Pharmacognosy Communications, 2026; 16(4):197-198.
https://www.phcogcommn.org

Medicinal Plant Images

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Figure 1: *Syzygium australe* (H.L.Wenfl. ex Link) B.Hyland (commonly known as brush cherry). *Syzygium* is a large genus of evergreen flowering plants of the family Myrtaceae which consists of approximately 500 species.[1] 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. Some *Syzygium* spp. are used in traditional medicine to treat respiratory ailments, tuberculosis, gastro-intestinal disorders, diarrhoea and dysentery.[2] Recent reports have also highlighted the Australian Syzygium *S. leuhmannii* and *Syzygium australe* (Bush Cherry) extracts as having exceptionally high antioxidant contents.[3] Antioxidants have been associated with the prevention of cancer, cardiovascular disease and neurological degenerative disorders.[4-6] 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.[7] 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.1 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.[8] The antibacterial activity of S. aromaticum is also well known. Numerous studies have reported on the antibacterial[9] and antifungal[9] activities of oils and extracts from this plant. Other Syzygium species from South East Asia (*Syzygium jambos*)[10] and India (*Syzygium lineare* and *Syzygium cumini*)[11] 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 arthritis[12] and ankylosing spondylitis.[13]

DOI: 10.5530/pc.2026.4.25

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Figure 2: *Tasmannia lanceolata* (Poir) A.C.Sm. (family Winteraceae), commonly known as Tasmanian pepper or mountain pepper berry, 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.[14]

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.[15-19] Similarly, the related species *Tasmannia stipatata*[20] and *Pseudowintera colorata* (Raoul) Dandy[21] 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.*[19,22] Similar extracts also inhibit the proliferation of several human cancer cell lines.[19,23] The photograph was taken in the Royal Tasmanian Botanical Gardens, Hobart, Australia by Dr. Ian Cock in January 2022.

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