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A Reconsideration of *Gronophyllum* and *Nengella* (Arecoideae)

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Gronophyllum and *Nengella* have long been recognized as two closely related genera and are included in the *Areca* alliance of Moore (1973). With *Gulubia* and *Hydriastele*, they form a natural subunit within the alliance, an affinity recently reconfirmed by a study of their fruit anatomy (Essig and Young 1979). The *Gronophyllum* subunit, as it might be called, is characterized by the following: leaflets notched or praemorse, often irregularly grouped; inflorescence broomlike, with long, pendulous rachillae, the flowers mature when the inflorescence bracts open, staminate and pistillate anthesis being completed within a few days; flower triads arranged in verticels of three or more, commonly decussate, in four vertical rows; staminate flowers asymmetrical, with broadly lanceolate, loosely valvate petals; fruit with apical stigmatic residue, pericarp fibers straight and little branched, outer pericarp densely tanniferous, raphides and brachysclereids lacking, vascular bundles with extensive fibrous sheaths, fibrous bundles intermixed with the vascular bundles and sometimes forming a separate series external to the tanniferous layer, locular epidermis sometimes developed into a thick palisade layer; seed with homogeneous or ruminant endosperm.

Gronophyllum and *Nengella* are distinguished from *Gulubia* and *Hydriastele* on the basis of their protandrous rather than protogynous habit and consequent differences in the structure of the pistillate flowers. In the first two genera, staminate

flowers are at anthesis soon after the bracts of the inflorescence open. By the second day, all staminate flowers have fallen and the pistillate flowers are at anthesis. Pistillate flowers have broadly lanceolate petals, imbricate at the base and loosely valvate in the upper part, so that they are closed over the stigmas before anthesis. In *Gulubia* and *Hydriastele*, the situation is reversed. Pistillate flowers are receptive at the time the bracts open, and the petals are too short to cover the stigmas. On the second day, stigmas are withered and staminate flowers shed their pollen. Apart from this fundamental difference, it is often difficult to separate specimens of *Gronophyllum* from specimens of *Gulubia*.

Both *Gronophyllum* and *Nengella* were formerly divided into two genera each, based on the condition of the endosperm, *Gronophyllum* with ruminant endosperm, and *Kentia* with homogeneous endosperm, and similarly, *Nengella* with homogeneous endosperm and *Leptophoenix* with ruminant endosperm. In both instances, the differences were eventually regarded as too trivial to warrant a generic distinction, by Burret (1936) for *Nengella* and by Moore (1963) for *Gronophyllum*.

A perusal of the literature, however, leaves one in the dark as to exactly what the distinction between *Nengella* and *Gronophyllum* is. In Papua New Guinea, where both authors became familiar with the two genera, *Gronophyllum* is most commonly encountered as the robust *G. chaunostachys*, which grows at high ele-



1. *Gronophyllum chaunostachys* growing at about 6,000 ft. elevation in the mountains around Aseki, Morobe Province, Papua New Guinea. (Reprinted from *Principes* 24(1): 20. 1980.)

vations and lifts its crown above the cloud forest (Fig. 1). It has stems ca. 30 cm in diameter, inflorescences ca. 1 m long, and leaves with many narrow, regularly arranged pinnae. *Nengella*, on the other hand, is found as one of several species of diminutive, often clustering palms, with stems 2–3 cm in diameter, with small inflorescences consisting of only a few rachillae, and with pinnae broadly cuneate and irregularly arranged along the leaf rachis (Fig. 2). This perception of the two genera, arising from the most frequently visited part of their common range, apparently influenced the separation of the two genera, for overall size differences seem to be the only distinguishing criteria that can be inferred from the literature.

There was also a geographical bias involved in originally considering these to be separate genera. *Gronophyllum* was initially a Moluccan genus, the large New Guinea palms were *Kentia*, and the dwarf



2. *Gronophyllum pinangoides*, growing at the Botanic Gardens, Lae, Papua New Guinea. (Reprinted from *Principes* 24(1): 19. 1980.)

