

A CENSUS OF PALMS CULTIVATED IN THE INDIAN BOTANIC GARDEN,
HOWRAH

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Botanical Survey of India, Howrah

ABSTRACT

This paper deals with the palms cultivated in the Indian Botanic Garden, Howrah. Altogether 109 species of palms have been enumerated from this garden of both economic and ornamental species. The accompanying map of the Garden will help in locating the different species of palms.

The Indian Botanic Garden, Howrah, situated near sea level (4.5 m alt.) in West Bengal. It comprises an area of 109.29 hectares, the approximate annual rainfall is 1536 mm and temperature ranges from 21°C to 31°C.

A population of more than 12000 plants is spread over the landscape. Among others, palm plays a dominant part in enhancing the beauty and scientific aspect of the garden.

The main object of bringing out this list of palms cultivated in the Indian Botanic Garden is to give an idea of the palm wealth of this garden after nearly two centuries of its existence. We get references of palm collection of this garden from the works of Griffith (1844), Gage (1912), Blatter (1926), Sen & Naskar (1965), Benthall (1946), Basu (1969). Blatter (1926) includes among others the history of introduction of *Lodoicea maldivica* the giant *Coco-de-mer* palm into this garden.

Many species which were earlier recorded have died, many of them replaced and at the same time many were newly introduced and established in the garden. With this continuous process many species are not found in their earlier mentioned localities and in many cases their previous names are

no longer in use. Therefore, an up-to-date census providing recent botanical names and synonyms, country of origin, their locations in the garden and habit were felt necessary. The existence of *Nypa fruticans* as mentioned in earlier records is no longer found in the Garden, but this beautiful estuarine palm is included in our list as it happens to grow luxuriantly at the Governor's residence Garden in Calcutta a few miles only from this garden on the other side of river Hooghly.

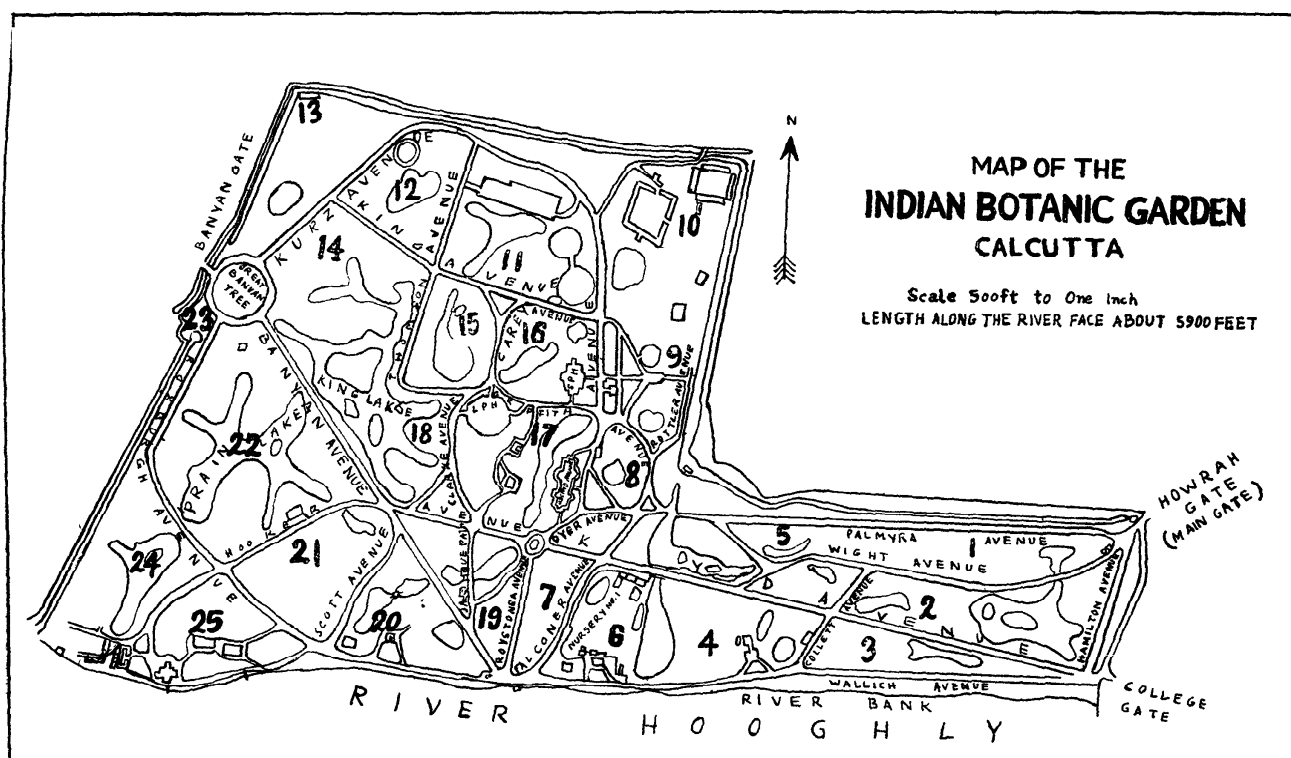
For preparing this list valuable guideline was taken from Moore Jr. (1963). The accompanying map of Indian Botanic Garden showing 25 working divisions corresponds to the division numbers mentioned at the bottom of each species to find their location.

