

Research Article

PHYTOPHARMACOGNOSTICAL STUDY OF STEM OF *GYMNOSPORIA MONTANA*: A NATIVE OF GUJARAT

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Received on: 14-10-2010; **Finalized on:** 15-12-2010.

ABSTRACT

Currently there is lot of interest all over the world in drugs used in Ayurvedic therapeutics and many are being used. Internationally, in consonance with the present scientific ambience it is important to undertake an evaluation of plant drug like *Gymnosporia montana* belonging to the family *Celastraceae* commonly known as Vikalo. Ethanomedicinally fresh leaves of Vikalo are chewed in tribal regions of Gujarat to cure jaundice. Pharmacognostical evaluation including examination of morphological and microscopical characters, determination of quality control parameters such as ash values, extractive values, moisture content, foreign matter, and microbial contamination were carried out of *Gymnosporia montana* stem. Phytochemical screening including qualitative chemical examinations was also carried out. Hence, the present attempt was undertaken to investigate the Phytopharmacognostical study of stem of *Gymnosporia montana*. The study revealed the presence of epidermis, cortex with starch grain and crystals of calcium oxalate, a band of yellowish colour matter, broken ring of pericyclic fiber, phloem region associated with dark colour matter and uniseriate medullary rays, composed with phloem parenchyma, and pith showed parenchymatous cells containing starch grain, dark colour matter in the stem of *G. montana*. Phytochemical screening of stem of *G. montana* showed the presence of phytoconstituents like phenol, flavonoids, alkaloids and saponins.

Keywords: *Gymnosporia montana*, Phytopharmacognostical, Ethanomedicinal plant.

INTRODUCTION

Diseases that remain most challenging in today's healthcare system tend to be complex involving multiple mechanisms, targets and drugs for effective disease management. In contrast to current combination therapies, however, plant based drugs contain a mixture of multiple components thereby saving considerable time and expense¹. Plants and plant-based medicaments are the basis of many of the modern pharmaceuticals we use for our various ailments². The discovery of medicinal plants has usually depended on the experience of the populace based on long and dangerous self experiment. Progress over the centuries towards a better understanding of a plant derived medicine has depended on two factors that have gone hand in hand. One has been the development of increasingly strict criteria of proof that a medicine really does what it is claimed to do and the other has been the identification by chemical analysis of the active compound in the plant³. According to world health organization (WHO), more than 80% of the world's population relies on traditional medicines for their primary health care needs. The medicinal value of plants lies in some chemical substances that produce a definite physiological action on the human body. The most important of these bioactive compounds of plants are alkaloids, flavonoids, tannins and phenolic compounds. The phytochemical research based on ethno pharmacological information is generally considered an effective approach in the discovery of new medicinal properties from higher plants⁴. Knowledge of the

chemical constituents of plants is desirable, not only for the discovery of therapeutic agents, but also because such information may be of value in disclosing new sources of such economic materials as tannins, oils, gums, precursors for the synthesis of complex chemical substances. In addition, the knowledge of the chemical constituents of plants would further be valuable in discovering the actual value of folkloric remedies⁵. Chemical constituents may be therapeutically active or inactive. Traditionally, one of the important ethanobotanical plants such as *Gymnosporia montana* has been used in the treatment of Jaundice in tribal area⁶. *Gymnosporia montana*, a plant native in Gujarat, is a relatively insufficiently investigated for its pharmaceutical components and their activity, keeping this in view, the study is being undertaken to evaluate the plant. *Gymnosporia montana*, belonging to the family *Celastraceae* commonly known as Vikalo is a shrub or tree growing wild in dry areas⁷. The plant has been traditionally useful in treating ulcer, gastro-intestinal disorders, toothache, dysentery⁸, antispasmodic⁹ and hepatoprotective¹⁰ effect was also reported. In South Africa, leaves are used as a vermifuge for children. In traditional system of medicine the root, stem, and leaves are valued for their medicinal properties. The present study was undertaken to evaluate the Phytopharmacognosy of stem of *Gymnosporia montana*.

