**41. CASUARINACEAE**

Family description by M.J.M. Christenhusz.

Deciduous or monoecious trees or shrubs with articulate (equisetoid) branchlets, the internodes ridged. Leaves reduced to teeth in a whorl at the apex of every internode. Inflorescences terminal, bracteate, unisexual; staminate inflorescences spikes with whorled flowers; pistillate inflorescences globular. Flowers unisexual, without perianth. Staminate flower whorls subtended by a whorl of teeth-like bracts; stamen 1, subtended by 2 teeth-like bracteoles. Pistillate flowers subtended by linear bracts, stigmas 2, elongated, subtended by 2 scale-like bracteoles. Infructescence a more or less woody cone, the 2 bracteoles hardened and enlarged as valves. Fruit a winged nut (samaras). 4 gen. Southeast Asia, Malesia, Australia, Pacific, introduced elsewhere.

*Casuarina glauca* Sieb. ex Spreng. and *Allocasuarina verticillata* (Lam.) L. Johnson (as *Casuarina stricta* Miq. ex Aiton) have been cultivated at the Escuela Agrícola Panamericana, El Zamorano, Honduras (Molina, 1975).


1. **Casuarina** L. N.v.: She-oak.

By M.J.M. Christenhusz.

Usually dioecious, rarely monoecious trees; young persistent branches differing from deciduous branches in shorter internodes and different shape or size of leaf-teeth. Leaves equisetoid, in whorls of 5-20 teeth. Staminate inflorescences simple elongate spikes with persistent bracteoles. Pistillate inflorescences globose, terminal on short lateral branches. Cones pedunculate, among or below the photosynthetic branchlets; samaras glabrous, pale yellowish-brown or greyish. 17 spp. SE Asia, Malesia, Australia, and the Pacific; 2 spp. naturalized in Mesoamerica.

*Casuarina* species often occur as pioneers of disturbed habitats. The relationship of *Casuarina* with nitrogen-fixing bacteria makes them desirable for rehabilitating eroded soils. *Casuarina* is often planted along roadsides, and, because of its wind and salt tolerance, also along beaches and on offshore cays where they
function as a wind-breaker and stabiliser of sandy soils. The fallen branchlets are used for mulch and the wood is used for construction and fuel.

The generic name refers to the resemblance of the fine drooping branchlets with the feathers of the cassowary birds of Australia and New Guinea.

1. Dioecious trees; staminate spikes with more than 11 whorls per cm; pistillate cones 0.7-1.5 cm; samaras 3-4 mm; leaf-teeth usually with a brown or yellowish mark; cones and twigs glabrous to sparsely hairy.  

1. C. cunninghamiana

1. Monoecious trees; staminate spikes with fewer than 11 whorls per cm; pistillate cones 1-2.5 cm; samaras 6-8 mm; leaf-teeth without a mark; cones always hairy, the twigs hairy to glabrous.

2. C. equisetifolia


Dioecious trees to 35 m; bark finely fissured and scaly, greyish-brown. Photosynthetic branchlets 0.4-0.7 mm in diameter, drooping or erect, glabrous to sparsely pubescent; internodes 0.5-9 mm. Leaf-whorls with 6-10 teeth, the teeth 0.3-0.5 mm, usually angular with a median rib, erect (recurved in young branches), usually with a dark brown to yellowish mark. Staminate spikes 0.4-2(-4) cm, with more than 11 whorls per cm; stamens 0.4-0.9 mm. Pistillate cones 0.7-1.5 cm, usually glabrous, rarely sparsely pubescent; bracteoles acute. Samaras 3-4 mm. *Planted along roads and in towns, rarely naturalized*. T (Barajas 82, MO; Ch (Breedlove & McClintock 23620, MO); C (Ramírez A. 130, MO); B (Nee & Atha 46878, MO); G (Proctor 25417, MO); H (Ochoa 169, BM); ES (Calderón 589, MO); CR (Khan et al. 543, BM). 0-1500 m. (Native to north and northeast Australia, usually along permanent streams; cultivated and naturalized elsewhere.)  

Miquel (1848) referred to Cunningham as collector of the type, but the lectotype specimen is not by this collector.  

*Casuarina cunninghamiana* can be easily distinguished from *C. equisetifolia* by its smaller fruits, its finer branches with short internodes, and its marked teeth. In its natural range there are two subspecies: subsp. *cunninghamiana* has 8-10
marcescent teeth, angular leaf-whorls and broadly acute cone bracteoles; subsp. *miodon* has 6-7 non-marcescent teeth, angular to flat leaf-whorls and sharply acute cone bracteoles.


Monoecious trees to 35 m, the staminate branches at the top of the tree, the pistillate inflorescences usually on lower branches; bark scaly, greyish-brown to black. Photosynthetic branchlets 0.5-1 mm in diameter, drooping, glabrous or glabrescent, sometimes densely pubescent; internodes 4-13 mm. Leaf-whorls usually hairy, with (6-)7-8 teeth, the teeth 0.3-0.8 mm, angular or flattened, erect (recurved in young branches), without a mark. Staminate spikes 0.7-4 cm, with less than 11 whorls per cm; stamens 0.6-0.8 mm. Pistillate cones 1-2.5 cm, hairy; bracteoles acute. Samaras 6-8 mm. *Planted in parks and along roads, also along sandy beaches, sometimes naturalizing.* Ch (Breedlove 23572, MO); Y (Schott 60, BM); QR (Cabrera et al. 4523, MO); B (Nee & Atha 46845, MO); G (Pierola & Hernández 5155, MO); H (Molina R. 31926, MO); ES (Martínez 53, BM); N (Atwood 1342, BM); CR (Döbbeler 694, BM); P (Blum 4054, MO). 0-700 m. (Native from Burma to Vietnam, Malesia, Melanesia, Polynesia and north and northeast Australia, mostly in coastal habitats; planted and naturalized elsewhere.)

For discussion on the validity of the name see Friis (1980). Two subspecies occur in its natural range. *Casuarina equisetifolia* subsp. *equisetifolia* has glabrous to glabrescent branchlets 0.5-0.7 mm wide and angular leaf-whorls. *Casuarina equisetifolia* subsp. *incana* has densely pubescent branchlets 0.7-1 mm wide and angular to flat leaf-whorls.