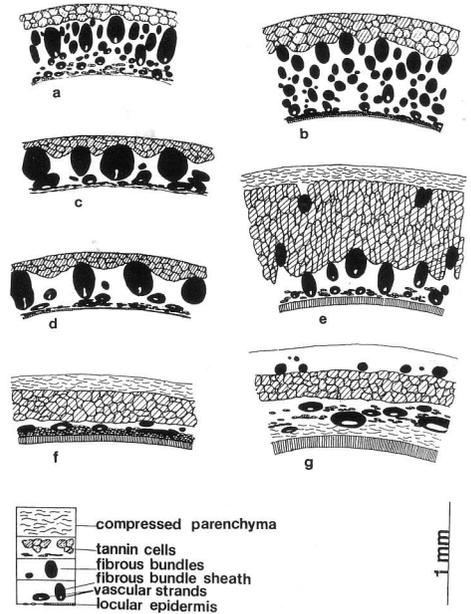
New Guinea palms were *Nengella/Lep-tophoenix*. Neither Burret nor Moore fully recognized at the time of their respective publications that the Moluccan species of *Gronophyllum* effectively bridged the gaps between all four genera. Moore (pers. comm.) suspected this in later years, and in fact had intentions of combining *Nengella* and *Gronophyllum*. In reassessing these taxa for "Genera Palmarum," John Dransfield also realized that they could not be maintained as distinct and, sharing his findings with us, encouraged us to make the formal combination.

An examination of herbarium specimens from throughout the ranges of the

two genera, including important material of the Moluccan species at Kew, confirms that the two genera, apparently distinct in the easternmost part of their joint range, represent the extremes of a continuum of variation with respect to overall size, as well as to pinnae shape and arrangement. A few examples of intermediates will suffice. *Gronophyllum microspadix* from Sulawesi in eastern Indonesia, is a diminutive palm, reaching 3 m in height, with a stem diameter of 5 cm, and with clustered, erose-tipped pinnae. Its inflorescence consists of 3 simple rachillae, scarcely 15 cm long. It is not clear to us why it was put into *Gronophyllum* rather than *Nengella* in the first place. The only reason apparently was the geographical bias mentioned earlier.

Gronophyllum apricum, a new species from north-central New Guinea (Young, accompanying article), is a diminutive, single-stemmed palm, with stem ca. 3 cm in diameter, with narrow, clustered pinnae, and fruit anatomy similar to *G. chaunostachys* (see below). *G. brassii*, from south-central New Guinea, is tall, reportedly attaining 19 m, but with the trunk only 9 cm in diameter. It has irregularly arranged pinnae with praemorse tips and simply branched inflorescences. *G. microcarpum*, from the Moluccas, is somewhat larger, growing to 10 m tall, but with inflorescences considerably smaller than those of *G. chaunostachys*, with pinnae clustered only at mid-rachis, and fruit anatomy similar to that of *G. chaunostachys*, but lacking the palisade layer. *G. selebicum* is apparently of about the same dimensions as *G. apricum*, has clustering stems, clustered pinnae, and fruit anatomy that appears to be very similar to that of *Nengella pinangoides*.

Variation in the structure of the fruit has been found to be taxonomically important in several alliances of palms, including the *Areca* alliance (Essig 1977, Essig and Young 1979), so we examined a number of specimens of *Gronophyllum* to



3. Diagrams of pericarp in cross-section. Species with ruminant endosperm: a. *Gronophyllum pinangoides*; b. *Gronophyllum papuanum*. Species with homogeneous endosperm: c. *Gronophyllum pleurocarpum*; d. *Gronophyllum gracile*; e. *Gronophyllum apricum*; f. *Gronophyllum ramsayi*; g. *Gronophyllum chaunostachys*.

compare with the extensive survey of fruit structure in *Nengella* done by Young (1982, master's thesis, unpublished). There is some variation in the size and shape of the fibrovascular bundles, variation in the thickness of the palisade layer derived from the locular epidermis, and a tendency in some species to form a separate series of fibrous bundles external to the tanniniferous zone (Fig. 3). These characters do not correlate with other characters that might be used to separate the two genera, however. The outer series of bundles is found in both large (*P. chaunostachys*) and diminutive (*G. apricum*) species, and in species with homogeneous (*G. chaunostachys*) and ruminant (*G. microcarpum*) endosperm. Homogeneous endosperm and ruminant endosperm are both found in large palms of traditional

Gronophyllum and in diminutive species of the *Nengella* type.

For all of the above reasons, we deem it appropriate to combine the two genera under the older name of *Gronophyllum*, and make the necessary new combinations. We should emphasize that this is only a very preliminary report, based on a survey of the literature and examination of a limited number of specimens. In most instances type specimens were not available for examination (only those marked with an exclamation point in the list that follows were seen by us). A thorough revision of this genus is thus still needed.