The abbreviations used in this article are as follows:

DN=Divisions; F=Flowering and fruiting; C=Clustering; S=Single stemmed; P=Pinnate leaved; PA=Palmete leaved; NF=Not yet flowering; PT=Potted plant; LPH=Large Palm House; SPH=Small Palm House; OH=Orchid House; N=Nursery No. 1; RB=River bank.

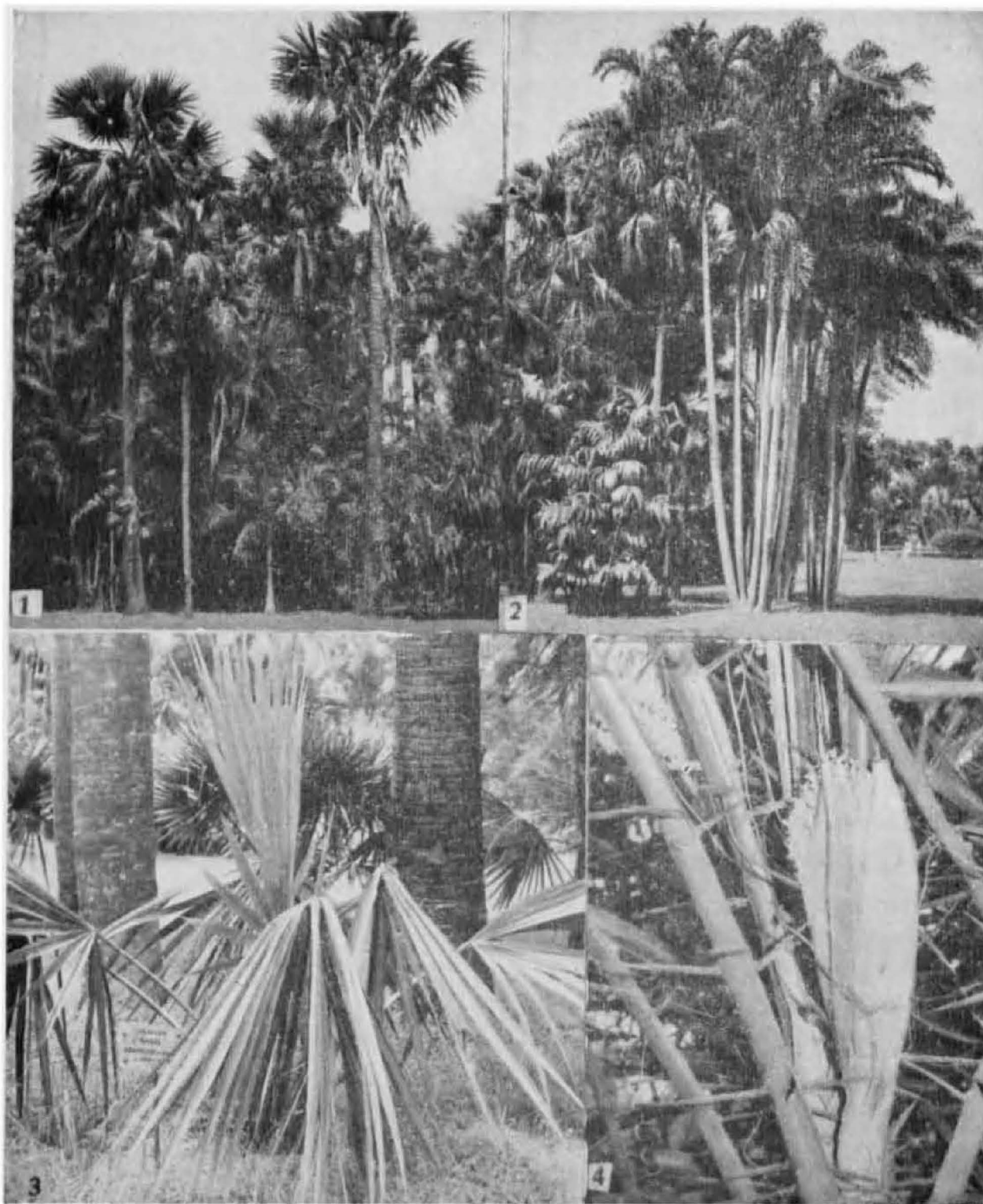
The specimens cited are present in Herb. CAL.

