

Commiphora



Commiphora saxicola - MHNT

The genus of the myrrhs, *Commiphora*, is the most species-rich genus of flowering plants in the frankincense and myrrh family, Burseraceae. The genus contains approximately 190 species of shrubs and trees, which are distributed throughout the (sub-) tropical regions of Africa, the western Indian Ocean islands, the Arabian Peninsula, India, and Vietnam.^{[1][2]} The genus is drought-tolerant and common throughout the xerophytic scrub, seasonally dry tropical forests, and woodlands of these regions.

The common name myrrh refers to several species of the genus, from which aromatic resins are derived for various fragrance and medicinal uses by humans.

1 Description

Leaves in *Commiphora* are pinnately compound (or very rarely unifoliolate). Many species are armed with spines. Bark is often exfoliating, peeling in thin sheets to reveal colorful, sometimes photosynthetic bark, below. Stems are frequently succulent, especially in species native to drier environments. Flowers are subdioecious and fruits are drupes, usually with a 2-locular ovary (one is abortive).^[3] In response to wounding, the stems of many species will exude aromatic resins.

2 Ecology and Biogeography

Commiphora can serve as a model genus for understanding plant evolution in the drier regions of the Old World tropics, particularly in eastern continental Africa and

Madagascar, where diversity in the genus is concentrated. The closely related sister genus to *Commiphora*, *Bursera*, has been used as a model genus to study patterns of evolution in the New World seasonally dry tropical forests.^[4]

3 Use by humans

Products from many species of *Commiphora* have been used for various purposes, sometimes as timber, building material, and natural fencing, but more often valued for the aromatic resins produced by several members of the genus. "Myrrh", the common name for these dried resins, is fragrant and has been used both as fragrance and for medicinal purposes (e.g., Balsam of Mecca, *C. gileadensis*).^[5] Use of myrrh resin is frequent and pronounced throughout historical texts of cultural significance, including the Bible.

4 Systematics and Taxonomy

Recent studies using DNA sequence data have confirmed the monophyly of *Commiphora*;^{[2][6]} however, this data suggests that previous classification of the genus into sections does not reflect monophyletic interspecific relationships.

4.1 Species

Species include:^[7]

- *Commiphora africana* (A. Rich.) Engl. (syn. *Heudelotia africana*),^[8] sometimes identified with ancient bdellium. Used indirectly by the San bushmen to poison their arrow tips for hunting^[9]
- *Commiphora angolensis*, also known as "sand commiphora", growing mainly in Angola and Namibia
- *Commiphora boranensis* Vollesen^[8]
- *Commiphora caudata* (Wight & Arn.) Engl.^[8]
- *Commiphora corrugata* J. B. Gillett & Vollesen^[8]
- *Commiphora erythraea*, modern source of opopanax
- *Commiphora gileadensis* (L.) C. Chr.^[8] (syn. *Commiphora opobalsamum*), producing balsam of Mecca.

- *Commiphora glandulosa*
- *Commiphora guidottii* (syn. *Commiphora sessiliflora*), producing scented Myrrh or *habak hadi* in Somali.
- *Commiphora guillaminii*
- *Commiphora habessinica*
- *Commiphora harveyi*
- *Commiphora holtziana*
- *Commiphora humbertii*
- *Commiphora kataf* producing bisabol.
- *Commiphora madagascariensis*
- *Commiphora mossambicensis*
- *Commiphora myrrha* (syn. *Commiphora molmol*), producing myrrh.
- *Commiphora schimperi*
- *Commiphora simplicifolia* H. Perrier^[10]
- *Commiphora sphaerocarpa*
- *Commiphora stocksiana*, known in Pakistan as *bayisa gugal*
- *Commiphora wightii* (syn. *Commiphora mukul*^[11]), producing gum guggul, sometimes identified with ancient bdellium.

5 Gallery

- *Commiphora simplicifolia*
- *Commiphora simplicifolia*

6 References

- [1] Daly et al. 2011. Burseraceae. Families and genera of vascular plants. 10:76–104.
- [2] Weeks, A. and Simpson, B.B. 2007. Molecular phylogenetic analysis of *Commiphora* (Burseraceae) yields insight on the evolution and historical biogeography of an “impossible” genus. *Molecular Phylogenetics and Evolution*. 42:62–79.
- [3] Gillett, J.B. 1991. Burseraceae. In: Polhill, R.M. (Ed.), *Flora of Tropical East Africa*. A.A. Balkema, Rotterdam. Pp. 1–95.
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- [5] Musselman, L.J. 2007. *Figs, Dates, Laurel, and Myrrh: Plants of the Bible and the Quran*. Timber Press, Inc. Portland, Oregon. Pp. 194–197.
- [6] Weeks, A., et al. 2005. The phylogenetic history and biogeography of the frankincense and myrrh family (Burseraceae) based on nuclear and chloroplast sequence data. *Molecular Phylogenetics and Evolution*. 35:85–101.
- [7] “The Plant List: A Working List of All Plant Species”. Retrieved June 5, 2014.
- [8] “Species in GRIN for genus”. www.ars-grin.gov. Retrieved 2009-01-15.
- [9] Moorcroft, Koos; Gunduza, Raphael, *Traditional skills of the Bushmen - Part 1: BUSHMAN WEAPONS*
- [10] “*Commiphora simplicifolia* in A Catalogue of the Vascular Plants of Madagascar @ efloras.org”. www.efloras.org. Retrieved 2009-02-19.
- [11] “Tropicos.org”. Retrieved June 6, 2014.

7 External links

- Flora of Pakistan: *Commiphora*
- GRIN taxonomy: *Commiphora*
- Biblical Burseraceae

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