

Medicinal Plant Images

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Figure 1: *Tasmannia lanceolata* (commonly known as Tasmanian pepper or mountain pepper) is a medium to large shrub (2-5 m in height) which is endemic to the woodlands and cool temperate rainforests of Tasmania and the south-eastern region of the Australian mainland.¹ Individual plants are unisexual, having either male or female flowers. The berries, leaves and bark of this species have historical uses as a food and as a medicinal plant.² When the berry is air dried it forms a small, hard peppercorn which is suitable for milling or crushing. The berry has a pleasant spicy flavour and sharp aroma. *T. lanceolata* was used as flavouring agent by Australian Aborigines and more recently by European settlers. Historically, the leaves have been used as a herb and the berries have been used as a spice. Australian Aborigines also used *T. lanceolata* as a therapeutic agent to treat stomach disorders and as an emetic, as well as general usage as a tonic.² Reports also exist of the use of *T. lanceolata* by Australian Aborigines for the treatment and cure of skin disorders, venereal diseases, colic, stomach ache and as a quinine substitute.² Later, European colonists also recognized the therapeutic potential of *T. lanceolata* and the bark was used as a common substitute for other herbal remedies (including those derived from the related South American Winteraceae species, *Drimys wintera*)³ to treat scurvy due to its high antioxidant content.^{2,4} Recent studies have reported *T. lanceolata* extracts to be potent inhibitor of the growth of an extensive panel of bacteria,⁵ and of a bacterial trigger of rheumatoid arthritis.⁶ *T. lanceolata* extracts have also been reported to inhibit the proliferation of the gastrointestinal protozoal parasite *Giardia duodenalis*.⁷ This photograph was taken in Tasmania, Australia in 2014 by Dr David Ruebhart and is printed here with the photographer's permission.

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1. Cock IE. The phytochemistry and chemotherapeutic potential of *Tasmannia lanceolata* (Tasmanian pepper): A review. *Pharmacognosy Communications*. 2013;3(4):13-25.
2. Cock IE. Medicinal and aromatic plants—Australia, in Ethnopharmacology section, Biological, Physiological and Health Sciences, Encyclopedia of Life Support Systems (EOLSS), 2011; Developed under the Auspices of the UNESCO, EOLSS Publishers, Oxford, UK, (<http://www.eolss.net>).
3. LeStrange R. A history of herbal plants. 1977; Angus and Robertson.
4. Netzel M, Netzel G, Tian Q, Schwartz S, Konczak I. Native Australian fruits—a novel source of antioxidants for food. *Innovative Food Science and Emerging Technology*. 2007;8(3):339-46.
5. Winnett V, Boyer H, Sirdaarta J, Cock IE. The potential of *Tasmannia lanceolata* as a natural preservative and medicinal agent: antimicrobial activity and toxicity. *Pharmacognosy Communications*. 2014;4(1):42-52.
6. Cock IE, Winnett V, Sirdaarta J, 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(Supp 1):S190-208.
7. Rayan P, Matthews B, McDonnell P, Cock IE. Phytochemical analysis of *Tasmannia lanceolata* extracts and inhibition of *Giardia duodenalis* proliferation. *Pharmacognosy Magazine*. 2016;in press.
8. Hutchings A, van Staden J. Plants used for stress-related ailments in traditional Zulu, Xhosa and Sotho medicine. Part 1: Plants used for headaches. *Journal of Ethnopharmacology*. 1994;43(2):89-124.
9. Watt JM, Breyer-Brandwijk MG. The Medicinal and Poisonous Plants of Southern and Eastern Africa 1962; 2nd edition: Livingstone, London.
10. Van Wyk BE, van Oudtshoorn B, Gericke N. Medicinal plants of South Africa. 2nd Edition, Briza Publications2009; Pretoria, South Africa.



Figure 2: *Gomphocarpus fruticosus* is a small Southern African shrub growing up to 2 m in height, with narrow opposite leaves on thin upright stems. *G. Fruticosus* produces light green flowers that become large air filled seed pods which are covered with wiry hair like protrusions. All parts of the plant produce white milky latex which exudes when the plant is broken. The dried leaves and roots are used in various Southern African traditional healing systems.^{8,9} Finely ground dried leaves were inhaled to ease headache⁸ and to treat tuberculous.⁹ An infusion prepared from the dried roots is used to relieve stomach pain, and as a general analgesic.¹⁰ The roots also have diuretic and purgative uses.⁹ This photograph was taken in 2012 at Walter Sisulu Botanical Gardens, Johannesburg, South Africa by Dr Ian Cock.