong, 300 m, Jan. 26, 1964, M. Hotta 13657 (KYO); Lake Merimbun, Tutong, Dec. 10, 1963, M. Hotta 12460 (KYO, 3 sheets) (flor. ax. covered with dense hair, prob. different species?). **Sabah:** along the road between Babagon and Mt. Alab, Penampang, 150 m, Dec. 15, 1968, S. Kokawa & M. Hotta 2298 (KYO, 2 sheets); Kimanis F. R., near Mandahan, May 5, 1963, W. Meijer SAN36284 (SAN, 2 sheets); Halogilat, Mile 68, Beaufort, May 19, 1951, A. Cuadra A3022 (SAN); Road to Tampanuli, Mile 7, Aug. 29, 1959, W. Meijer SAN19766 (SAN, 4 sheets); Beaufort, M. 80, Halogilat, May 19, 1951, Alenadra 3022 (SING). **Kalimantan Timur:** from Ruan Ruwan to Pa Poon, north of long Bawan, Krayan, 1150 m, July 19, 1981, Kato, Okamoto & E. B. Walujo B-7571 (KYO).

Musa coccinea Andr., Bot. Reposit. t. 47 (1799); Baker, Ann. Bot. 7: 220 (1894); More, Baileya 5: 181 (1957); Li, Fl. Rep. Pop. Sin. 16(2): 14 (1981).--- *Musa uranoscopos* sensu Lour., Fl. Cochinch. 645 (1793), non L.

JAVA. Cult. in Hort. Tjibodas, 1400 m, May 21, 1914, Lörzing 2339 (BO); ibid, 1918, s.n. (BO), ibid. Sept. 1919, s.n. (BO).

CHINA. Kwangtong: Cantong-Kau Iu Fong, cult., May 19, 1925, F. A. McClure 13425 (KYO); from Teng Oo Mt., cult. in Lingnan Herb. Plot, McClure 13822 (KYO).

JAPAN. Cult. in Green House of Kyoto Univ., June 22, 1972, G. Murata s.n. (KYU).

Musa flavida M. Hotta, J. Jap. Bot. 42: 348, figs. 1-J~M, pl. VII-1. (Iban): Engkadan

BORNEO. Sarawak: Ulu Tubau, Bintulu, April 8, 1963, P. S. Ashton S17709 (SAR, 2 sheets); Sg. Bok, a branch of Tinjar river, 4th div., March 11, 1969, M. Hotta 6117 (KYO, 4 sheets). **Brunei:** along Sg. Laquan, Brunei Tembrong, 50-300 m, Jan. 31, 1964, M. Hotta 13876 (KYO, 3 sheets, holotype of *M. flavida* M. Hotta). **Sabah:** along the road between Babagon and Mts. Alab, 500 m, Dec. 15, 1968, S. Kokawa & M. Hotta 2301 (KYO, 5 sheets); along Sg. Pango, Tenom, 150 m, Dec. 24, 1968, S. Kokawa & M. Hotta 2659 (KYO, 3 sheets); near Sg. Mawang, Tawau, Nov. 9, 1968, S. Kokawa & M. Hotta 818 (KYO, 5 sheets); Sardong, Tawau, July 12, 1959, W. Meijer SAN19522 (SAN). **Kalimantan Timur:** Sekatak, west of Tarakan, Feb. 2, 1979, G. Murata, K. Iwatsuki, M. Kato & Y. P. Mogeia B-3035 (KYO, 6 sheets, BO).

Musa gracilis Holttum, in Cheesm. Kew Bull. 1950: 154 (1959); Simmonds, Kew Bull. 1956: 488 (1957). (= ? *M. violascens*)

N. THAILAND. S of Mae Saring, 300 m, July 8, 1968, Kai Larsen, T.

Santisuk & E. Warncke 2258 (L).

MALAYA. Kemaman: Ulu Bendong, Kajang, 500 ft., Oct. 30, 1935, E. J. H. Corner 30056 (type collection)(L).

