

Pharmacognostical studies on *Polyscias balfouriana* var. *marginata* leaf and root

S. SANDHYA, K.R. VINOD AND RAJESH KUMAR NEMA

Accepted : November, 2009

SUMMARY

In the present work an attempt has been made to study the various macroscopical and microscopical investigations on the leaf and roots of *Polyscias balfouriana* var: *marginata*, family Araliaceae. Some important salient features observed in the leaf were unicellular covering trichomes, vascular bundles, anisocytic stomata and parenchymatous cells containing calcium oxalate crystals. The root powder showed large fibers, fragments of cork arranged as layers of bricks.

Key words : *Polyscias balfouriana*, Araliaceae, Saponin, Hemolytic

Polyscias balfouriana is a woody, bushy tropical shrub in habitat (Fig. 1). It is available through out the warmer parts of India, especially in Kerala and Tamil Nadu. It is also available in tropical Asia and Malaya. It is a native of New Caledonia. These plants are popularly known in trades and horticultural nurseries as "Aralias" since they belong to the family Araliaceae. Many biological active triterpenoid glycosides were isolated from this plant family. The chemical studies on saponins and sapogenins revealed that the triterpenoid content in this family play an important role in the pharmacological activity like stimulation of the CNS, antifatigue and enhancement of non-specific resistance. Since there is no report on the micro-morphological work on this plant, the present study was undertaken. They also have hemolytic activity and when injected into the blood stream was very toxic (Nayanar, 1985; Stephen, 1990; Parpharsarang and Reynaud, 1989; Indian Pharmacopoeia, 1996; Evans, 2002).

MATERIALS AND METHODS

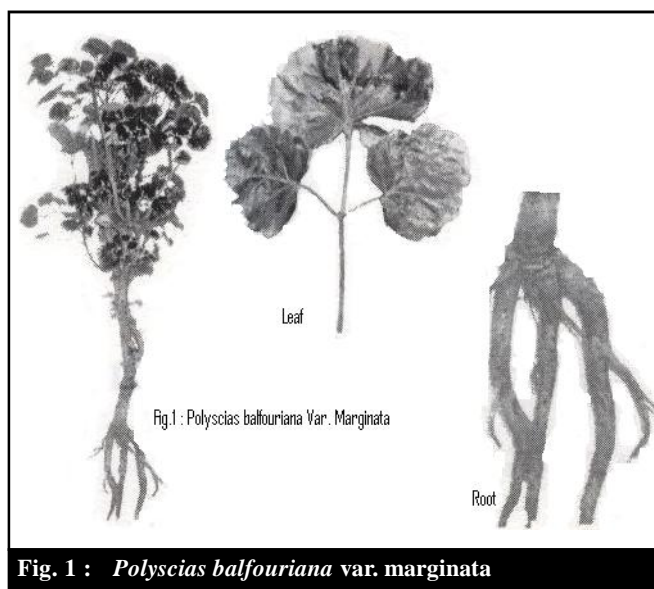
Fresh whole plants of *P. balfouriana* var. *Marginata* (PBM) were collected from Botanical garden, Tamilnadu Agricultural University, Coimbatore. The leaves and roots were separated from the plant and thoroughly washed with running water to remove the adherent impurities. Some quantity of the leaves and roots were air dried, powdered and stored in air-tight containers. Fresh

leaves and roots were used for the section cutting. Free hand sections of the leaf and root were taken and the various microscopical studies were carried out after clearing the T.S. and powder with chloral hydrate and staining with phloroglucinol and hydrochloric acid. The fresh leaves of *P. balfouriana* were subjected to quantitative microscopical analysis.

Macroscopical studies:

The leaves (Fig. 1) are large leathery, somewhat concave, variable at first, entire, later usually of three rounded, coarsely toothed, glossy green leaflets, 3-10cm across, often with white margins, on bronzy stems, speckled grey. Leaves are ovate, reniform, serrated compound leaves with aromatic odour and characteristic taste (Donal; Khandelwal).

The roots (Fig. 1) are long, tapering towards the end.



Correspondence to:

S. SANDHYA, Nalanda College of Pharmacy, NALGONDA (A.P.) INDIA

Authors' affiliations:

K.R. VINOD, Nalanda College of Pharmacy, NALGONDA (A.P.) INDIA

RAJESH KUMAR NEMA, Rishiraj College of Pharmacy, INDORE (M.P.) INDIA