

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.^{5,10}



Figure 2: *Syzygium leuhmannii* (F. Muell.) L.A.S. Johnson (commonly known as riberry). *Syzygium* is a large genus of evergreen flowering plants of the family Myrtaceae which consists of approximately 500 species.¹¹ Plants of this genus are widespread, occurring in tropical and subtropical regions of South-East Asia, Australia and Africa. Many *Syzygium* species produce edible fruits and berries. *S. leuhmannii* is used to treat respiratory ailments, tuberculosis, gastrointestinal disorders, diarrhoea and dysentery.¹² Recent reports have also highlighted the Australian *Syzygium S. leuhmannii* and *Syzygium australe* (Bush Cherry) extracts as having exceptionally high antioxidant contents.¹³ Antioxidants have been associated with the prevention of cancer, cardiovascular disease and neurological degenerative disorders.¹⁴⁻¹⁶ They are also linked with anti-diabetic bioactivities and have been associated with the reduction of obesity. Antioxidants can directly scavenge free radicals, protecting cells against oxidative stress related damage to proteins, lipids and nucleic acids.¹⁷ Thus, *Syzygium* spp. have potential in the treatment of a significant number of diseases and medical conditions related to cellular redox state. Many other *Syzygium* species internationally also have documented uses in traditional medicine.¹¹ In the commercially most important species *Syzygium aromaticum* (clove), the unopened flower bud is used as a spice. This plant also has uses in traditional medicine due to its anaesthetic properties.¹⁸ The antibacterial activity of *S. aromaticum* is also well known. Numerous studies have reported on the antibacterial¹⁸ and antifungal¹⁹ activities of oils and extracts from this plant. Other *Syzygium* species from South East Asia (*Syzygium jambos*)²⁰ and India (*Syzygium lineare* and *Syzygium cumini*)²¹ have also been shown to have antimicrobial activity. Recent studies have also reported the antibacterial activity of *Syzygium cordatum* leaf extracts. Of particular interest was the potent growth inhibitory of the extracts against the bacterial triggers of rheumatoid arthritis²² and ankylosing spondylitis.²³

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