This report also incorporates information from a Master's thesis by Brad Young (1982, unpublished), which included a detailed study of the species of *Nengella* occurring in Papua New Guinea. A number of species are placed in synonymy by him. In particular, the concept of *Nengella pinangoides* (now *Gronophyllum pinangoides*) has been considerably broadened, and is now viewed as a widespread and variable species.

Gronophyllum Scheffer in Ann. Jard.

Bot. Buitenzorg 1: 135, 153. 1876.

Type species: *G. microcarpum* Scheffer.

Kentia Blume in Bull. Sci. Phys. Nat.

Néerlande 1: 64. 1838; Rumphia 1843

(non Adanson 1763). Type species:

Kentia procera Blume.

Nengella Beccari in Malesia 1: 32, fig. 1.

1877. Type species: *Nengella montana* Beccari.

Leptophoenix Beccari in Ann. Jard. Bot.

Buitenzorg 2: 82. 1885. Type species:

Leptophoenix pinangoides (Beccari)

Beccari.

As now constituted, *Gronophyllum* consists of about 25 species, distributed from Sulawesi and Seram in the Moluccas, throughout New Guinea and in northern Australia (Arnhem Land).

**Key to the species of
*Gronophyllum***

This key is based partially on the unpublished notes of H. E. Moore, Jr. Parts of it are based on extremely fragmentary information, and must therefore be considered strictly tentative.

1. Seed with ruminant endosperm.
2. Rachillae with flower triads in alternating verticels of 3.
 3. Branches of the inflorescence all simple. South-central New Guinea. 2. *G. brassii*
 3. Branches, at least the lower ones, divided.
 4. Petals of pistillate flowers blunt and thickened at apex; pinnae with thickened marginal nerves. Seram, Indonesia. 12. *G. microcarpum*
 4. Petals of pistillate flowers acute and not thickened at apex; pinnae without thickened marginal nerves. Pulau Mangoeli, Indonesia. 15. *G. oxypetalum*
2. Rachillae with flower triads usually decussately arranged.
 5. Inflorescences small, with fewer than 10 rachillae.
 6. Trunk single; pinnae narrow, linear, clustered along the rachis; rachillae about 10. Sulawesi. 13. *G. microspadix*
 6. Trunks multiple; pinnae cuneate, regularly arranged except for an interruption at $\frac{1}{2}$ to $\frac{3}{4}$ the length of the rachis; rachillae 7 or fewer.
 7. Pinnae narrowly cuneate, nearly regularly arranged, with ramenta along the lower third of the midrib. South-central New Guinea. 9. *G. leonardii*
 7. Pinnae broadly cuneate, markedly interrupted in their distribution, without ramenta. Widespread in New Guinea. 16. *G. pinangoides*
 5. Inflorescences large, with many rachillae.
 8. Pinnae arranged in distinct clusters of 4-5; petioles covered with scurfy, dirty-brown scales. Southwestern New Guinea. 10. *G. luridum*
 8. Pinnae regularly or somewhat irregularly arranged; petioles variously scaly.

9. Rachillae slender, markedly flexuous apically; fruit 8 mm long with perianth, 4 mm in diameter, ovate above the perianth. Sulawesi. 7. *G. kjellbergii*
9. Rachillae thicker, not flexuous apically.
10. Fruit elongate, ca. 10 mm long with perianth, 6 mm in diameter. Sulawesi. 21. *G. sarasinorum*
10. Fruit globose, 6 mm in diameter. Sulawesi. 22. *G. selebicum*
1. Seed with homogeneous endosperm.
11. Palms large, emergent, single-stemmed; trunk more than 10 cm in diameter.
12. Rachillae markedly flexuous at internodes. Northeastern New Guinea. 8. *G. ledermannianum*
12. Rachillae not flexuous.
13. Sepals marginally ciliate. New Guinea, Arfak Mtns. 5. *G. gibbsianum*
13. Sepals not ciliate.
14. Tips of pistillate petals scarcely longer than the broad basal part.
15. Fruit 10-12 mm long, 7 mm in diameter without perianth. North-central New Guinea (Torricelli and Cyclops Mtns.). 11. *G. mayrii*
15. Fruit 15-18 mm long, 7-7.5 mm in diameter; pistillate flowers 10-14 mm long. Australia. 19. *G. ramsayi*
14. Tips of pistillate petals exceeding the broad basal part in length; fruit 12-15 mm long.
16. Staminate flowers with 9-12 stamens; flower triads 2-3 cm apart; fruit 15 mm long, 10 mm in diameter. Northeastern New Guinea. 3. *G. chaunostachys*
16. Staminate flowers with 6 stamens; flower triads 4-7 mm apart; fruit 12-14 mm long, 6 mm in diameter. Southwestern New Guinea. 18. *G. procerum*
11. Small palms, mostly of the forest undergrowth; stems less than 10 cm in diameter.
17. Inflorescence with 4 or more rachillae; leaves with 15-23 pinnae per side; pinnae with numerous ramenta along the lower midrib; fruit spherical. Upper Sepik River Basin. 1. *G. apricum*
17. Inflorescence with fewer than 4 rachillae; leaves with fewer than 10 pinnae; pinnae without (?) ramenta; fruit elongate.
18. Inflorescence divided into 2 rachillae. Northeastern New Guinea. 17. *G. pleurocarpum*
18. Inflorescence spicate.
19. Fronds simply bifid. Northwestern New Guinea. 4. *G. flabellatum*
19. Fronds divided into a number of pinnae.
20. Pinnae linear, 8-9 on each side of the rachis. Northwestern New Guinea. 14. *G. montanum*
20. Pinnae cuneate.
21. Pinnae about 6 on each side. Northeastern New Guinea. 20. *G. rhopalocarpum*
21. Pinnae 2-3 on each side. South-central New Guinea. 6. *G. gracile*

