

Medicinal Plant Images

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Figure 1: *Strelitzia reginae* Aiton (family Strelitziaceae), commonly known as bird of paradise and crane flower, is a perennial plant which is native to South Africa. The plant grows to 2 m tall, with large leaves to 70 cm long and 30 cm wide. The species produces showy flowers consisting of orange sepals and purple or blue petals and has been widely naturalised globally as an ornamental plant. However, *S. reginae* also is used in South African traditional medicine to treat diseases caused by bacterial pathogens, particularly urinary tract infections (UTI's) and sexually transmitted infections (STI's).^{1,2} Decoctions prepared from crushed *S. reginae* roots were considered particularly useful for the easing the symptoms of sexually transmitted diseases (including inflamed glands) in cultures from the Kwa Zulu-Natal region of South Africa, including the Zulus. A recent study screened a panel of South African plants with traditional uses in the treatment of STI's and UTI's for the ability to inhibit the pathogens *Candida albicans* (thrush), *Gardnerella vaginalis* (bacterial vaginosis), *Neisseria gonorrhoeae* (gonorrhoea), *Oligellaureolytica* (bacterial vaginosis), *Trichomonas vaginalis* (trichomoniasis), and *Ureaplasma urealyticum* (bacterial vaginosis).³ That study reported *S. reginae* dichloromethane: methanol (1:1) extracts inhibited the growth of all of the pathogens screened. The extract was a particularly good inhibitor of *O. ureolytica* and *T. vaginalis*, with MIC values of 0.6 and 1 mg/mL respectively. The extract was also a moderate inhibitor of *C. albicans* (2 mg/mL), *G. vaginalis* (3 mg/mL), *Neisseria gonorrhoeae* (2 mg/mL) and *U. urealyticum* (2 mg/mL). Interestingly, aqueous extracts (the form in which the plant is traditionally used) were generally substantially less potent, with MIC values up to 8 times higher than for the solvent extraction. This photograph was taken in Brisbane, Australia in 2016 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. 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 Toohey Forrest, Queensland, Australia by Dr Ian Cock in 2016.

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