

Pharmacological and phytochemical updates of genus *Polygonatum*

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Abstract

Polygonatum (King Solomon's-seal, Solomon's Seal) a genus of approximately 60 species belongs to family *Liliaceae* or *Convallariaceae*. It is widely distributed in the temperate regions of the East Asia specifically in China and Japan. Traditional healers have been patronizing its various species for multiple human ailments some of which are validated experimentally such as antihyperglycemic potential, anticancer, analgesic, antipyretic diuretic, antimalarial, antioxidant, antimicrobial, phytotoxic etc. Phytochemically, different pharmacologically active groups of compounds have been isolated such saponins, phytohormones, glycosides, flavonoids and alkaloids. Our review suggests that phytopharmacology in-lined with ethnopharmacology when rationalized on scientific grounds coupled with phytochemistry could lead to useful therapeutic agents as plants have unmatched chemical diversity and an incredible potential of novelty with different mechanistic templates.

Keywords: *Polygonatum*; phytopharmacology; phytochemistry

Introduction

Polygonatum (King Solomon's-seal, Solomon's Seal) a genus of approximately 60 species belongs to family *Liliaceae* or *Convallariaceae*. The various species of the genus are widely distributed in the temperate regions of the East Asia. Specifically in China and Japan, approximately 40 different species of *Polygonatum* have been reported (Szczecinska et al., 2006; Tamura, 1993). Additionally it is also found in India, Korea, Nepal, Afghanistan, Bhutan, Nepal and Russia. Along with Asia, *Polygonatum* also grows in the moderate climate zones of North America and Europe. Flora of Pakistan indicates the presence of four different species of *Polygonatum*. These include *P. multiflorum*, *P. geminiflorum*, *P. cirrhifolium* and *P. verticillatum*. *Polygonatum* species are widely distributed in various part of the country like Hazara, Chitral, Swat and Kurram agency (*Polygonatum*, 2010; Stewart, 1972). They are usually wild perennial rhizomatous herbs (Szczecinska et al., 2006).