A listing of the species of *Gronophyllum*

- Gronophyllum apricum*** Young in Principes 29(3) pp. 138-141. Type: *Essig & Young LAE 74082*, (holotype LAE!, isotypes BH!, USF!).
- Gronophyllum brassii*** Burret in J. Arnold Arbor. 20: 205. 1939.

- Type: New Guinea, Papua New Guinea, Western Province, Palmer River, *Brass* 7093 (holotype A!).
3. **Gronophyllum chaunostachys** (Burret) H.E. Moore in *Gentes Herb.* 9: 264. 1963.
Kentia chaunostachys Burret. *Notizbl. Bot. Gart. Berlin-Dahlem* 13: 328. 1936. Type: New Guinea, Papua New Guinea, Morobe Province, Sattelberg, *Clemens* 526 (holotype B).
 4. **Gronophyllum flabellatum** (Beccari) Essig & Young, **comb. nov.** *Nengella flabellata* Beccari, *Malesia* 1: 34, tab. 1, fig. 1-2. 1877. Type: New Guinea, West Irian, northwestern Vogelkop Peninsula, Ramoi, *Beccari P.P.* 427 (holotype FI).
 5. **Gronophyllum gibbsianum** (Beccari) H. E. Moore in *Gentes Herb.* 9: 265. 1963.
Kentia gibbsiana Beccari in L.S. Gibbs, *A contribution to the phytogeography and flora of the Arfak Mountains* 91. 1917. Type: New Guinea, West Irian, Arfak Mtns., *L. S. Gibbs* 5951 (holotype FI).
 6. **Gronophyllum gracile** (Burret) Essig & Young, **comb. nov.** *Nengella gracilis* Burret in *J. Arnold Arbor.* 20: 207. 1939. Type: New Guinea, Papua New Guinea, Western Province, Palmer River, *Brass* 7083 (holotype A!).
 7. **Gronophyllum kjellbergii** Burret in *Notizbl. Bot. Gart. Berlin-Dahlem* 13: 203. 1936. Type: Indonesia, Sulawesi, Palahari, *Kjellberg* 912 (holotype B).
 8. **Gronophyllum ledermannianum** (Beccari) H. E. Moore in *Gentes Herb.* 9: 265. 1963.
Kentia ledermanniana Beccari in *Bot. Jahrb.* 58: 442. 1923. Type: New Guinea, Papua New Guinea, East Sepik Province, Mt. Hunstein, *Ledermann* 11229 (holotype B).
 9. **Gronophyllum leonardii** Essig & Young **nom. nov.** [Note: a new name is necessary because the combination *Gronophyllum brassii* has already been published. The new epithet also honors Leonard Brass].
Leptophoenix brassii Burret in *Notizbl. Bot. Gart. Berlin-Dahlem* 12: 339. 1935. Type: New Guinea, Papua New Guinea, Central Province, Kubuna, *Brass* 5631 (holotype A!).
Nengella brassii (Burret) Burret in *Notizbl. Bot. Gart. Berlin-Dahlem* 13: 316. 1936.
 10. **Gronophyllum luridum** Beccari in *Nova Guinea* 7. *Botanique.* 207. 1909. Type: New Guinea, east-central West Irian, *G. M. Versteeg* 1388 (holotype FI).
 11. **Gronophyllum mayrii** (Burret) H. E. Moore in *Gentes Herb.* 9: 265. 1963.
Kentia mayrii Burret, *Notizbl. Bot. Gart. Berlin-Dahlem* 11: 707. 1933. Type: New Guinea, north-eastern West Irian, Cyclops Mtns., *Mayr* 658 (holotype B).
 12. **Gronophyllum microcarpum** Scheff. in *Ann. Jard. Bot. Buitenzorg* 1: 153. 1876. Type: Cultivated, Indonesia, Bogor Botanic Gardens, from seed collected by Teysmann in *Seram* (holotype BO).
 13. **Gronophyllum microspadix** Burret in *Notizbl. Bot. Gart. Berlin-Dahlem* 12: 44. 1934. Type: Indonesia, Sulawesi, Linkobale, *Kjellberg* 2232 (holotype B).
 14. **Gronophyllum montanum** (Beccari) Essig & Young, **comb. nov.** *Nengella montana* Beccari, *Malesia* 1: 33, tab. 1, fig. 2-11. 1877. Type: New Guinea, West Irian, Arfak Mountains, *Beccari s.n.*