Accelorrhaphe wrightii (Griesebach et Wend-



- land) Wendland ex Beccari, *Copernicia wrightii* Griesbach et Wendland. *Paurotis wrightii* (Griesbach & Wendland) Button
South Florida, West Indies and Central America. Lane 10908, Calder 5297, Basu 279 (March 1975).
DN-4, 5, F.C. PA.
- Actinorhysis calapparia** (Blume) Wendland et Drude ex Scheffer, *Areca calapparia* Blume
Malaya. Basu 246, 410 (March 1974).
DN-5, 6, NF. S.P.
- Aiphanes acanthophylla** (Martius) Burret, *Bactris acanthophylla* Martius
Puerto Rico. Basu 10 (1973).
DN-17, LPH. F.S.P.
- A. caryotaefolia** (Humboldt, Bonpland et Kunth) Wendland, *Martinezia caryotaefolia* Humboldt, Bonpland et Kunth.
Northern South America. Gage 11164 (Jan. 1912), Basu 444 (April 1975).
DN-5, 6, F.S.P.
- Archontophoenix alexandrae** (Mueller) Wendland et Drude, *Ptychosperma alexandrae* Mueller.
Eastern Australia. Basu 203 (June 1974).
DN-5, 17, N.NF S.P.
- A. cunninghamiana** (Wendland) Wendland et Drude, *Ptychosperma cunninghamiana* Wendland, *Seaforthia elegans* Hooker
Eastern Australia. Basu 210, 266 (August, 1974).
DN-8, N.S.P.
- Areca catechu** Linnaeus
Tropical Asia. IBG. A/c No. 5201.
DN-1, 4-7, 17, 22, 24, 25, F.S.P.
- A. macrocalyx** Zippelius ex Blume
New Guinea. Basu 217 (August 1974).
DN-6, N. NF. Pt.
- A. triandra** Roxburgh
India, Malaya. Basu 258, IBG A/c No. 5202 (Sept. 1975).
DN-2, 4, 5-7, 9, 17, LPH. F.C.P.
- Arenga engleri** Beccari *Didymosperma engleri* (Beccari) Warburg
Formosa, Ryuku Island. Basu 405 (April 1974).
DN-6, 22, LPH. F.C.P.
- A. obtusifolia** Martius, *A. westerhoutii* Griffith
Java. Basu 452 (December 1975).
DN-8, F.C.P.
- A. undulatifolia** Beccari
Malaya. Basu 455 (December 1975).
DN-17, F.C.P.
- A. pinnata** (Wurmb) Merrill, *A. saccharifera* Labill
Malaya, Philippine. Basu 15 (March 1969), 214 (August 1974).
DN-1-4, 6-8, 10, 13, 17, LPH. SPH. N. RB. F. S. P.
- A. wightii** Griffith
India.
DN-1, 8, F.C.P.
- Bactris gasipaes** Humboldt, Bonpland et Kunth, *Guillemia gasipaes* (Humboldt, Bonpland et Kunth) Bailey
Central America to Peru. Basu 431 (December 1974).
DN-6, N. NF. S.P.
- B. major** Jacquin
Central America. Lane 5315 (Sept. 1899), Basu 230 (1974).
DN-1-3, 5, 6, 9, 17, 22, F.C.P.
- Bentinckia nicobarica** (Kurz) Beccari, *Orania nicobarica* Kurz
Nicobar Island. Basu 413 (June 1974).
DN-5, 17, F.S.P.
- Borassus flabellifer** Linnaeus
India, Malaya. Basu 16 (June 1969).
DN-1-3, 7-13, 22, 24, F. S. PA.
- Calamus arborescens** Griffith
Burma. Gage 824 (Nov. 1911), Basu 447 (April 1975).
DN-4, 5, 20, F.C.P.
- C. ciliaris** Blume
Malaya. Basu 254.
DN-6, NF. C.P. Pt.
- C. erectus** Roxburgh, *C. erectus* var. *schizopanthus* (Griffith) Beccari, *C. schizopanthus* Griffith

