

c. 15 cm in height. *Leaf* to 2.4 m long including petiole, to c. 3 m in juveniles; sheath 90 cm long, forming distinct crownshaft, green, with thin, caducous, powdery indumentum of fine, white scales, interspersed with white, filamentous scales and scattered, dark brown scales; petiole 33–35 cm (to 1.2 m in juveniles), 60 × 14 mm at base, channelled adaxially, rounded abaxially, indumentum as sheath; rachis c. 2 m, arcuate, strongly so in canopy-emergent individuals, indumentum as sheath; leaflets 52–57 on each side of rachis, briefly praemorse and sometimes notched at apices, adaxial surface dull green, abaxial surface silvery grey-green, mid-rib yellow, arranged regularly, ascending, not drooping at tips, lamina entire or nearly so in non-emergent individuals up to 12 m or more in height, longest leaflet at middle of rachis to c. 97 × 3.5 cm, apical leaflets c. 13 × 0.6 cm, ramenta not observed. *Inflorescence* infrafoliar, c. 70 cm long at anthesis including c. 10 cm peduncle, branched to 2 (possibly 3?) orders, protogynous; prophyll not seen, caducous; peduncular bracts c. 3, first peduncular bract caducous, not seen, but most likely closely resembling prophyll, remaining peduncular bracts and rachis bracts consisting of low membranous flanges, to 16 × 2 mm, sometimes bearing an acutely apiculate extension; primary branches c. 17, to c. 50 cm long, closely spaced, inserted at a narrowly acute angle to the rachis; rachillae to c. 45 × 0.4 cm, somewhat arching; rachilla bracts very inconspicuous; triads 2–5 mm apart, decussate. *Staminate flowers* 10–11 × 3.5–4.5 mm shortly before anthesis, asymmetrical, white; calyx with 3 triangular, imbricate sepals c. 1 × 1.5 mm; corolla with 3 narrowly triangular to lanceolate, valvate petals 8–10 × 3–3.5 mm, outer surface spotted at base; stamens 6, filaments 0.6–1 × 0.5–0.6 mm, anthers 5–5.8 × 1–1.2 mm; pistillode minute, trifid. *Pistillate flowers* c. 4 × 3 mm at anthesis, cream white; perianth forming low, leathery cupule, calyx with 3 rounded, imbricate sepals c. 2 × 3–3.5 mm; corolla with 3 rounded, imbricate petals to 1.5–1.8 × 2.5–3 mm; staminodes 1–3, minute; ovary 2.5 × 2.5 mm, globose, protruding from perianth cupule at anthesis, style absent, stigmas minutely trifid. *Fruit* oblong, 10–14 × 6–8 mm, pericarp c. 0.5 mm thick, epicarp yellowish white when ripe, with persistent perianth forming a narrow cylinder at base, 3–3.5 mm diam. *Seed* c. 9 × 6 mm, oblong; endosperm homogeneous; embryo basal.

DISTRIBUTION. Restricted to the island of Taveuni, Fiji. Currently known with certainty only from the Bouma area, but unconfirmed reports suggest it also occurs in the Soqulu area (R. Phillips, pers. comm.).

HABITAT. Undisturbed forest and mature secondary forest between 50 and 800 m.

LOCAL NAMES. *Niuniu*, a common generic name for tree palms in many parts of Fiji.

USES. Not recorded.

CONSERVATION STATUS. Data deficient (Fuller 1997).

SPECIMENS EXAMINED. **FIJI.** Taveuni: Wakolotu, nr. Bouma Village, May 1995, *McClatchey* 1143 (FTG, SUVA); Bouma, Cakaudrove, Oct. 2001, *Watling* 170127 (holotype K; isotypes L, NY, SUVA), March 2002, *Watling* 170129 (K, SUVA).

