



**DISTRIBUTION, TAXONOMY AND USES OF DESERT MEDICINAL PLANTS
VIZ. *TRIBULUS TERRESTRIS L.*, *BALANITES ROXBURGHII*, *MAYTELUS
SENEGALESIS*.**

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Abstract

Traditional usages of medicinal plants in healthcare practises are offering hints to new fields of research; hence, their significance is now widely acknowledged. However, knowledge on the medicinal applications of indigenous plants is scarce in many rural parts of Rajasthan. The study highlights selected medicinal plants that have been carefully described, as well as their key traditional use for the treatment of various diseases.

Keywords :- Rajasthan, Desert Medicinal Plant, Medicinal Value.

Introduction

A huge number of plants, some of which are used for their therapeutic value, make up Rajasthan's rich biodiversity. One of India's major states is Rajasthan. Tribes like the Bhil, Bhil-Meena, Damor, Dhanka, Garasia, Kathodi, Kokna, Kolidhor, Naikara, Patelia, Meena, and Seharia, who live in rural places without access to even the most basic infrastructure, make up about 12.44% of the population. The nomadic Banjara, Gadolia-Lohar, Kalbelia, Sikligar, Kanjar, Sansi, and Bagri tribes add to Rajasthan's unique ethnic diversity. These ethnic groups are widely dispersed over the state and interact with one another often. Although Bhandari (1990) and Sharma (1993) gathered the flora of Rajasthan, precise information about their therapeutic effects is still available. Two desert medicinal plants from various locations of Rajasthan are highlighted in the current research article.

Distribution, Taxonomy and Uses

Tribulus terrestris Linn.

Classification:

Kingdom – Plantae

Division – Magnoliophyta

Class – Magnoliopsida

Order – Zygophyllales

Family - Zygophyllaceae

Genus - *Tribulus*

Species – *terrestris*

Local Name– puncture vine, devil thorn, Kanti, Gokhru, Gokhru-desi, etc.

Distribution:

T. Terrestris is distributed as cosmopolitan weed of tropical countries and India. In India it is mainly found in Rajasthan, Delhi, Uttar-Pradesh, etc.

Habit:

A prostrate, 56 -120 cm long, annual or biennial pilose herb.

Stem:

Herbaceous, branched; branches 15-30 cm long, clothed with silky hairs.

Leaves:

Pinnately compound with leaflets less than a quarter inch long. Paripinnate, opposite, 6-8 cm long ; leaflets in 6 pairs ; 17×8 mm, oblong, mucronate, villous with densely adpressed hairs beneath, less also above round oblique at base; petioles 15 mm long, pilose , stipules lanceolate, hairy.

Inflorescence:

Solitary axillary.

Flowers:

Bud, 4×3mm, hairy; flowers upto 6 mm long, pentamerous, actinomorphic, bisexual, hypogynous, pedicels 4-16 mm long, yellow, slender, hairy, calyx : sepals 5, ferr, 3-6×2 mm, oblong-obovate, claced, spreading, fugacious, yellow, Androceium : stamens 10, polyandrous, obdiplostamenous, inserted on the base of disc; filaments 2.5 mm long; on the

lobe .5 mm long, ditheous, introse, yellow. Gynoceium: Pentacarpillary, syncarpous, ovary superior, 2 mm long, bristly, pentalocular, ovules many; placentation axile; style short; stigmatic, lobes 5, 1 mm long. A week after each flower blossoms it is followed by a fruit that easily falls apart into 4 or 5 single seeded nutlets. These nutlets resemble goat's or bull's heads.

Fruit:

Schizocarpic, 10 mm in diameter, muricate, hairy, breaking into 5 cocci; each with 2 spines, one longer and other shorter, so arranged in the fruit that the 2 shorter cocci are adjacently placed.

Seed:

Seeds may sometime 10, obliquely pendulous, partitions between the seeds. Cotyledons are elliptic or ovate, rounded tip, more or less stalked.

Flowering : March-Nov.

Medicinal Uses:

The plant of *T. terrestris* is used as fodder. The green plant at the psot floral stage is highly palatable to stock. It is rich in calcium and crude protein.

Plant and dried spiny fruits of *T. terrestris* are used in decoration of infusion in cases of spermatorrhoea, phosphoturia.

Plants and dried spiny fruits of *T. terrestris* are esteemed as cooling, demulcent, diuretic, tonic and aphrodisiac. Leaves are considered to posses stomachic properties. A paste prepared from them is given for the treatment of the bladder.

The root of *T. terrestris* is credited with aperients and tonic property. It forms the constituent of the well known Ayurvedic medicines Dashamolarishtha and Amrithaprosa ghritha prescribed for several diseases.

The spiny fruits are liable to cause injury to the stomachs of the animals. The plant is also known to cause photosensitivity in smallstock and has been found to be responsible for the disease "Geeldikkop" among sheep in South Africa and eaten during the times of scarcity.

The floor from the fruioets of *T. terrestris* is made into bread and eaten during the times of scarcity.



Fig. 1- *Tribulus terrestris* Linn.

