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Asparagus Racemosus Wild (Liliaceae) an Overview of Its Medicinal Value

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Abstract – Asparagus racemosus Wild is an indigenous medicinal plant of family LILIACEAE. It is important for its sapogenim content, the precursor of many pharmacologically active steroids. It bears antioxidant activity and anti-abortifacient activity (shatvarin 1), antiviral activity, anticancer, antidysenteric activity. This species occurs widely throughout the tropical and subtropical regions of Indian subcontinent. The racemosides saponin content of its root revised the structures of two major saponins. Shatavarins 1,10 and IV,7.

Keywords: Asparagus Racemosus, LILIACEAE, Antioxytoxic Activity

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INTRODUCTION

Asparagus racemosus Wild (LILIACEAE) is a prime indigenous medicinal plant with varied therapentic values (Chopra *et al.,* 1956. Anonymous 1976). The root of this plant is important for its sapogenin content (Rao, 1952; Subramaniam and Nair, 1968). Sapogenin forms the precursor of many pharmacologically active steroids. Several workers (Trease and Evans, 1978; Jha and Sen, 1983) have shown that the species from different regions often differ in their chemical constituents and contents. The present investigation was thus under taken to analyse the sapogenin content of this plant in different seasons.

Classification: Monocotyledones

Liliales

LILIACEAE

Asparagus

racemosus

- **Plant parts used:** Fasciculatred root stock

  Leaves

  Flowers

  Fruits(Berries)

- **Taxonomic Description:**

A much branched, perennial, armed twiner, with sickle-like cladode. Leaves:scaly; Flowers:offwhite, trimerous, bisexual, actinomorphic, hypogynous; Stamens:6, free; Anthers: dithecous; Ovaries: 3-carpellary and locular, superior; Style:terminal; Stigma: 3-lobed; Fruit:berry, globose, green when young otherwise red when ripe.

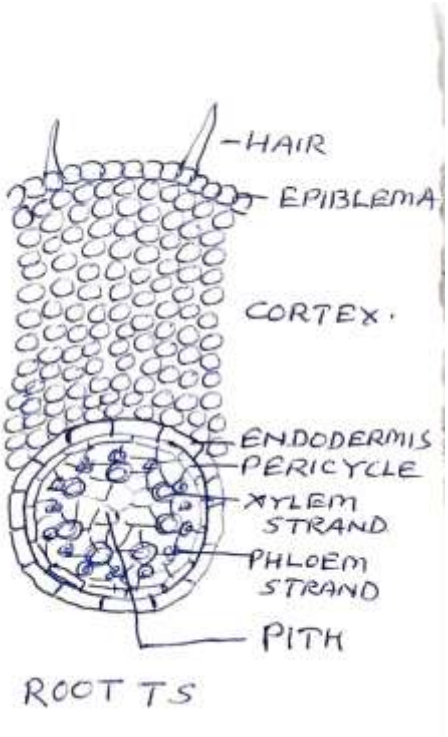
- **Morphology, macroscopy and microscopy of root:**

Macroscopy: The air dried roots are brown, tuberous, with tapering ends, measuring 30-100cm long. The fresh roots and fleshy and white while on drying it becomes shrinked and exhibits brown. The hairs are isolated. The taste is mucilaginous, fracture brittle. The powder drug swells on moistening with water(Jarald and Jarald, 2007).

Microscopy: Comment

- The outline is circular,with outermost layer as epiblema.
- The hairs are unicellular.
- The epiblema is devoid of cuticle-lining.
- The vascular strands are arranged in a radial manner.
- The protoxylem is exarch.
- The number of xylem strands are more than six.
- The pith region is well-developed.

(Anonymous, 2003)



Reported Phytoconstituents:

Recently, the racemosides, the saponin content of asparagus racemosus roots revised the structures of two major saponins Shatavarins 1,10 and IV, 7(Hayes et al, 2006). A limited number of steroidal saponins have been reported previously from the roots of this plant with the major one being shatavarins 1 and 4(Ravi Kumar et al. 1987; Joshi and Sukh, 1988; Jadhav and Bhutani, 2006), Shatavarin (Hayes et al. 2006) and Immunoside (Handa et al. 2003).

- **Pharmacological Activities:**

Anticancer activity, antidysenteric activity, antifungal activity, antibacterial activity, anti-inflammatory activities and antioxidant activities (Sharma et al. 2000)

MATERIALS AND METHODS

PREPARATIONS: Shatavari Kalpa, Eranda paka, Puga Khanda, Phalaghrita Narayana taila, Shatavaryadi ghrita, Vishnu taila, Shatavari panaka (Sharma et al. 2000). Excursion trips were organised to collect the fasciculated root stock of *Asparagus racemosus* from different parts of our area after post monsoon period and dried them in an oven. The infusions were prepared from the dried root to make above mentioned preparations.

RESULTS AND DISCUSSION

MEDICINAL USES:

Asparagus racemosus is mainly known for its phytoestrogenic properties. With an increasing realisation that hormone replacement therapy with synthetic oestrogens is neither as saved nor as effective as previously invisaged, the interest in plant derived oestrogens has increased tremendously making this plant particularly important. The plant has been shown to aid in the treatment of neurodegenerative disorders and in alcohol abstinence-induced withdrawal symptoms.

Asparagus root possesses aphrodisiac, demulcent, general tonic, diuretic and anti-inflammatory, antiseptic, antioxidant and antispasmodic properties. Regular use of asparagus root treat infertility impotence, leucerrhea, monopause, syndromes, hyperacidity and certain infectious diseases such as herpes and syphilis. It is also used in the treatment of epilepsy, kidney disorders, chronic fevers, stomach ulcers and liver cancer. Asparagus root also support deeper tissue and builds blood, helping in treatment treating infertility prevents miscarriage and acts as a post partum tonic it as it increase lactation, regularizes the uterus and balance hormones probably due to phytoestrogens.

Asparagus root also acts as an antioxidant. Actually antioxidants are intimately involved in the prevention of cellular damage - the common pathway for cancer, ageing and a variety of diseases.

Methanolic extract given to orally for 15 days and it increase the antioxidant defence that is enzyme superoxidase, dismutase, catalase and ascorbic acid increase significantly whereas a decrease in lipid peroxidation.

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