- India. *Gage* 12028 (Feb. 1912), 5274 (Sept. 1975).
DN-1, C.P. NF.
- Calamus garuba** (Buchanan-Hamilton) ex Martius
Malaya. *Debbarmen* 10812 (March 1915), *Gage* 12064 (Feb. 1912), *Basu* 450 (June 1975).
DN-1, 2, F.C.P.
- C. leptospadix** Griffith
India, Burma. *Gage* 11271 (Feb. 1912), *Basu*, 242 (Sept. 1974).
DN-1, 2, F.C.P.
- C. longisetus** Griffith
India, Malaya. *Gage* 10820 (March 1912), 5276 (Jan. 1975).
DN-5, F.C.P.
- C. rotang** Linnaeus, *C. roxburghii* Griffith
Sri Lanka, 5281, 5282 (Jan. 1975).
DN-6, F.C.P.
- C. viminalis** Willdenow
Malaya. *Gage* 11559 (Feb. 1912), *Basu* 435 (Dec. 1974).
DN-1, 2, NF. C.P.
- Calyptracalyx spicatus** (Lamark) Blume, *Areca spicata* Lamark
Amboina. *Basu* 39 (May 1973).
LPH. F.S.P.
- Caryota mitis** Loureiro, *C. furfuraceous* Blume ex Martius, *C. griffithii* Beccari, *C. sobolifera* Wallich ex Martius
India to Java. *Debbarmen* 5230 (Feb. 1914), *Basu* 433 (Dec. 1974).
DN-1-3, 5, 6, 9, 11-13, 15, 17, 18, 22, 23, F.C.P.
- C. rumphiana** Martius
Australia to India. *Basu* 437 (Dec. 1974).
DN-1, 17, F.S.P.
- C. urens** Linnaeus
India. *Basu* 432 (Dec. 1974).
DN-1-5, 9-12, 22, 24, 25, F.S.P.
- Chamaedorea elegans** Martius, *Collinia elegans* (Martius) Liebman ex Oersted
Mexico, Guatemala.
N. NF. S.
- Chrysalidocarpus lutescens** Wendland, *Areca madagascariensis* Martius ex Beccari, *A. madagascariensis* Loddiges ex Solomon
Madagascar, *Basu* 288 (May).
DN-1-2, 5-8, LPH. SPH. F.C.P.
- C. madagascariensis** Beccari, *Areca madagascariensis* Hort., *Dypsis madagascariensis* Hort.
Madagascar. *Basu* 418 (July 1974), IBG A/C No. 5206, 5210, 5211, 5215.
DN-5, 6, 8, 13, 25, F.C.P.
- C. madagascariensis** var. *lucubensis* Hort.
Madagascar. *Basu* 250 (August 1975).
DN-17, F.S.P.
- Coccothrinax argentea** (Sargent)
Florida, Bahama Island. *Basu* 290.
DN-5, F.S. PA.
- C. crinita** Beccari
Cuba. *Basu* 219 (August 1974).
DN-23, S. PA. Pt. NF.
- C. dussiana** Bailey, *Thrinax barbadensis* Duss. *Coccothrinax barbadensis* Beccari
Guadeloupe. *Basu* 18 (April 1971).
DN-6, N. NF. PA. Pt.
- C. inaguensis** Read
Bahama. *Basu* 20 (April 1971).
DN-6, N. NF. PA. Pt.
- Cocos nucifera** Linnaeus
Pantropic.
DN-12, 5, 25, F.S.P.
- Corypha elata** Roxburgh, *C. gebanga* (Blume) Blume; *Taliera gebanga* Blume
India & Burma. IBG A/c No. 5252.
DN-9, 12, 18, 24, RB. F.S. PA. (Monocarpic).
- C. taliera** Roxburgh
India. IBG A/c No. 5247.
DN-6, F. S. PA. (Monocarpic)
- C. umbraculifera** Linnaeus
Sri Lanka. IBG A/c No. 5241.
DN-6, F. S. PA. (Monocarpic).
- Daemonorops didymophylla** Beccari
India & Burma. *Kurz* 17. *Basu* 439 (April).
DN-2, NF. C. P.
- D. jenkinsianus** (Griffith) Martius, *D. jenkinsianus* Martius



Plates 1--4 : 1. A collection of *Eorassus flabellifer*, *Roystonea regia*, *Corypha elata* (spiral pattern on the stem), *Licuala spinosa* and *Livistona chinensis*. 2. Cluster of *Chrysalidocarpus madagascariensis* and *Areca triandra*. 3. *Sabal minor* (typical inverted umbrella-like leaves). 4. Emergence of male inflorescence in *Phoenix loureirii*.

