Phyllanthus niruri Linn grown in Sri Lanka: evaluation on phyto and physico-chemical properties of the whole plant

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Abstract

Phyllanthus niruri Linn is a small, erect annual herb belonging to the family of Euphobiaceae. It is widely distributed in Asia and used in the treatment of jaundice, asthma, hepatitis, diabetes, fever caused by malaria. Though it is commonly used in Ayurveda and traditional systems of medicine in Sri Lanka, very few scientific experiments have been carried out using *P. niruri*. Therefore, an attempt was made to evaluate phyto and physico-chemical properties of *P. niruri* grown in Sri Lanka. According to the results, 7.7±0.2% of total ash, 3.4±0.1% of water soluble ash and 0.9±0.0% of acid insoluble ash were present in the whole plant of *P. niruri*. Phytochemical screening reveals the presence of tannins, flavonoids, steroid glycosides, coumarins, saponins and cardiac glycosides in both hot water and hot methanolic extracts of *P. niruli*. TLC fingerprint profile of the methanolic extract of *P. niruri* consists of 8 and 9 prominent spots at 254 nm and 366 nm respectively. Heavy metals such as Cd, Hg and As were not detected in the *P. niruri* grown in Sri Lanka. However, 0.5 mg/kg of Pb was detected in the plant. In conclusion, these physico and phytochemical properties of *P. niruri* grown in Sri Lanka can be used as a reference standard for quality control of *P. niruri* grown in Sri Lanka.

Keywords: *Phyllanthus niruri* Linn, phytochemical and physico-chemical parameters, fingerprint profiles, heavy metals

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