Musa hirta Becc., Nelle Foreste di Borneo, 624, fig. 78 (1902); M. Hotta, J. Jap. Bot. 42: 351 (1967)

BORNEO. Sarawak: Bt. Raya, 3rd div., March 18, 1963, P. S. Ashton S17774 (SAR, K), Jan. 21, 1972, T. C. Whitmore S27324 (SAR); Rajang River, near Belaga airfield,, Kapit, 3rd div., Aug. 21, 1958, M. Jacobs 5216 (L); Minah Camp, Bintulu, 4th div., 30-80 m, Oct. 13, M. Hirano & M. Hotta 37 (KYO, 2 sheets), Oct. 13, 1963, M. Hotta 14096 (KYO, 2 sheets).

Musa monticola M. Hotta, nom. nud. (sp. nov.)

BORNEO. Sabah: Between HQ. and Tenumpok, Mt. Kinabalu, 1500-1650 m, Jan. 4, 1969, S. Kokawa & M. Hotta 3071 (KYO, 3 sheets); Sg. Mesilau, Mt. Kinabalu, 1600-1800 m, S. Kokawa & M. Hotta 4399 (KYO); Kiau View Trail, Kinabalu, 1600 m, Jan. 17, 1969, S. Kokawa 6235 (KYO); between Mamut ridge and Ulu Berambung, Kinabalu, 1600-1800 m, Feb. 19, 1969, S. Kokawa & M. Hotta 5835 (KYO, 3 sheets); Pinosok plateau, 1600-1700 m, Jan. 22, 1969, S. Kokawa & M. Hotta 4213 (KYO, 3 sheets); G. Alab, 1600-1930 m, Dec. 12, 1968, S> Kokawa & M. Hotta 1949 (KYO, 3 sheets).

Musa muluensis M. Hotta, J. Jap. Bot. 42: 345 (1967).

BORNEO. Sarawak: Sg. Payau, foot of G. Mulu, 50-100 m, March 22, 1964, M. Hotta 15260 (KYO, 3 sheets, holotype of *M. muluensis* M. Hotta).

Musa pigmaea M. Hotta, nom. nud. (sp. nov.)

This new species closely related to *M. beccarii*.

BORNEO. Kalimantan Timur: Samarinda, Jan. 21, 1979, Murata, Kato & Y. P. Moge B-235 (KYO, 4 sheets, BO), B-243 (KYO, 2 sheets, BO), Dec. 25, 1978, Murata, Iwatsuki, Kato & Y. P. Moge B-163 (KYO, 4 sheets).

Musa salaccensis Zoll., Syst. Verz. Ind. Archip. 74; Backer, Ann. Bot. 7: 220 (1894).

SUMATRA. Aceh: Kutatjane, March 20, 1954, A. H. G. Alston 14544 (BO). **North Sumatra:** Bandar baroe, 950 m, Dec. 30, 1916, Lörzing 4617 (BO); Sibolangit, 500 m, Oct. 20, 1927, Lörzing 12211 (L, BO). **Riau:** Moeara Oadjanki, April 11, 1936, P. Buwalda 6505 (BO). **West Sumatra:** Ramboetan, 1000 m, June 27, 1918, Bünnemeijer 3428 (BO); G. Singalang, Bünnemeijer 2655 (BO); G. Merapi, 1150 m, Sept. 23, 1918, Bünnemeijer 4898 (Minang. name=Pisang karo)(BO), ibid. Sept. 27, 1918, Bünnemeijer 4966 (BO); G. Malintang, 1200 m, July 20, 1918, Bünnemeijer 3801 (BO); G. Talamau, 800 m, April 28, 1917, Bünnemeijer 509 (BO); G. Talang, 1919, Bünnemeijer 5559 (BO); G. Kerinci, March 4, 1954, A. H. G. Alston 14236 (BO); G. Kerinci, 2300 m, April 7, 1920, Bünnemeijer 9176 (BO); Mt. Sago, Halaban, 600-800 m, May 12, 1957, W. Meijer 5788 (leaf is *M. halabanensis* ?)(L); Ayer Man-