- Burma, India & Malaya. *Basu* 222 (March).
DN-8, C.P. No. fruiting.
- Desmoncus horridus** Splitgerber ex Martius
Surinam. *Basu* 442, 440 (April), IBG A/c No. 5319.
DN-5, C. P. No. fruiting.
- Dictyosperma album** (Bory) Wendland et. Drude ex Scheffer
Mascarene Island, Mauritius. *Gage* 11014 (Feb. 1912), *Basu* 229, IBG A/c No. 5212, 5214.
DN-2, 5, 8, F.S.P.
- Elaeis guineensis** Jacquin, *E. melanococca* Gaertner
Tropical Africa. IBG A/c No. 5315.
DN-2, 5-7, 8, 9, 11, 22, LPH. F.S.P.
- Heterospatha elata** Scheffer
Amboina. *Basu* 41 (May 1973).
DN-1, 2, 5, 7, 22, F.S.P.
- Howea belmoreana** (Moore et Mueller) Beccari, *Kentia belmoreana* Moore et Mueller
Lord Howe Island, *Basu* 46 (May 1973).
DN-6, N. NF. SP.
- Hyophorbe lagenicaulis** (Bailey) Moore
Mascarene Island. *Basu* 423.
DN-6, N. NF. PA.
- H. verschaffeltii** Wendland
Mascarene Island. *Basu* 38 (May 1973).
DN-6, SPH. N. NF. P. Pt.
- Hyphaene bussei** Dammer ex Busse
Kenya. *Basu* 101, 274.
DN-5, F.S.P.A. (Dichotomous branching).
- H. natalensis** Kuntze
East Africa. *Basu* 102 (April 1970).
DN-5, F. C. PA. (Caespitose).
- H. indica** Beccari
India. *Basu* 103 (April 1970).
DN-5, F.S.P.A. (Dichotomous branching).
- H. schattan** Bojer ex Dammer
East Africa. *Basu* 105 (April 1970).
DN-5, F. C. PA.
- H. thebaica** (Linn.) Martius
North Africa. *Basu* 104 (April 1970).
DN-5, F.S.P.A. (Dichotomous branching).
- Latania loddigesii** Martius, *L. glaucophylla* Hort.
Mascarene Island. *Basu* 305.
DN-5, F.S. PA.
- L. lontaroides** (Gaertner) Moore, *Cleophora lontaroides* Gaertner, *L. commersonii* Gmelin, *L. rubra* Jacquin
Mascarene Island. *Basu* 291, 301 (Oct.).
DN-8, F.S.P.A. (Male tree).
- Licuala grandis** Wendland
New Britain. *Basu* 218.
DN-6, 17, LPH. F. S. PA.
- L. peltata** Roxburgh ex Buchanan-Hamilton
India. *Gage* 11171 (Dec. 1912), 404, 422 (Nov. 1972).
DN-5, LPH, F.S.P.A.
- L. spinosa** Thunberg, *Licuala horrida* Blume
South East Asia, *Basu* 417. IBG A/c No. 5262 (July 1974).
DN-1, 2, 4-9, 14, 15, 17, 18, 22, F. C. PA.
- Livistona australis** (Brown) Martius, *Corypha australis* Brown
Australia, IBG A/c No. 5245 (Sept. 1975).
DN-1, 2, 5, F. S. PA.
- L. chinensis** (Jacquin) Brown, *Latania chinensis* Jacquin, *L. olivaeformis* (Hasskarl) Martius
China. *Gage* 10818 (March 1912), IBG A/c No. 5264.
DN-1, 2, 4-7, 9-11, 15, 17, 22, F. S. PA.
- L. decipiens** Beccari
Australia. *Basu* 287 (August 1974), 426, 477.
DN-5, F. S. PA.
- L. humilis** Brown
Australia.
LPH. NF. S. PA.
- L. jenkinsiana** Griffith
India. *Basu* 285.
DN-5, F. S. PA.
- L. rotundifolia** (Lamark) Martius, *Corypha rotundifolia* Lamark.
East Indies *Basu* 31 (March 1973).
DN-1, 2, 5, 7, 8, 11, 15, 16, 17, F. S. PA.
- L. saribus** (Loureiro) Merrill ex Chevalier,

