Pharmacogn. Commn. 2022;12(2):86-87.

A multifaceted peer reviewed journal in the field of Pharmacognosy and Natural Product www.phcogcommn.org

Medicinal Plant Images

I.E. Cock^{1,2,*}

¹Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA. ²School of Natural Sciences, Nathan Campus, Griffith University, Nathan, Brisbane, Queensland, AUSTRALIA.

Correspondence:

Dr. I E Cock

¹Centre for Planetary Health and Food Security, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, AUSTRALIA. ²School of Natural Sciences, Nathan Campus, Griffith University, 170 Kessels Rd, Nathan, Brisbane, Queensland 4111, AUSTRALIA. E-mail: i.cock@griffith.edu.au **DOI**: 10.5530/pc.2022.2.17



Figure 1: *Tasmannia lanceolata* (Poir) A.C.Sm. (family Winteraceae), commonly known as mountain pepper berry or Tasmanian pepper, is 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



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.

Similarly, the related species *Tasmannia stipatata⁷* and *Pseudowintwera 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 *Giadria duodenalis*.^{6,9} Similar extracts also inhibit the proliferation of several human cancer cell lines.^{6,10}

The Australian species had multiple medicinal uses by indigenous Australians, including being used to treat diarrhoea and hyperglycemia¹¹ and as a general antiseptic agent^{3,12-14} Many Australian *Acacia* species have

been reported to haveamtimicrobial, molluskicidal, antihypertensive and platelet aggregatory activities.¹¹ This photograph was taken at Griffith University, Australia in 2015 by Dr Ian Cock.

REFERENCES

- 1. 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, *et al.* 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, Sirdaaerta 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 7/3/2022].
- 12. 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.