cior, 360 m, Agst. 1878, Beccari 534 (L); Batang Palupuh, Bkittingi, 800-1000 m, Nov. 25, 1980, M. Hotta 25063 (KYO, 3 sheets); Ulu Gadut, 400-6750 m, Jan. 6, 1983, Hotta, Okada & Ito 258 (KYO, 2 sheets), Nov. 30, 1980, M. Hotta 25178 (KYO, 4 sheets), 250 m, nov. 29, 1980, M. Hotta 25090 (KYO); eastern foot of G. Sago, Aug. 28, 1983, M. Hotta 26598 (KYO); Batang Hari, Sg. Dareh, 50-100 m, Aug. 19, 1981, Hotta, Okada & R. Tamin 70 (KYO, 2 sheets).

KRAKATAU. 800 m, July 11, 1929, van Leeuwen-Reijnvaan 12632 (BO).

JAVA. Sin. Loc. (H.L.B. 909,107-261, 262, 263, 264, 265)(909,107-252 (2271b)(L), 267, 266, 257, 251, 148)(L); G. Salak, Aug. 1919, Vrolik s.n. (BO), *ibid.* 500 m, April 9, 1923, Backhuizen van den Brink 6591 (L, BO); G. Soenarari, Buitenzorg, 1913, Backer 6355 (L, BO); G. Liman, Bantam, June 14, 1912, S. H. Koorders 41561 b (452)(BO); S. Botoe, Batavia, Aug. 31, 1918, C. A. Backer 25742 (BO); Pr. Gombong (Lombok), 1100 m, Sept. 11, 1917, C. A. Backer 23007 (L, BO), 23043 (BO); Lampegan, 900 m, July 22, 1914, C. A. Backer 14796 (L, BO); G. Karang, W. Preauper, 1000-1300 m, Dec. 29, 1937, Buwalda 3631 (BO); Tjitalahab, near Bodjonglopang, W Java, 640 m, Feb. 14, 1959, L. R. Lanjouu 22 (BO); G. Trarang, Gantoengan, Poentjak, 1912 (BO), Backer 6298 (BO); Tjimonyet, Lengkong, Sukabumi, 600 m, Nov. 15, 1970, J. Dransfield 1056 (BO); Djampang, W. Java, 600 m, Sept. 27, 1970, Kostermans 23812 (L). Bezoeki: Wjember, Sept. 1919, Baker (L). Tjitalahab nera Bodjonglopang, W. Java, 649 m, Febr. 14, 1959, L. R. Lanjouu 22 (L); G karang, between Tiamplika and Soekanegara, 1000-1300 m, Nov, 1942, van Steenis 3631a (L).

Sin. Loc. Kole: Takaka, Feb. 10, 1894, Koorders 15115HB (BO).

Musa textilis Nee, *Annal. Cienc. Nat.* 4: 123 (1801); Baker, *Ann. Bot.* 7: 211 (1894); Cheesman, *Kew Bull.* 1949: 267 (1949); Moore, *Baileya* 5: 185 (1957); M. Hotta, *J. Jap. Bot.* 42: 345 (1967), *M. cf. textilis*.--- *M. mindanensis* Rumph. ex Miq. *Fl. Ind. Bat.* 3: 588 (1855).--- *M. silvestris* Coll., *Men. Reale Accad. Sc. Tor. (Gen. Musa)* 25: 58 (1820). --- *M. abaca* Perr., *Mem. Soc. Linn. Paris* 3: 130 (1825).

