Pharmacognosy Communications
Volume 3 | Issue 4 | Oct–Dec 2013
www.phcogcommn.org

Medicinal Plant Images

Medicinal plant images

Cock I.E.*[a,b]

[a]*Environmental Futures Centre, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia*
[b]*Biomolecular and Physical Sciences, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, Australia*

Figure 1. *Syzygium jambos* Alston (syn. *Eugenia jambos* L.; *Jambosa jambos* Millsp.; *Jambosa vulgaris* DC.; *Caryophyllus jambos* Stokes) is an evergreen tree of the family Myrtaceae. It is native to Southeast Asia where it is grown both as a food and for its medicinal properties. *S. jambos* has been used as a general tonic as well as for the treatment of a wide variety of diseases and medical conditions including fever reduction, as well as the treatment of asthma, bronchitis, diabetes, diarrhoea, dysentery, epilepsy, rheumatism and catarrh. It is also used as an analgesic and an anaesthetic. The antimicrobial activity of this species in particular has been the focus of recent investigations.[1] Several other species of the genus Syzygium from Africa,[2,3] Asia[4,5] and Australia[6–8] have also previously demonstrated good antimicrobial activity. The photograph shows *S. jambos* fruit displayed for sale at a market in Thailand in February 2012.

Figure 2. The genus Xanthorrhoea (Australian grasstrees) is a small genus of slow growing and very long living plants which are endemic to Australia. The leaves of one species, *Xanthorrhoea johnsonii*, have recently been shown to display toxicity towards brine shrimp[9,10] and have an anaesthetic/sedative effect.[11] Recent studies have determined the phytochemical composition of *X. johnsonii* leaf extracts and identified o-hydroxycinnamic acid as the compound likely to be responsible for the sedative effect.[12] The same study postulated that this compound may produce its sedative effect by altering endogenous serotonin levels. Interestingly, the sedative effect has only been detected for leaves taken from plants during drought conditions. Leaf extracts from the same plants during times of high rainfall lack the sedative effect. It is therefore likely that whilst this compound may be constitutively expressed at low levels, its production is up-regulated during times of stress to function as a chemical deterrent to foraging animals and thus has a protective role in *X. Johnsonii*.

1. Mohanty S, Cock IE. Bioactivity of Syzygium jambos methanolic extracts: Antibacterial activity and toxicity. Pharmacognosy Research 2010; 2(1):4–9.
2. Cock I, van Vuuren SF. Anti-*Proteus* activity of some South African medicinal plants: their potential for the prevention of rheumatoid arthritis. Inflammopharmacol. 21 DOI 10.1007/s10787-013-0179-3.
3. Van Wyk BE, van Oudtshoorn B, Gericke N (2009) Medicinal plants of South Africa. 2nd Edition, Briza Publications, Pretoria South Africa.
4. Duraipandiyan V, Ayyanar M Ignacimuthu S. Antimicrobial activity of some ethnomedicinal plants used by Paliyar tribe from Tamil Nadu, India. BMC Complimentary and Alternative Medicine 2006; 6 (35):1–7.
5. Cai L, Wu CD. Compounds from *Syzygium aromaticum* possessing growth inhibitory activity against oral pathogens. Journal of Natural Products 1996; 59:987–90.
6. Cock IE. Antibacterial activity of selected Australian native plant extracts. The Internet Journal of Microbiology 2008; 4:2.
7. Cock IE. Antimicrobial activity of *Syzygium australe* and *Syzygium leuhmannii methanolic* extracts. Pharmacognosy Communications 2012; 2(2):71–7.
8. Cock IE. assessment of the toxicity of selected Australian native plant extracts using the Artemia franciscana nauplii bioassay. The Internet Journal of Toxicology 2008; 5:2.
9. Cock IE, Medicinal and aromatic plants – Australia. In Ethnopharmacology, Encyclopedia of Life Support Systems (EOLSS), 2011, Developed under the auspices of UNESCO, EOLSS Publishers, Oxford, UK [http://www.eolss.net].
10. Kalt FR, Cock IE. The medicinal potential of Australian native plants from Toohey Forest, Australia. South Pacific Journal of Natural and Applied Sciences 2010; 28:41–7.
11. Cock IE, Kalt FR. Toxicity evaluation of *Xanthorrhoea johnsonii* leaf methanolic extract using the Aretemia franciscana bioassay. Phcog Mag 2010; 6, 23:166–71.
12. Cock IE, Kalt FR. Gas chromatography-mass spectroscopy analysis of a Xanthorrhoea johnsonii extract displaying apparent anaesthetic effects. Journal of Natural Pharmaceuticals 2012; 3(2):78–88.