

developed by longitudinal division of primary pinnae, producing virtually parallel bipinnation (Fig. 4C,D). *Carpentaria* has only a few pinnae that appear to show this effect, while in *Veitchia* and *Dryophloeus* this effect seems to be absent.

**Wodyetia** Irvine gen. nov. Palma solitaria, pleonantha, monoecia, ad affinitatem Ptychospermatem pertinens. Pinnae secunde divisae, illae sectionis mediae folii multis segmentis, parallelisque, linearibus, apicibus truncate vel oblique praemorsis. Inflorescentia infra folia basi vaginae, paniculate in 4 ordines ramificans. Flores praecipue triadibus, pistillato medio. Gemma staminata oblonga, apice obtuse, 2 vel 3 bracteis parvis, subtenta; sepala 3, imbricata; petala 3, valvata; stamina numerosa (60–71); pistillodium lageniforme, stigmodio 4–5 papillis erectis. Gemma pistillata 2 bracteis parvis subtentis; sepala 3, imbricata; petala 3, apice valvata, basi imbricata; staminodia 6, minima; stigmata 3, paene sessilia. Fructus maturus aurantiaco ruber, globoso-ovoideus, vestigio stigmatis apicale in corpore fructus gradatim; endocarpium complexum 2 stratis, extra fibris conspicuis valde 1–4-plo furcatis, complanatis tenacibus atris, infra fibris horizontalibus tectis. Semen teres in sectione transversali media; integumentum aliquantum crassum ramis raphis sparsis leviter impressis; endospermium homogoneum, embryo basali.

Type species. **W. bifurcata** Irvine. Solitary, pleonanthic, monoecious palm, 6–15 m tall; stem smooth, unarmed, with annular leaf scars (Fig. 2). Leaves reduplicate pinnate, the pinnae further divided (Fig. 4C,D) into parallel segments (or at least extremely deeply lobed, parallel to the long axis of the pinnae); sheath tubular, elongate, green with greyish white bloom over surface, splitting opposite the petiole as the leaf ages and is shed; rachis and petiole with greyish white to brown, lacerate-peltate, fringed scales and chaff-like ramenta; petiole elongate, adaxially

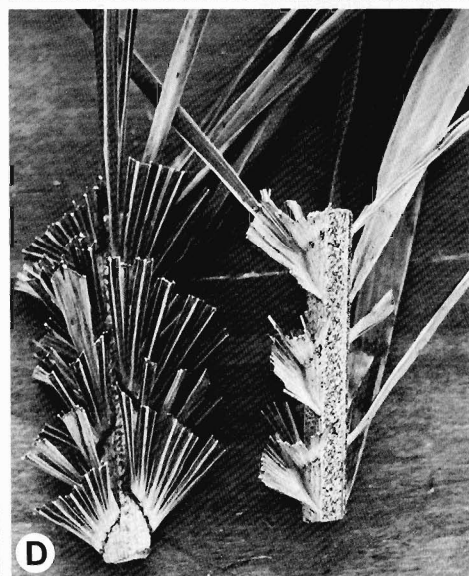
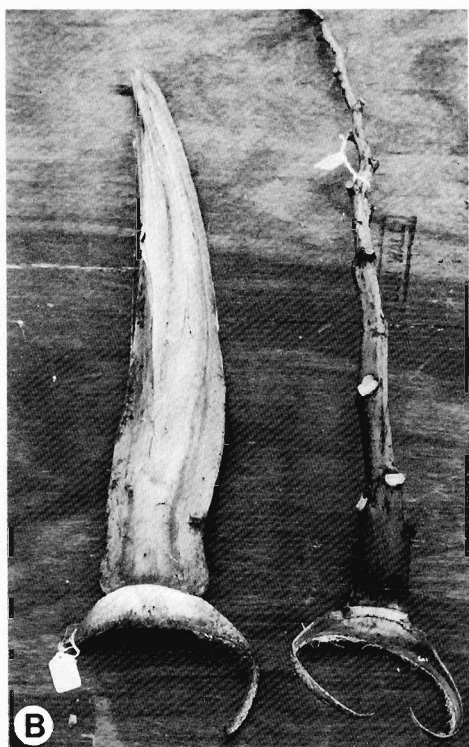