BORNEO. Sarawak: Rajang river, near Belaga airfield, Belaga, Kapit, Sept. 6, 1958, M. Jacobs 5448 (L); Sg. Bok, a branch of Tinjar river, 50-100 m, March 10, 1969, M. Hotta 6101 (KYO, 3 sheets). **Brunei:** Labi to Bt. Puan, 50-100 m, Dec. 25, 1963, M. Hotta 13017 (KYO, 5 sheets). **Sabah:** Mile 2.5 Kiulu, Tampanuli, Aug. 29, 1959, W. Meijer SAN19763 (SAN, 2 sheets); East of Tamapanuli, Banana Road, Sept. 7, 1959, W. Meijer SAN19880 (SAN); north of Tenom, Nov. 13, 1968, S. Kokawa & M. Hotta 991 (KYO, 3 sheets, cultivated in plantation); Mt. Malutut, Tenom, 300 m, Dec. 21, 1968, S. Kokawa & M. Hotta 2403 (KYO, 2 sheets), 300 m, Dec. 20, 1968, S. Kokawa & M. Hotta 2319 (KYO, 2 sheets); Poring to Kpg. Nalumad, 600-500 m, Feb. 6, 1969, S. Kokawa & M. Hotta 5255 (KYO); Babagon and Mt. Alab, 300 m, Dec. 15, 1968, S. Kokawa & M. Hotta 2303 (KYO), 2302 (KYO), 900 m, Dec. 15, 1968, S. Kokawa & m. Hotta 2300 (KYO, 3 sheets); from Agr. Exp. Station to Sg. Kalangaan and Kpg. Tagudon, Mt. Alab, 1100-1500 m, Dec. 13,

1968, S. Kokawa & M. Hotta 2154 (KYO, 2 sheets); HQ. and Tenumpok, 1500-1650 m, S. Kokawa & M. Hotta 3096 (KYO, 7 sheets); from Poring to Kpg. Nalumad, 600-500 m, Feb. 6, 1969, S. Kokawa & M. Hotta 5255 (KYO).

JAVA. Cult., Batavia, Koorders 4282HB (BO); cult. Leehoogte, 260 m, Dec. 1943, H. C. D. de Wit s.n. (BO); cult. in Hort. Westendorp, Sept. 22, 1919, s.n. (BO)

PHILIPPIN. Luzon: Mt. Bulusan, Aug. 1916, A. D. E. Merrill 17106 (BO); Mt. Maquiling, Laguna, March 1915, Merrill Sp. Blanco 653 (Topotype of *M. triglodytarum* var. *textoria* Blanco)(BO). Negros: Mt. Cuernos, June 1908, A. D. E. Elmer 10419 (Cult.)(BO).

CELEBES. Minahasa: Manado, Dec. 13, 1906 (BO).

Musa tuberculata M. Hotta, J. Jap. Bot. 42: 347, figs. 1-H & I, pl. VII-3 (1967).

BORNEO. Brunei: Sg. Lacquan, Brunei Tembrong, 50-300 m, Jan. 31, 1964, M. Hotta 13878 (KYO, 2 seets, holotype of *M. tuberculata* M. Hotta).

Musa violascens Ridl., Trans. Linn. Soc. 2, ser. III: 384 (1893); Simmonds, Kew Bull. 1956: 487 (1957).

MALAYA. Negri Sembilan: G. Angri, west side, Nov. 21, 1923, Md. Nur 11567 (BO). **Kelantan:** Kuala Sameh, Feb. 22, 1924, no. 12135 (BO). **Pahang:** Jarantut, Feb. 28, 1936, R. E. Holttumm 30766 (BO); Fraser hill, 4000 ft., Aug. 29, 1923, M. R. Henderson 11332 (BO); along Girdle Rd., Fraser's Hill, 4000 ft., Aug. 19, 1960, M. Sha & M. Noor M.S.936 (L); Jerantut, feb. 28, 1936, M. R. Henderson 30466 (L); Rerer Tahan, Ridley s.n. (type material ?)(L). **Selangor:** Ulu Gombak, 1400 ft., July 6, 1972, B. S. Stone 10821 (L). **Johor:** Kuala Sedili New Road, 20 ft., April 25, 1960, Burkill HMB.2240 (L).

Check-list of cultivated bananas of West Sumatra

AA group: Pisang lidi, Pisang dasung, Pisang mas

AAA group: Pisang rajah sarai, Pisang ambon randah, Psang gadang,
Pisang masak mudoh, Pisang buai, Pisang masak samalamu

AAB group: Pisang manis, Pisang raman, Pisang lotang, Pisang cubada

ABB group: Pisang batu

BBB group: Pisang batu medang