Multi potentiality of Cissus quadrangularis L., (Family: Vitaceae)

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Short Note

Cissus quadrangularis L., (Family: Vitaceae) is a perennial climber, found mostly in the hotter parts of the world such as India, Sri Lanka, Tropical Africa, South Africa, Thailand, and Philippines. Lamina ovate to trilobed, margin serrate, apex acute, base cordate to obtuse, 2.5-4cm by 2-5 cm, glabrous, coriaceous, petiole 1.5-2 cm long. Stem slightly quadrialate, glabrous to downy, constricted at nodes, tendril simple, leaf-opposed, characteristic of all members of the family. Flowers in a umbellate cyme without tendril, leafopposed, peduncle 1-2.5 cm long, hirsute. Flower petals cream abaxially, red adaxially, disc cream. Fruits berry globose, 6-10 mm across, ripening red, acidic, with 1 seed per fruit; seed 4-8 mm. (Backer, et al., 1965; Latiff, 1981; Nazimuddin and Qaiser 1982; Yeo, 2001).



Fig. A: Cissus quadrangularis L.



Fig. B: Young twigs of C. quadrangularis L.

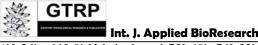


Fig. C: Chutney made from *C. quadrangularis* L.

Cissus quadrangularis L. is a medicinally important plant locally it is known as pirandai or chengalam pirandai and it is used for the treatment of various diseases in Indian system of medicine. In bone fracture the mode of administration of different parts of Cissus quadrangularis L. was reported by several authors (Potu, et al., 2009; Meher et al., 2010). The stem of the plant is used to bandage the part of body subjected to fracture or any bone injury. The oil prepared from juice of this plant and gingili oil is externally applied over fractured part. The dried root powder can be given in dose of 1-3 gm and this can also be applied externally after mixing with hot water for bone fracture. In addition to these during ear ache or pus discharge, can be cured by heating the stem in little flame extracting the juice and using it as ear drops (Thakur et al., 2009). The fresh leaves are dried, powdered and given along with powdered dried ginger and powdered pepper for digestive problems (Shah, 2011). The juice of young stem and leaves can reduce the obesity (Oben et al., 2008). In addition the medicopotentiality of Cissus quadrangularis L. the young stem and leaves of this plant is used to make chutney with tamarind by tribal people an local inhabitants of Nilambur

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(1° 26′ - 11° 9′ N latitude and 75° 48′- 76° 33′ longitude), Malappuram district, Kerala (Binu Thomas *et al.*, 2010) (Plate-1C).

Our thorough screening of literature available on *Cissus quadrangularis* L. depicted an interesting fact that though the plant is a popular remedy for a variety of ailments. In addition to this the present observation noticed its edible potentiality also. Such information may serve as a base for new phytochemical, pharmacological and clinical research to understand the molecular mechanism of action.

References

Backer, C.A. and Bakhuizen Van den Brink, R.C. 1965. Vitaceae. *Flora of Java*, 2: 86-94.

Binu Thomas, V. Aravindhan, M. Maharajan and A. Rajendran. 2010. Wild Edible Roots and tubers and their Contribution to the food Security of Shola Naikens of Kerala, India. *J. Non-Timb. For. Prod.*, 17 (4): 449 -451

Latiff, A. 1981. Studies in Malesian Vitaceae, 6. The Malay Peninsula species of *Cissus* L. *Malayan Nature Journal*, 35: 197-207.

Meher, A., Agrahari, A.K. and Pradhan, A.R. 2010. Indian Medicinal Plant *Cissus quadrangularis* Linn.: An Ethnobotanical and Ethnomedicinal Review. *Herbal tech Ind.*, 15(7): 10-18.

Nazimuddin, S. and Qaiser, M. 1982. Vitaceae. *Flora of Pakistan* 147: 1-20.

Oben, J.E., Ngondi, J.L., Momo, C.N., Agbor, G.A. and Sobgui, C.S. 2008. The use of a *Cissus quadrangularis /Irvingia gabonensis* combination in the management of weight loss: a double-blind placebo-controlled study. *Lipids Health Dis. Mar.*, 31:7-12.

Potu, B.K., Bhat, K.M., Rao, M.S. Nampurath, G.K., Chamallamudi, M.R., Nayak, S.R. and Muttigi, M.S. 2009. Petroleum ether extract of *Cissus quadrangularis* (Linn.) enhances bone marrow mesenchymal stem cell proliferation and facilitates osteoblastogenesis. *Clinics (Sao Paulo)* 64(10): 993-998.

Thakur, A.K., Jain, V., Hingorani, L., Laddha, K.S. 2009. Improved high-performance liquid chromatography-DAD method for the simultaneous analysis of quercetin and kaempferol in the stems of *Cissus quadrangularis* Linn. *Acta Chromatographica*, 2009: 21(1): 95-103

Shah, U. 2011. Cissus quadrangularis L.: Phytochemicals, traditional uses and

pharmacological activities - a review. *Int. J. Pharmacy and Pharmaceutical Sci.*, 3(4):14-18. Yeo, C.K. 2001. The Vitaceae and Leeaceae of Singapore. Honours Thesis, National University of Singapore.96pp.

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