2. Note the slightly bottled trunk and highly plumose leaves of *Wodyetia bifurcata*.

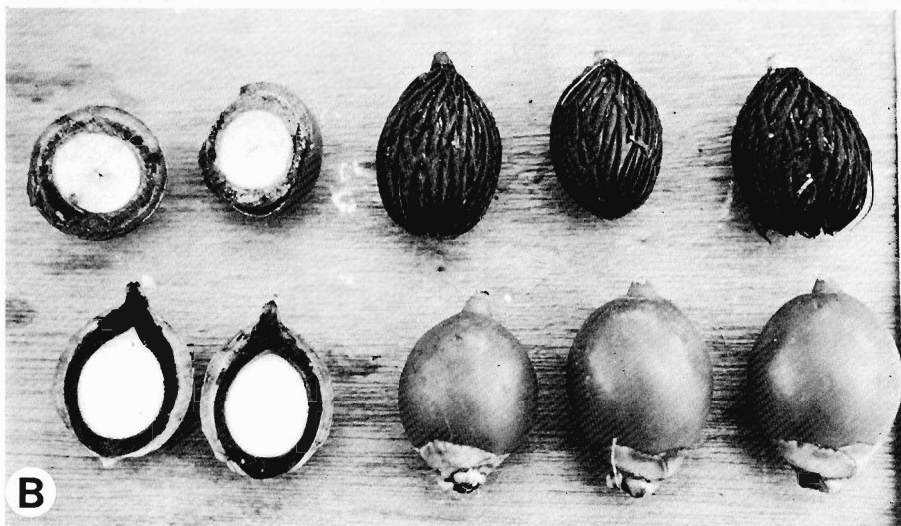
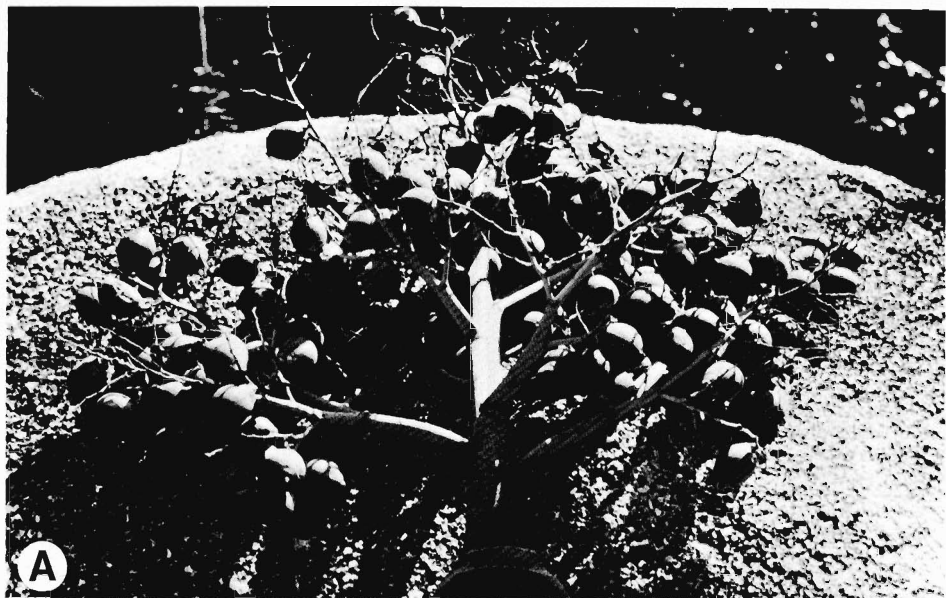
flattened, distally and proximally shallow, concave, abaxially convex; young leaves with dense scale pattern on woolly white background; rachis gradually becoming angled adaxially towards the tip, slightly convex or flattened abaxially; leaf profile oblong-elliptic, primary pinnae mostly divided into numerous, linear segments, most of which have one main vein, some with 2–4 veins, margins with thickened ribs, apices lacerate, praemorse or obliquely praemorse, with two to several fine teeth or divisions, the odd apex nearly acute-acuminate; terminal pinnae single or paired, not conspicuous against other pinnae in the field, slightly cuneate with praemorse or slightly oblique praemorse apices. Inflorescence infrafoliar, paniculate (Figs. 4,5A) with 4 orders of branching in the proximal third, reduced distally to 2 orders, with single terminal axis; peduncle

much shorter than the rachis, axes green, appearing glabrous but with small loose clusters of small brown scales around bases of buds; prophyll (Fig. 4B) attached at base of peduncle, completely enclosing peduncular bract and flower buds at emergence, caducous, dorsiventrally flattened, not keeled; peduncular bract attached

close to prophyll, completely surrounding bud at emergence, caducous; second peduncular bract small, caducous; other peduncular bracts very small, represented by sunken lines or scars, the 5th or 6th scar subtending the first branch; rameal bracts extremely small, acute or wavy wrinkled; flowers numerous, borne on ra-



4. A. A closer view of the crownshaft, inflorescence and fruit of *Wodyetia bifurcata*. B. Details of unopened inflorescence and inflorescence with bracts and branches removed. C. Terminal part of leaf. D. Details of the mid portion of the leaf, on left from above, on right from the side, showing the secondarily divided leaflets and the abundant scales.



