

## NOTES ON CASUARINACEAE

L. A. S. JOHNSON

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### ABSTRACT

Johnson, L. A. S. (*National Herbarium of New South Wales, Royal Botanic Gardens, Sydney, Australia 2000*) 1980. *Notes on Casuarinaceae. Telopea 2 (1): 83–84.*—In this precursory note, the new genus *Gymnostoma* and one new species, *G. vitiense*, are described; a new combination is made for *G. nodiflorum* (Thunb.) L. A. S. Johnson. The use of *Casuarina equisetifolia* is briefly discussed.

### 1. GYMNOSTOMA

In a treatment in preparation, I shall give reasons for recognizing four genera in the Casuarinaceae. As a precursor to Volume 2 of Professor A. C. Smith's 'Flora Vitiensis Nova', it is necessary to establish one of the new genera in advance and to describe the single Fijian endemic species.

#### *Gymnostoma* L. A. S. Johnson, gen. nov.

Ramuli persistentes novelli eis deciduis similes; ramuli omnes quadricostati, sulcis intercostalibus apertis non profundis, seriebus stomatum expositis. Folia 4 in verticillo unoquoque. Spiculae florum masculorum in ramulis floriferis eis vegetativis non valde distinctis dispositae, simplices vel aspectu compositae ramificationis condensatione; spiculae foemineae in ramulis brevibus elongatisve sed aspectu eis vegetativis similibus dispositae. Infructescenciae plerumque inter ramulos assimilantes dispositae; bractae distaliter expansae facie abaxiali infra apicem verticali manifesta, latiore quam altiore; bracteolae protrudentes in dorso convexae sed nec fissae nec protuberantia instructae. Chromosomata ut cognita  $n = 8$ .

*Persistent branchlets* similar, as new shoots, to the deciduous branchlets; all branchlets 4-ribbed, the intercostal furrows shallow and open, exposing the stomates. *Leaves* in whorls of 4. *Male inflorescences* borne on branchlets differing little from the vegetative ones, simple or appearing compound owing to condensation of branching; *female inflorescences* borne on branchlets that are short or elongated but similar in aspect to vegetative branchlets. *Infructescences* ('cones') mostly borne amongst the assimilatory branchlets; bracts expanded distally with the abaxial surface vertical below the apex and broader than high; bracteoles protruding, convex on the back but neither split nor furnished with a protuberance. *Chromosome number*  $n = 8$ , so far as known.

**SPECIES TYPICA:** *G. nodiflorum* (Thunb.) L. A. S. Johnson (*Casuarina nodiflora* Thunb.).

18 species, from Malesia to N.E. Australia, Fiji, and New Caledonia.

The name is derived from Greek *gymnos* = naked, and *stoma* = mouth, referring to the exposed position of the stomata on the branchlets. Poisson (1874, p. 103) recognized a 'Divisio' *Casuarinae Tetragonae* seu *Gymnostomae*, but the new genus is not formally based on Poisson's taxon.

***Gymnostoma nodiflorum* (Thunb.) L. A. S. Johnson, comb. nov.**—*Casuarina nodiflora* Thunb., *Nova Genera Plantarum*: 54 (1782), *Basionym*. HOLOTYPE: New Caledonia, Forster (UPS).

This New Caledonian endemic will be discussed in the paper in preparation. The name *Casuarina nodiflora* has been widely misused.

***Gymnostoma vitiense* L. A. S. Johnson, sp. nov.**

Ramuli rigidiusculi plus minusve erecti; articuli 3–5 mm longi, 0.5–0.8 mm diametro, ei ramulorum paenultimorum saepe valde abbreviati in regionibus ramuliferis; laminae foliorum (dentes) brevissimae (0.2–0.3, rare 0.5 mm longae), ovato-deltaeidae arcte incurvae; inflorescentiae masculae (ut videtur) subcompositae 1–5 mm longae; infructescentiae mediocres, corpore (bracteolis exclusis) 14–23 mm longo, 11–20 mm diametro, bracteis bracteolisque longitudinaliter striatis.

*Branchlets* rather rigid, more or less erect; articles 3–5 mm long, 0.5–0.8 mm diam., those of the penultimate branchlets often much abbreviated in the branchlet-bearing regions; leaf-laminae ('teeth') very short (0.2–0.3, rarely to 0.5 mm long), ovate-deltoid and strongly incurved; male inflorescences (so far as seen) sub-compound, 1–5 mm long; infructescences ('cones') medium-sized, the body (excluding the bracteoles) 14–23 mm long, 11–20 mm diam., the bracts and bracteoles longitudinally striate.

HOLOTYPE: Viti Levu: Naitasiri: Colo-i-Suva, L. A. S. Johnson NSW 143813, 20.8.1969; ♀ with mature infructescences.

The name *Casuarina nodiflora* has generally been misapplied to this species in Fiji, where it is endemic. It will be discussed more fully later.

2. *Casuarina equisetifolia*

Fosberg & Sachet (1975) have taken up the name '*Casuarina litorea* L.' in place of *C. equisetifolia* for this widespread and very well-known tropical and subtropical species. They also attribute the generic name *Casuarina* to Linnaeus, citing 'Diss. Stickman, 12, 1954 [as *Casaarina*, sphalm.]' as the place of publication.

I have in preparation a detailed discussion of the very complex nomenclatural problems presented by this case and others related to it. The present note is merely to indicate that there is a substantial case against the interpretation of Fosberg and Sachet, and for the retention of the name *Casuarina equisetifolia* Forst. et Forst. f. This case rests on the interpretation of the International Code of Botanical Nomenclature (Staffeu et al., 1978) and not on any *ad hoc* proposal to outlaw the Stickman dissertation. Consequently, I recommend strongly that the name *Casuarina equisetifolia*, being in current use, be retained, at least until the counter-argument to Fosberg and Sachet has been fully considered.

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