NOTES. The existence of an undescribed species of *Hydriastele* from the island of Taveuni in Fiji has been suspected for some time (Fuller 1997). Recent collections have allowed us to compare this palm with other species in the region. It most closely resembles *H. cylindrocarpa* and *H. vitiensis*, but is readily distinguished from both. The new taxon is separated from the other Fijian species, *H. vitiensis*, by its rachillae with decussate triads as opposed to triads arranged in alternating whorls of three, by fruit morphology (10–14 × 6–8 mm and symmetric oblong in the former, c. 10 × 3 mm and slightly curved cylindrical in the latter), and, most strikingly, by its leaves remaining subentire to entire until the crown emerges from the forest canopy. Individuals over 12 m in height have been observed bearing scarcely divided leaves. The leaves of *H. cylindrocarpa* from Vanuatu behave in a similar way, but the fruit of this species differs from that of the new taxon in bearing an open cupule of enlarged, persistent perianth, while the persistent perianth of the new taxon is not enlarged and forms a small, narrow cylinder at the base of the fruit. The new species, *H. boumae*, is named after Bouma, the district of Taveuni in which it grows.

6. *Hydriastele brassii* (Burret) W. J. Baker & Loo, comb. nov. *Gronophyllum brassii* Burret, J. Arnold Arbor. 20: 205 (1939). Type: Papua New Guinea, Western, Palmer R., *Brass* 7093 (holotype B†; isotypes A, BRI, BO, L).

7. *Hydriastele cariosa* (Dowe & M. D. Ferrero) W. J. Baker & Loo, comb. nov. *Gronophyllum cariosum* Dowe & M. D. Ferrero, Palms 44: 161 (2000). Type: Papua New Guinea, Sandaun, Bewani Mts, *Dowe et al.* 514 (holotype BRI).

8. *Hydriastele carrii* Burret, Notizbl. Bot. Gart. Berlin-Dahlem 13: 326 (1936). Type: Papua New Guinea, Central, Boridi, *Carr* s.n. (holotype B†).

9. *Hydriastele chaunostachys* (Burret) W. J. Baker & Loo, comb. nov. *Kentia chaunostachys* Burret, Notizbl. Bot. Gart. Berlin-Dahlem 13: 328 (1936). *Gronophyllum chaunostachys* (Burret) H. E. Moore, Gentes Herb. 9:

264 (1963). Type: Papua New Guinea, Morobe, Sattelberg, *Clemens* 526 (holotype B).

10. *Hydriastele costata* F. M. Bailey, Queensland Agric. J. 2: 129 (1898). Type: Australia, Queensland, Cape York Peninsula, Somerset, *Jardine* s.n. (holotype BRI).

Kentia costata Becc., Malesia 1: 36 (1877). *Gulubia costata* (Becc.) Becc., Ann. Jard. Bot. Buitenzorg 2: 134 (1885). Type: Indonesia, Aru Islands, Wokam, *Beccari* s.n. (holotype FI).

Gulubia costata var. *minor* Becc., Ann. Jard. Bot. Buitenzorg 2: 135 (1885). Type: Indonesia, Papua, Arsus, *Beccari* s.n. (holotype FI).

Gulubia costata var. *pisiformis* Becc., Ann. Jard. Bot. Buitenzorg 2: 136 (1885). Type: Cultivated in Bogor Botanic Garden, *Beccari* s.n. (holotype FI).

Pinanga pisiformis Teijsm. ex Becc., Ann. Jard. Bot. Buitenzorg 2: 136 (1885). nom. inval.

Kentia microcarpa (K. Schum. & Lauterb.) Warb. ex K. Schum. & Lauterb., Fl. Schutzgeb. Südsee: 207 (1900). Type: Papua New Guinea, Morobe, Finschhafen, *Lauterbach* 751 (lectotype (**here designated**) L; isoelectotype FI).

Kentia costata var. *microcarpa* Lauterb. & K. Schum. ex K. Schum. & Lauterb., Fl. Schutzgeb. Südsee: 207 (1900). nom. inval.

Gulubia affinis Becc., Bot. Jahrb. Syst. 58: 444 (1923). Type: Papua New Guinea, East Sepik, Hunstein Mts, *Ledermann* 8228 (holotype B†).

Gulubia costata var. *gracilior* Burret, Notizbl. Bot. Gart. Berlin-Dahlem 13: 81 (1936). Type: Papua New Guinea, Oriomo R., Woroi, *Brass* 5887 (holotype B†; isotype BO, BRI).