- Corypha saribus* Loureiro, *Livistona cochinchinensis* (Blume) Martius
East Indies. Gage 11141, 5266 (1912).
DN-16, 18, F. S. PA.
- Lodoicea maldivica** (Gmelin) Person, *Cocos maldivica* Gmelin, *Borassus sonnerati* Giseke, *L. seychellarum* Labill, *L. callipyge* Commerson ex Jaume.
Seychelles.
LPH. NF. PA.
- Normanbya normanbyi** (Hill) Bailey, *Cocos normanbyi* Hill, *Normanbya muellerii* Beccari.
Australia. Basu 202 (June 1974).
DN-6, 25, N. Pt. NF.
- Nypa fruticans** Wurmberg, *Nipa fruticans* Thunberg.
Tropical Asia. Basu 57 (Oct. 1973), IBG A/c No. 5239.
F. C. P.
- Orbignya cohune** (Martius) Dahlgren ex Standley, *Attalea cohune* Martius
British Honduras. Basu 40 (May 1973).
DN-1, 6, 8, 17, LPH. F.S.P.
- Phoenicophorium borsigianum** (Koch) Stunz, *Astrocaryum borsigianum*. Koch, *Steven-sonia borsigianum* (Koch) Bailey.
Seychelles.
N. Pt. P. NF.
- Phoenix acaulis** Buchanan-Hamilton ex Roxburgh
India and Burma. Basu 223.
DN-5, F.P.C.
- P. loureirii** Kunth, *P. hanceana* Naudin, *P. humilis* var. *hanceana* (Naudin) Beccari, *P. ousleyana* Griffith
India, Indo-China and Hongkong. Basu 54 (May 1973), 293 (Oct. 1976).
DN-1, 15, 22, F.S.P.
- P. paludosa** Roxburgh
India. Debbarmann 13131. Basu 53 (May 1973), 294.
DN-2, 4, F.C.P.
- P. reclinata** Jacquin
Tropical Africa. Basu 50 (May 1973).
DN-4, 9, F.C.P.
- P. roebelenii** O'Brian
Basu 58 (April 1973).
DN-5, N.S.P. (Male).
- P. rupicola** Anderson
India. Basu 51 (May 1973).
DN-1, 2, 5-8, 11, 17, 18, 20, F.S.P.
- P. sylvestris** (Linnaeus) Roxburgh, *Elate sylvestris* Linnaeus
India. Basu 59 (May 1973).
DN-1-4, 7, 9-12, 17, 18, 20, 23-25, F.S.P.
- P. zeylanica** Trimen
Sri Lanka. Basu 49 (May 1973).
DN-5, F.S.P.
- Plectocomia assamica** Griffith
Assam. King 494990-93.
DN-4, LPH. NF. C.P.
- Prichardia pacifica** Seeman et Wendland
Fiji Island. Basu 37 (April 1973).
DN-5, N. LPH. SPH. NF. PA.
- Ptychosperma elegans** (Brown) Blume
Australia. Basu 401 (Nov. 1972).
DN-1-5, 9-14, 17, 18, 20, 21, 25, F.S.P.
- P. macarthurii** (Wendland) Nicholson, *Actinophloeus macarthurii* Beccari, *Kentia macarthurii* Wendland
New Guinea. Gage 11541 (1912), Basu 402 (Nov. 1972).
DN-1-5, 9-15, 17, 18, 20, 21, 25, F.C.P.
- Rhapis humilis** Blume
China. Basu 54 (May 1973).
DN-9, 17, NF. C. PA. No fruiting.
- R. excelsa** (Thunberg) Henry ex Rehd., *Chamaerops excelsa* Thunberg, *Rhapis flabelliformis* L' Heretier ex Aiton
China. IBG A/c No. 5271, 5272.
DN-2, 5, 7, 9, 17, 20, 23, 25, NF. C. PA.
- Rhopaloblaste augusta** (Kurz) Beccari, *Areca augusta* Kurz, *Ptychorapis augusta* (Kurz) Beccari.
Nicobar Islands. Basu 411 (June 1974), 425 (Nov. 1974).
DN-5, 12, LPH. F.S.P.

