

Phytopharmacological Evaluation of Leaves and Fruits of *Morinda citrifolia* L. used in Sri Lankan Traditional Medicine

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Morinda citrifolia L. of family Rubiaceae is a perennial tree commonly known as *Ahu* (noni fruit) in Sri Lanka. It features large leaves, white flowers, and green fleshy fruit that turns yellow when ripe. In Sri Lankan traditional medicine, particularly in *Gedi vana pilika vedakama* and *Kedumbidum vedakama*, its leaves and fruits are utilized externally in the form of *Mellum* and *Paththu*. This study aimed to evaluate the pharmacological properties of *Morinda citrifolia* L. as described in authentic Ayurveda texts and to conduct phytochemical and chromatographical analyses on methanol extracts of its leaves and unripe fruits. The extracts were prepared by agitating the plant materials with methanol for 24hrs, followed by concentration using rotary evaporator at 40°C. The developed chromatograms (Chloroform: Methanol 7:3 v/v%) were visualized under 256nm and 366nm UV light. Pharmacological assessments revealed *Morinda citrifolia* L. has sweet and sour tastes, heavy and slimy properties, cold potency and ability to pacify all three *doshas*. Both extracts tested positive for alkaloids, flavonoids, terpenoids, and glycosides, with only the fruit's methanol extract showing the presence of carbohydrates. Previous studies have indicated that alkaloids, flavonoids, glycosides, and terpenoids are effective in orthopedic and wound treatments due to their anti-inflammatory, anti-oxidant, and tissue-regenerative properties. The HPTLC fingerprint profile demonstrated similar numbers of peaks in both extracts, although with differing intensities (R_f for leaves 0.00, 0.06, 0.25, 0.66, 0.83, 0.85 and for fruit 0.00, 0.06, 0.16, 0.34, 0.36, 0.86). In conclusion, *Morinda citrifolia* L. exhibits promising pharmacological potential due to rich chemical composition, suggesting therapeutic benefits consistent with its traditional uses in wound care and orthopedics within Sri Lankan traditional medicine.

Keywords: *Morinda citrifolia* L., Traditional Medicine, Phytochemicals, TLC, HPTLC