1875 (filed under accession number 11171 in FI (holotype FI).

15. **Gronophyllum oxypetalum** Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 474. 1936. Type: cultivated, Indonesia, Bogor Botanic Gardens, #XIII A 32 (holotype B), seed collected from Pulau Mangoeli, Moluccas, Indonesia, *Furtado Singapore Field No. 30929*, (SING).
16. **Gronophyllum pinangoides** (Beccari) Essig & Young, **comb. nov.**
Nenga pinangoides Beccari, *Malesia* 1: 28. 1877. Type: New Guinea, Northwestern West Irian, Ramoi, *Beccari P.P. 430* (Lectotype FI).
Leptophoenix pinangoides (Beccari) Beccari in *Ann. Jard. Bot. Buitenzorg* 2: 82. 1885.
Nengella pinangoides (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 23: 315. 1936.
Nenga calophylla K. Schumann & Lauterbach, *Fl. Deutsche Schutzgeb. Sudsee*: 208. 1901. Type: New Guinea, Papua New Guinea, Morobe Province, Sattelberg, *Lauterbach 564* (holotype B).
Nengella calophylla (K. Schumann & Lauterbach) Beccari in *Bot. Jahrb. Syst.* 52: 17. 1914 (excl. vars. *rhopalocarpa* Beccari and *montana* Beccari).
Leptophoenix minor Beccari in *Webbia* 1: 298. 1905. Type: New Guinea, Papua New Guinea, Central Province, San Giuseppe River, *Loria 10 XI. 1892* (holotype FI).
Nengella minor (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem. 13: 315. 1936.
Gronophyllum densiflorum Ridley in *Trans Linn. Soc. London* 9: 232. 1916. Type: New Guinea, South-central West Irian, Mt. Carstenz, *Kloss s.n.*, (holotype K).
Nengella densiflora (Ridley) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 316. 1936.
- Leptophoenix incompta* Beccari in *Bot. Jahrb. Syst.* 58: 452. Type: New Guinea, Papua New Guinea, East Sepik Province, Ettapenberg, *Ledermann 9017* (holotype B).
Nengella incompta (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 316. 1936.
Leptophoenix pterophylla Beccari in Martelli in *Atti. Soc. Tosc. Sci. Nat. Pisa Mem.* 44: 20. 1934. Type: Cultivated, Indonesia, Bogor, *Hort. Bog. X D 114* (holotype FI).
Nengella pterophylla (Beccari) Burret in Notizbl. Bot. Gart. Berlin 13: 316. 1936.
Leptophoenix yulensis Beccari in Martelli in *Atti Soc. Tosc. Sci. Nat. Pisa Mem.* 44: 19. 1934. Type: New Guinea, Papua New Guinea, Central Province, *F. v. Mueller 8. XII. 90* (holotype MEL).
Nengella yulensis (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 316. 1936.
Leptophoenix macrocarpa Burret in Notizbl. Bot. Gart. Berlin-Dahlem 12: 240. 1935. Type: New Guinea, Southern Papua New Guinea, *Brass 5299* (holotype B).
Nengella macrocarpa (Burret) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936.
Leptophoenix microcarpa Burret in Notizbl. Bot. Gart. Berlin-Dahlem 12: 342. 1935. Type: New Guinea, Papua New Guinea, Central Province, Dieni, *Brass 3998* (isotype A!).
Nengella microcarpa (Burret) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936.
Nengella rhomboidea Burret in *J. Arnold Arbor.* 20: 208. 1939. Type: New Guinea, Papua New Guinea, Fly River Province,