5. A. Infructescence of *Wodyetia bifurcata*. B. Details of the mature fruit; note the broad, bifurcating fibers of the endocarp on the upper right.

chillae in triads of 2 outer staminate flowers and a central pistillate flower (Fig. 3a-c), reducing distally to paired or solitary staminate flowers; staminate bud bullet-shaped with rounded apex (Fig. 3d-i), subtended by 2 or 3 small narrow, imbricate bracts; sepals 3, free, imbricate,

rounded, gibbous, margins finely fimbriate, enveloping nearly half of corolla when buds near maturity; petals 3, free, valvate, hard; stamens many (60-71), filaments not inflexed in bud, anthers dorsifixed, versatile, linear-lanceolate, usually unevenly sagittate at base and slightly bifid

at apex; pistillode lageniform, swollen at base, surface rugose; stigmode with 4–5 erect papillae or lobes throughout bud stages. Pistillate buds shorter than staminate (Fig. 3k–o), conic-ovoid, subtended by 2 small narrow, curved, imbricate bracts; sepals 3, imbricate, rounded, gibbous, margins finely fimbriate; petals 3, valvate distally, imbricate basally; staminodes 6, very small, deltoid, with very short filaments, surrounding base of pistil; pistil conic-ovoid, unilocular, uniovulate; stigmas 3, virtually sessile, with slightly rounded apices. Fruit (Fig. 3p–t) orange-red at maturity, globose-ovoid, with apical stigmatic remains forming a conical beak, sloping gradually into fruit body; exocarp thin, with very short, stout fibers immediately under the thin orange-red epidermal layer; mesocarp fleshy, orange-yellow when ripe, thin with central bank of fibers running longitudinally through flesh, some forked, the flesh filling grooves between the distinctive, thick, strong, flattened fibers of the outer endocarp (Fig. 3t), these forking 1–4 times, conspicuous in surface view of endocarp; endocarp complex with an inner layer of horizontal fibers. Seed (Fig. 3u,v) terete in median cross section; integument rather thick, firm but soft, the raphe branches sparse, slightly impressed; endosperm homogeneous, embryo basal. Germination adjacent ligular; prophyll simple, bilobed, apices oblique-acute.

**Wodyetia bifurcata** Irvine sp. nov. Palma compta 6–15 m alta, caule 20–25 cm diametro, aliquanto lageniformi. Pinnae primariae regulares 90–107, in sectione medio folii 14–17 segmentis divisae; pinnae terminales binatim vel singularis; segmenta 765–950, supra nitida, viridia, infra pallidioria, hebetate-viridia, nitore dilute-albido propter punctuationes numerosas, parvas, albidas, densas, in sicco peluciditas. Gemma staminata filamentis squamis destitutis stylodio leviter curvato, squamis destitutis. Fructus maturus cum calyce 60–65 mm longus, sine calyce 49–57 mm longus, 27–37 mm latus, vestigio

stigmatis 8–10 mm longo. Semen ca. 32 × 22 mm. Typus: Australia, Queensland, *Irvine 2184* (holotypus QRS; isotypi BH, K).

Stem light grey, slightly bottle-shaped, 6–15 m tall, 20–25 cm diam. Leaves 6–10 in the crown, 2.6–3.2 m long; petiole and rachis greenish, adaxially with greyish white, mostly brownish lacerate-peltate scales, abaxially mostly with fringed scales, chafflikeramenta and some lacerate-peltate scales; young leaves densely covered with scales; leaf sheath tubular, 80–120 cm long, light green with greyish white bloom; petiole 29–42 cm long, 5.0–5.6 cm wide, 2.5–3.5 cm deep, adaxially flattish distally, slightly concave proximally, abaxially convex, primary pinnae regularly arranged, 90–107, in patterns each side of rachis such as 50/49, 53/54, 44/46, 50–1 terminal–48, mostly divided into numerous secondary segments, parallel to long axis of the pinnae; segments in 2 leaves from different collections numbered 765 and 950, arranged in patterns of 387–1–377 and 480–470 each side of rachis; proximal 1–4 primary pinnae sometimes entire or divided into 1–4 segments; number of segments increasing towards mid-rachis, the primary pinnae nos. 18–24, divided into 11–17 segments, primary pinnae 25–30 divided into 14–11 segments, segments reduced distally with near-terminal pinnae having 3–1 divisions; lamina glossy light green above, paler flat green with faint whitish sheen below; larger pinnae 45–70 cm long, 2.0–4.8 cm wide (midpart); terminal pinnae 12–24 cm long, 2.4–4.0 cm wide at apex, single or paired, slightly cuneate. Inflorescence 75–112 cm long, with 4 orders of branching, 26–31 main laterals plus terminal; rachis light green, scales not conspicuous, but small scattered clusters of flat brown scales occur around bases of buds; peduncle 8–13 cm long, 4.0–4.5 cm wide, 2.0–2.5 cm deep, with 5–6 caducous bracts subtending the first lateral; prophyll ca. 60 cm long immediately prior to splitting, peduncular bract 1 ca.