Plant Resources of South-East Asia

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Medicinal and poisonous plants 2

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Combretum Loefl.

Hier. Hispanic. App.: 308 (1758).

Combretaceae

x = 13; C. erythrophyllum, C. micranthum: 2n = 26; polyploidy is observed in several species.

Major species Combretum quadrangulare Kurz.

Origin and geographic distribution Combretum comprises about 250 species, throughout the tropics, and is most abundant in Africa; about 130–170 species are present in South-East Asia.

Uses In South-East Asia Combretum is best known as a vermifuge and for poulticing. Seeds or sometimes other parts of C. quadrangulare and C. trifoliatum are widely used as a vermifuge or for other intestinal disorders. The leaves or roots of C. quadrangulare and C. sandwicense are employed for poulticing wounds and boils. The fruits of C. tetralophum C.B. Clarke are applied as a substitute for C. trifoliatum. Both species are called 'sonsong harus' in Malay. This also applies to C. acuminatum Roxb., a third species of which the leaves are employed as a vermifuge; either as a decoction for adults, or as an externally applied plaster on the abdomen of children. In Peninsular Malaysia, the leaves of C. nigrescens King are used for poulticing wounds. In Indo-China, the astringent fruits of C. latifolium Blume are considered a tonic. In West Africa C. micranthum G. Don is traditionally used as an antimalarial. It is locally cultivated in Vietnam as a reputed remedy for bilious fever and haematuria. Several non-indigenous Combretum species have been introduced for their ornamental value, e.g. C. constricatum (Benth.) Rawson, C. grandiflorum G. Don, C. quadrangulare and C. raxburghii Spreng. (synonym C. decandrum Roxb.).

Production and international trade Combretum is only used at the local level in South-East Asia, and data on trade for medicinal use are lacking.

Properties The vermifugal properties of the ripe fruits of C. quadrangulare were evaluated in buffalo calves after a single oral administration. A dosage of 18–54 mg/kg body weight decreased the number of Necator americanus eggs in faeces to zero in 1–3 weeks. In a further in vivo study on the anthelmintic activity of C. quadrangulare, the ethereal and 95% alcohol extracts of dried roots were as active as the seed extract. However, in a clinical experiment for the treatment of thread-worm-infested children, negative results were obtained for moderate doses, and at a high dose negative side effects were observed.

Ripe seeds of C. quadrangulare produced no acute toxicity in albino rats and mice when administered orally at a single dose of about 0.6 and 2 g/kg respectively. The LD₅₀ of a 80% methanol extract, given orally to male and female mice and male and female rats, was reported to be 3.95, 3.9, 4.4 and 3.5 g/kg respectively. In a subchronic toxicity test, female rats, given the extract at 1 g/kg/day for 4 weeks, had significantly less weight gain without any changes in SGOT, SGAT, alkaline phosphatase, BUN or in serum albumin levels compared to controls.

Extracts of the seeds further showed antibacterial activity against Staphylococcus aureus (ATCC 25923), Bacillus subtilis (ATCC 6633), Salmonella typhosa (Bangkok), Escherichia coli (ATCC 25922) and Pseudomonas aeruginosa (ATCC 10045) in vitro.

Triterpene glycosides (e.g. quadrinosides I, II, V), isolated from the seeds of C. quadrangulare, showed significant hepatoprotective effects against D-galactosamine-induced cell death in primary cultured mouse he-
Commelina L.

Sp. pl. 1: 40 (1753); Gen. pl. ed. 5: 25 (1754).

**COMMELINACEAE**

\[ \alpha = (8, 9), 11, 14, 15, (21-28), (31-34); C. benghalensis: 2n = 22, (28, 30, 44, 48, 56, 66, 68), C. communis: 2n = (16), 22, (28, 32), 36 (40, 44, 46, 48, 50, 52, 84, 88), 90, C. diffusa: 2n = (18), 20, 28, 30, (42, 45, 56, 58), 60, (72), 90**

**Major species** Commelina benghalensis L., C. communis L.


**Origin and geographic distribution** Commelina consists of about 50–100–150 species from the tropical and warm regions of the world.

**Uses** The aerial parts of Commelina are very mucilaginous, and are therefore generally used for poulticing wounds and skin infections such as boils and ulcers, and also as a maturative. Internally, the fresh juice from the plants is taken for diarrhoea. In Peninsular Malaysia, the Philippines and India, C. benghalensis is considered refrigerant and astringent, and is used for stranguary. In China, Indo-China and Taiwan, C. communis is more commonly used for these purposes. In Vietnam, C. communis is applied externally for arthritis. In Indo-China, the sap of the crushed plant is also put on inflamed eyes, while in Africa the sap of C. benghalensis or C. diffusa is used for this purpose. In India and China, C. communis is also used to combat vertigo, fever and bilious dis-