- Palmer River, *Brass* 7201 (isotype A!).
17. **Gronophyllum pleurocarpum** (Burret) Essig & Young **comb. nov.** *Nengella pleurocarpa* Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936.
Nengella calophylla var. *montana* Beccari in Bot. Jahrb. Syst. 52: 27. 1914. Type: New Guinea, northeastern Papua New Guinea, Madang area, *Schlechter* 16291 (holotype B).
18. **Gronophyllum procerum** (Blume) H.E. Moore in Gentes Herb. 9: 265. 1963.
Kentia procera Blume, Rumphia 2: t. 106. 1838-39; 94. 1843. Type: New Guinea, southwestern West Irian, *Zippelius s.n.* (holotype L).
19. **Gronophyllum ramsayi** (Beccari) H.E. Moore in Gentes Herb. 9: 265. 1963.
Gulubia ramsayi Beccari in Webbia 3: 159. 1910. Type: Australia, Northern Territory, Port Essington, *Ramsay s.n.* (holotype ?MEL).
Kentia ramsayi (Beccari) Beccari in Webbia 4: 148. 1913.
20. **Gronophyllum rhopalocarpum** (Beccari) Essig & Young **comb. nov.**
Nengella rhopalocarpa (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936; *Nengella calophylla* var. *rhopalocarpa* Beccari in Bot. Jahrb. Syst. 52: 28. 1914. Type: New Guinea, Northeast Papua New Guinea, Waria River, *Schlechter* 17466 (holotype B).
21. **Gronophyllum sarasinorum** Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 202. 1936. Type: Indonesia, Sulawesi, Posso Lake, *Sarasin* 896 (holotype B).
22. **Gronophyllum selebicum** (Beccari) Beccari in Ann. Jard. Bot. Buitenzorg 2: 82. 1885.
Nenga selebicum Beccari, Malesia 1: 30. 1877. Type: Indonesia, Sulawesi, Kandari, *Beccari s.n.* (holotype FI).
- Dubious species:
The following species are poorly known and considered dubious in Young's dissertation. They are therefore not included in the key to the species. A new epithet for *Nengella mayrii* is however necessary to avoid duplication with *Gronophyllum mayrii*.
- Gronophyllum affine** (Beccari) Essig & Young **comb. nov.**
Nenga affinis Beccari, Malesia 1: 29. 1877. Type: New Guinea, northwestern West Irian, Kapaor, *Beccari s.n.*, under accession numbers 11218-11218A at FI (holotype FI).
- Leptophoenix affinis* (Beccari) Beccari in Ann. Jard. Bot. Buitenzorg 2: 82. 1885.
- Nengella affinis* (Beccari) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 316. 1936.
- Gronophyllum cyclopensis** Essig & Young **nom. nov.**
Leptophoenix mayrii Burret in Notizbl. Bot. Gart. Berlin-Dahlem 11: 709. 1933. Type: New Guinea, northwestern West Irian, *Mayr* 24 (holotype B).
- Nengella mayrii* (Burret) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936.
- Gronophyllum micranthum** (Burret) Essig & Young, **comb. nov.**
Leptophoenix micrantha Burret in Notizbl. Bot. Gart. Berlin-Dahlem 11: 710. 1933. Type: New Guinea, West Irian, Wandammen Mtns. *Mayr* 253 (holotype B).
- Nengella micrantha* (Burret) Burret in Notizbl. Bot. Gart. Berlin-Dahlem 13: 314. 1936.

Excluded species:

Leptophoenix parvula Beccari in Martelli in Nuov. Giorn. Bot. Ital. 42: 57. 1935. Martelli cited this name from unpublished notes of Beccari. The species was never validly described or typified. It was based on a cultivated specimen from the Bogor Botanic Gardens, Indonesia, *Hort. Bogor XI B (XIII)* 7. It is not known whether this specimen still exists or is represented in any herbarium.

Nengella paradoxa Beccari, Malesia 1: 32, 1877. = **Pinanga paradoxa** Scheffer in Natuurk. Tijdschr. Ned. Ind. XXXII:31, fide Beccari in Martelli in Nuov. Giorn. Bot. Ital. 42: 61. 1935.

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