- Rhopaloblaste singaporensis** (Beccari) Hooker, *Ptychosperma singaporensis* Beccari; *Ptychorapis singaporensis* (Beccari) Beccari. Malaya. Basu 409 (June 1974). DN-5, LPH. F.C.P.
- Rhopalostylis sapida** Wendland et Drude, *Areca sapida* Solander New Zealand. SPH. S.P. (No fruiting).
- Roystonea borinquena** Cook Puerto Rico. Basu 213. DN-5, N. NF. S.P.
- R. oleracea** (Jacquin) Cook, *Areca oleracea* Jacquin, *Oreodoxa oleracea* (Jacquin) Martius West Indies. King 5218 (Sept. 1871). DN-4, 5, SPH. F.S.P.
- R. regia** (Humboldt, Bonpland et Kunth) Cook, *Oreodoxa regia* Humboldt, Bonpland et Kunth Cuba. Gage 4223, 5224 (Feb. 1917), Basu 231, 270. DN-1, 5, 11, 13, 15-17, 19, F.S.P.
- Sabal blackburniana** Glazebrook ex Schultes, *S. umbraculifera* Martius Santo Dominice. IBG A/c No. 5255, 5256. 5257. DN-5, F.S. PA.
- S. mauritiiformis** (Karsten) Griesbach et Wendland, *S. glaucescens* Loddiges ex Moore, *S. nematoclada* Burret. Mexico. Basu 61 (June 1973). DN-4, 5, F.S. PA.
- S. mexicana** Martius, *S. guatemalensis* Beccari, *S. texana* (Cook) Beccari. Mexico to Guatemala. Basu 36 (April 1973). DN-4-6, F.S.PA.
- S. minor** Person, *S. adansonii* Guersent Georgia to Florida, Texas, Basu 415 (August 1974). DN-4-6, F.S. PA.
- S. palmetto** (Walter) Loddiges ex Schultes, *S. viatoris* Bailey Carolina to Florida. Basu 414 (July 1974). DN-5, F.S. PA.
- Salacca edulis** Reinwardt, *Calamus zalacca* Gaertner, *Salacca blumeana* Martius Java. Gage 9958 (Feb. 1912), Basu 429 (Dec. 1974). DN-1, 8, F. C. No fruiting.
- Scheelea insignis** (Martius) Karsten, *Maximilliana insignis* Martius. Brazil, Columbia. 10814, 10737 (May 1926). DN 20, F.S.P.
- Serenoa-repens** (Bartram) Small, *Corypha repens* Bartram South Eastern United States. Basu 208 (July 1974). N. PT. NF. PA.
- Syagrus romanzoffiana** (Chamisso) Glassman, *Cocos romanzoffiana* Chamisso, *Arecastrum romanzoffianum* (Chamisso) Beccari. Brazil. Basu 35 (April 1973). DN-4, 5, N. LPH. F.S.P.
- S. schizophylla** (Martius) Glassman, *Cocos schizophylla* Martius Arikuryroba *schizophylla* (Martius) Bailey. Brazil. Basu 34 (April 1973). DN-4, 5, LPH. F.S.P.
- Thrinax parviflora** Swartz Jamaica. Basu 408 (April 1974). DN-2, 4, 5, 6, 17, 22, F.S.P.
- Trachycarpus fortunei** (Hooker) Wendland, *Chamaerops fortunei* Hooker, *T. excelsa* Hort. China. Basu 63 (June 1973). DN-6 NF. S. Pt. PA.
- T. martiana** (Wallich) Wendland, *Chamaerops martiana* Wallich India. Basu 62 (June 1973). N. Pt. S. PA.
- Veitchia merrillii** (Beccari) Moore, *Normanbya merrillii* Beccari, *Adonidia merrillii* (Beccari) Beccari Philippine. Basu 406 (April 1974). N. NF. S. P.

Wallichia densiflora (Martius) Martius, *Harina densiflora* Martius, *Wallichia oblongifolia* Griffith

India. IBG A/c No. 5225, 5226, 5227.

DN-5, F.S.P.

Washingtonia filifera (Linden) Wendland, *Prichardia filifera* Linden

United States. Basu 32 (March 1973).

DN-6, NF. S. PA.

W. robusta Wendland

United States. Basu 33 (March 1973).

DN-4, NF. S. PA.

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