NOTE. *Hydriastele costata* F. M. Bailey was first described by Beccari in 1877 as *Kentia costata* Becc. It was later transferred to Beccari's genus *Gulubia* as *G. costata* (Becc.) Becc., the name and authority by which it has been widely known for many years (Beccari 1885). By coincidence, in describing *H. costata* in 1898, Bailey chose the species epithet *costata* quite independently of Beccari's use of it. Although both *H. costata* and *G. costata* (syn. *K. costata*) refer to the same species, they are based on different types. Bailey was quite unaware of the duplication until Beccari personally brought it to his attention (Bailey 1909). Beccari (1910) indicated in print that the two names were synonymous, but this has been erroneously interpreted by Chapman (1991) as a recombination by Beccari of Bailey's epithet in *Gulubia* to give an illegitimate later homonym *G. costata* (F. M. Bailey) Becc. However, Beccari's words were, in fact, misconstrued by Chapman and merely indicated that *H. costata* was synonymous with his *G. costata* (Becc.) Becc. Thus, the combination *G. costata* (F. M. Bailey) Becc. has never been validly published.

Several collections were cited in the protologue of *Kentia microcarpa* (K. Schum. & Lauterb.) Warb. ex K. Schum. & Lauterb. We have selected a lectotype which we know to be extant in Leiden. Beccari's hand-written label on the isoelectotype fragment in Florence indicates that Warburg rather than Lauterbach was the collector, although all other details match the information in the protologue and on the lectotype in Leiden. The citation of Warburg as collector most likely represents an error made by Beccari in transcription.

11. *Hydriastele cyclopensis* (*Essig & B. E. Young*) *W. J. Baker & Loo*, **comb. nov.** *Leptophoenix mayrii* Burret, Notizbl. Bot. Gart. Berlin-Dahlem 11: 709 (1933). *Nengella mayrii* (Burret) Burret, Notizbl. Bot. Gart. Berlin-Dahlem 13: 314 (1936). *Gronophyllum cyclopense* Essig & B. E. Young, Principes 29: 136 (1985). Type: Indonesia, Papua, Arfak Mts, *Mayr* 24 (holotype B†; isotype BO).

NOTE. Essig and Young (1985) established *Gronophyllum cyclopense* as a *nomen novum* to account for *Nengella mayrii* (Burret) Burret (syn. *Leptophoenix mayrii* Burret), a name that could not be recombined in *Gronophyllum* due to a pre-existing publication of the combination *Gronophyllum mayrii* (Burret) H. E. Moore (1963). In this account, we accept both taxa and recombine the name *Gronophyllum cyclopense* in *Hydriastele* accordingly.

12. *Hydriastele cylindrocarpa* (*Becc.*) *W. J. Baker & Loo*, **comb. nov.** *Gulubia cylindrocarpa* Becc., *Webbia* 3: 156 (1910). Type: Vanuatu, Vanua Lava, Mt Garigona, *Harland* s.n. (holotype FI; isotype K)

13. *Hydriastele dransfieldii* (*Hambali, Maturb., Wanggai & W. J. Baker*) *W. J. Baker & Loo*, **comb. nov.** *Siphokentia dransfieldii* Hambali, Maturb., Wanggai & W. J. Baker, *Palms* 44: 179 (2000). Type: Indonesia, Papua, Biak, *Maturbongs* 555 (holotype K; isotypes BH, BO, L, MAN).

14. *Hydriastele flabellata* (*Becc.*) *W. J. Baker & Loo*, **comb. nov.** *Nengella flabellata* Becc., Malesia 1: 34 (1877). *Gronophyllum flabellatum* (Becc.) Essig & B. E. Young, Principes 29: 134 (1985). Type: Indonesia, Papua, Ramoi, *Beccari* 427 (holotype FI).

15. *Hydriastele geelvinkiana* (*Becc.*) *Burret*, Notizbl. Bot. Gart. Berlin-Dahlem 13: 484 (1937). *Nenga geelvinkiana* Becc., Malesia 1: 28 (1877). *Adelonenga*