

Medicinal Plant Images

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Figure 1: *Tasmannia lanceolata* (Poir.) A.C.Sm. (Family Winteraceae), commonly known as Tasmanian pepper or mountain pepper berry, is a shrub which is endemic to the woodlands and cool temperate rainforests of Tasmania and the south-eastern region of the Australian mainland. The leaves, berries and bark of this plant have traditional uses as a food flavouring, and as a medicinal plant. Australian Aborigines used *T. lanceolata* as a therapeutic agent to treat stomach disorders and as an emetic, as well as general usage as a tonic.¹ That study reported that *T. lanceolata* was used by Australian Aborigines for the treatment and cure of skin disorders, venereal diseases, colic, stomach ache and as a quinine substitute. Several of these traditional uses have been validated in recent publications. The antibacterial properties of *T. lanceolata* have been particularly well reported against a wide variety of bacterial species.²⁻⁶ Similarly, the related species *Tasmannia stipitata*⁷ and *Pseudowintera colorata* (Raoul) Dandy⁸ have also been reported to inhibit the growth of multiple bacteria. *T. lanceolata* extracts have also been reported to inhibit the growth of the gastrointestinal protozoal parasite *Giardia duodenalis*.^{6,9} Similar extracts also inhibit the proliferation of several human cancer cell lines.^{6,10}



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 being used to treat diarrhoea and hyperglycemia¹¹ and as a general antiseptic agent¹²⁻¹⁵. Many Australian *Acacia* species have been reported to have antimicrobial, molluscicidal, antihypertensive and platelet aggregatory activities.¹¹ This photograph was taken at Griffith University, Australia in 2015 by Dr Ian Cock.

REFERENCES

- Cock IE. The phytochemistry and chemotherapeutic potential of *Tasmannia lanceolata* (Tasmanian pepper): a review. *Pharmacogn Commun.* 2013;3(4):13-25.
- Winnett V, Boyer H, Sirdaarta J, Cock IE. The potential of *Tasmannia lanceolata* as a natural preservative and medicinal agent: antimicrobial activity and toxicity. *Phcog Commn.* 2014;4(1):42-52. doi: 10.5530/pc.2014.1.7.
- 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. *Pharmacogn Mag.* 2015;11(Suppl 1):Suppl 1:S190-208. doi: 10.4103/0973-1296.157734, PMID 26109767.
- 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. *Inflammopharmacol.* 2017;25(2):223-35. doi: 10.1007/s10787-017-0328-1.
- Wright MH, Jay Lee CJ, Arnold MSJ, Shalom J, White A, Greene AC, Cock IE. GC-MS analysis of *Tasmannia lanceolata* extracts which inhibit the growth of the pathogenic bacterium *Clostridium perfringens*. *Pharmacogn J.* 2017;9(5):626-37. doi: 10.5530/pj.2017.5.100.
- Vallette L, Rabadeaux C, Sirdaarta J, Davis C, Cock IE. An upscaled extraction protocol for *Tasmannia lanceolata* (Poir.) AC Sm.: Anti-bacterial, anti-Giardial and anticancer activity. *Pharmacogn Commun.* 2016;6(4):238-54. doi: 10.5530/pc.2016.4.7.
- Hart C, Ilanko P, Sirdaarta J, et al. *Tasmannia stipitata* as a functional food/natural preservative: antimicrobial activity and toxicity. *Pharmacogn Commun.* 2014;4(4):33-47.
- Barillot C, Davis C, Cock IE. *Pseudowintera colorata* (Raoul) Dandy hydro-alcohol leaf extract inhibits bacterial triggers of some autoimmune inflammatory diseases. *Pharmacogn Commun.* 2017;7(4):164-71. doi: 10.5530/pc.2017.4.24.
- Rayan P, Matthews B, Mc Donnell PA, Edwin Cock I. Phytochemical analysis of *Tasmannia lanceolata* extracts and inhibition of *Giardia duodenalis* proliferation. *Phcogj.* 2016;8(3):291-9. doi: 10.5530/pj.2016.3.19.
- Jamieson N, Sirdaarta J, Cock IE. The anti-proliferative properties of Australian plants with high antioxidant capacities against cancer cell lines. *Pharmacogn Commun.* 2014;4(4):71-82.
- Cock IE. Medicinal and aromatic plants – Australia. In: Oxford, UK: EOLSS Publishers. *Ethnopharmacology, Encyclopedia of Life Support Systems (EOLSS)*, Developed under the auspices of UNESCO. Available from: <http://www.eolss.net> [cited 9/12/2021].
- Cock IE. Antibacterial activity of selected Australian native plant extracts. *Internet J Microbiol.* 2008;4:2.
- Cock IE. Antimicrobial activity of *Acacia aulacocarpa* and *Acacia complanta* methanolic extracts. *Phcog Commn.* 2012;2(1):66-71. doi: 10.5530/pc.2012.1.12.
- Cock IE. Australian *Acacia* spp. extracts as natural food preservatives: growth inhibition of food spoilage and food poisoning bacteria. *Pharmacogn Commun.* 2017;7(1):4-15. doi: 10.5530/pc.2017.1.2.
- 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. *Pharmacogn Mag.* 2015;11(Suppl 1):S190-208. doi: 10.4103/0973-1296.157734, PMID 26109767.