

Medicinal Plant Images

Ian Edwin Cock^{1,2,*}

¹Environmental Futures Research Institute, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland, AUSTRALIA.

²School of Environment and Science, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

Correspondence:

Dr. Ian Edwin Cock^{1,2}

¹Environmental Futures Research Institute, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland, AUSTRALIA.

²School of Environment and Science, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland-4111, AUSTRALIA.

Phone no: +61 7 37357637

Email id: i.cock@griffith.edu.au

DOI: 10.5530/pc.2020.3.29



Figure 1: *Petalostigma triloculorae* (commonly known as quinine bush) unripe fruit and leaves. *Petalostigma* is an Australian Euphorbiaceae genus which consists of 7 species. They grow to between 2 and 10 metres in height and have bright orange fruit (when ripe). *Petalostigma* species were used extensively by indigenous Australians to treat a myriad of bacterial, fungal and viral diseases.¹ *P. pubescens* bark and fruit decoctions were used extensively by Australian Aborigines as an antiseptic and to treat sore eyes. Fruit were also held in the mouth to relieve toothache.¹ Despite its common name, there is no scientific evidence to support the presence of quinine in the fruit or leaves (the common name is presumably due to the extremely sharp bitter flavour of the fruit). Recent studies have confirmed the antibacterial, antifungal and antiviral activity of extracts of the leaves and fruit of this plant.^{2,3} This photograph was taken at Griffith University, Brisbane, Australia in 2011 by Dr. Ian Cock.



Figure 2: *Australian acacia* spp.: The genus *Acacia* (family Fabaceae) is a large genus of more than 1200 trees and shrubs which are widely distributed throughout the world, with more than 700 species indigenous to Australia. The Australian species had multiple medicinal uses by indigenous Australians, including use to treat diarrhoea and hyperglycemia⁴ and as a general antiseptic agent.⁵⁻⁷ Many *Acacia* spp. have also been reported to have antimicrobial, molluskicidal, antihypertensive and platelet aggregatory activities.⁴ Recent studies have reported that Australian^{8,9} and South African *Acacia* spp.^{10,11} inhibit some bacterial triggers of the autoimmune inflammatory diseases rheumatoid arthritis and ankylosing spondylitis. Furthermore, several *Acacia* spp. inhibit the growth of food spoilage bacteria and therefore are useful as natural preservatives.^{7,12} This photograph was taken in Toohy Forrest, Queensland, Australia by Dr. Ian Cock in 2016.

REFERENCES

- Cock IE. Medicinal and aromatic plants – Australia. In Ethno pharmacology, Encyclopedia of Life Support Systems (EOLSS) 2011. Developed under the auspices of UNESCO. Oxford UK; EOLSS Publishers. 2011. Available from <http://www.eolss.net>.
- Kalt FR, Cock IE. Gas chromatography-mass spectroscopy analysis of bioactive *Petalostigma* extracts: Toxicity, antibacterial and antiviral activities. *Pharmacognosy Magazine*. 2014;10(37 Supplement):S37-49.
- Kalt FR, Cock IE. The medicinal potential of Australian native plants from Toohy Forest, Australia. *The South Pacific Journal of Natural and Applied Sciences*. 2010;28(1):41-7.
- Cock IE. Medicinal and aromatic plants – Australia. In Ethnopharmacology, Encyclopedia of Life Support Systems (EOLSS), Developed under the auspices of UNESCO, EOLSS Publishers, Oxford, UK. 2011. [<http://www.eolss.net>].
- Cock IE. Antibacterial activity of selected Australian native plant extracts. *Internet J Microbiol*. 2008;4(2):1-8.
- Cock IE. The antimicrobial activity of *Acacia aulacocarpa* and *Acacia complanta* methanolic extracts. *Pharmacognosy Communications*. 2012;2(1):66-71.

- Cock IE. Australian *Acacia* spp. Extracts as natural food preservatives: Growth inhibition of food spoilage and food poisoning bacteria. *Pharmacognosy Communications*. 2017;7(1):4-15. DOI: 10.5530/pc.2017.1.2
- Cock IE, Winnett V, Sirdaarta JU, Matthews B. The potential of selected Australian medicinal plants with anti-*Proteus* activity for the treatment and prevention of rheumatoid arthritis. *Pharmacognosy Magazine*. 2015;11(42 Suppl 1):S190-208. DOI: 10.4103/0973-1296.157734
- Winnett V, Sirdaarta J, White A, Clarke FM, Cock IE. Inhibition of *Klebsiella pneumoniae* growth by selected Australian plants: Natural approaches for the prevention and management of ankylosing spondylitis. *Inflammopharmacology*. 2017;25(2):223-35. in press.
- Cock IE, Vuuren VSF. Anti-*Proteus* activity of some South African medicinal plants: Their potential for the prevention of rheumatoid arthritis. *Inflammopharmacology*. 2014;22(1):23-36. DOI: 10.1007/s10787-013-0179-3
- Cock IE, Vuuren SFV. The potential of selected South African plants with anti-*Klebsiella* activity for the treatment and prevention of ankylosing spondylitis. *Inflammopharmacology*. 2015;23(1):21-35. DOI: 10.1007/s10787-014-0222-z
- Cock IE, Vuuren SFV. South African food and medicinal plant extracts as potential antimicrobial food agents. *Journal of Food Science and Technology*. 2015;52(11):6879-99. DOI: 10.1007/s13197-015-1806-3.