***BALANITES ROXBURGHII*:-**

Classification:

Kingdom – Plantae

Division – Magnoliophyta

Class – Magnoliopsida

Order- Zygophyllales

Family- Zygophyllaceae

Genus - *Balanites*

Species – *B. roxburghii*

Common name : Ingoriyo, Desert Date

Distribution:

It is a spiny, evergreen tree. It is common in open sandy plains of the Indian peninsula, western Rajasthan, west Bengal, Maharashtra, Gujarat and drier parts of India. The specific epithet *roxburghii* refers to the Scottish botanist William Roxburgh.

Habit: A 2.5-4 m, armed deciduous bushy shrub or small tree

Leaves: Bifoliate, petiolate, leaflets 1-3.5 x 0.4-1.7 cm, elliptic-oblong or obovate-oblong, glaucous-green, pubescent.

Inflorescence: Axillary cymes.

Flowers: Pale-greenish-yellow, in axillary, fascicled cymes.

Fruit : Drupes, ovoid, yellowish-green when ripe.

Flowering and Fruiting Time: December- March; March-July.

Medicinal use: The fruits have been used in the treatment of liver and spleen diseases. The roots are used for abdominal pains and as a purgative. Gum from the wood is mixed with maize meal to treat chest complaints. The "desert date," also known as *Balanites roxburghii* (Zygophyllaceae), is a prickly shrub or tree that can grow up to 10 m tall and is found in dry

parts of Africa and South Asia. Jaundice, intestinal worm infection, wounds, malaria, syphilis, epilepsy, dysentery, constipation, diarrhoea, haemorrhoids, stomach aches, asthma, and fever are just a few of the conditions it is traditionally used to treat. Protein, fat, carbohydrates, alkaloids, saponin, flavonoids, and organic acids are all present in it.



Fig-2:- *Balanites roxburghii*

MAYTELUS SENEGALENSIS :-

Classification:

Kingdom – Plantae

Phylum – Tracheophyta

Class – Magnoliopsida

Order – Celastrales

Family – Celastraceae

Genus – *Maytenus*

Local Name – spike thorn

Flowering:

Red Spike Thorn is a stout, very thorny shrub up to 2 meters high, with intricate branches. The leaves are alternate and evergreen, contour-oval or diamond-shaped oblong, whole or toothed. The leaves of young plants are bronze, appreciated for their ornamental purpose. Flowers are in axillary branched cymes. The fruits are large capsules, globe-

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shaped with two cavities in its interior where we find the seeds of brown, introducing a small fleshy ring around the base.

Medicinal use.

Maytenus senegalensis is a shrub or tree that grows in semi-desert areas of both Asia and Africa. The plant have been used in African traditional medicine for the treatment of numerous ailments, including respiratory diseases, inflammation, microbial affections and topical application for healing wounds. In East Africa, the leaf is used to treat a variety of ailments, including inflammations, respiratory conditions, and wounds. On the leaf, triterpenes and phenol compounds were found, and this area of the plant demonstrated in vitro antiplasmodial, antileishmanial, and antibacterial activity.



Fig.-3: Maytelus Senegalesis

Bibliography

1. Balanites aegyptiacus (L.) Delile". Germplasm Resources Information Network. United States Department of Agriculture. 2008. [retrieved on 2009 Oct 2]. Available from: <http://www.ars-grin.gov/cgi-bin/npgs/html/taxon.pl?6322> .
2. Beentje HJ. Nairobi: National Museums of Kenya; 1994. Kenya trees, shrubs, and lianas; p. 378. [Google Scholar]
3. Creach P. Le Balanites aegyptiaca, ses multiples applications au Tchad. Revue de Botanique appliqué d'Agriculture Tropicale. 1940;20:578–93. [Google Scholar]
4. El Tahir, A. et al. (1999) J Ethnopharmacol 64:227–233.
5. Hall JB, Waljer DH. School of Agricultural and Forest Science. Banger: University of Wales; 1991. Balanites aegyptiaca Del. A monograph; pp. 1–12. [Google Scholar]
6. Hall JB. Ecology of a key African multipurpose tree species Balanites aegyptiaca Del. (Balanitaceae): The state of knowledge. Forest Ecol Manag. 1992;50:1–30. [Google Scholar]

7. Jagtap SD, Deokule SS, Pawar PK, Harsulkar AM. Traditional Ethnomedicinal Knowledge Confined to the Pawra Tribe of Satpura Hills, Maharashtra, India. *Ethnobotanical Leaflets*. 2009;13:98–115. [Google Scholar]
8. Jain, S.P. 1984. Ethnobotany of Morni and Kalesar (Ambala-Haryana). *J. Econ. Tax. Bot.* 5 :809-813.
9. Joshi, P., 1991. Herbal drugs in guinea worm disease by the tribes of Southern Rajasthan (India). *Int. J. Pharmacognosy*, 29: 33-38.
10. Karel L, Roach ES. New York: Columbia University Press; 1951. *Dictionary of Antibiosis*; p. 48. [Google Scholar]
11. Katewa, S.S., B.D. Guria and A. Jain, 2001. Ethanomedicinal and obnoxious grasses of Rajasthan, India. *J. Ethnopharmacol.*, 76: 293-297.
12. Khare CP. *Indian medicinal plants: An illustrated dictionary*. Springer. 2007:77–8. [Google Scholar]
13. Kirtikar BD, Basu BD. Vol. 3. Deheradun: International Book Distributors; 1933. *Indian Medicinal Plants*; pp. 1823–4. [Google Scholar]
14. *Maytenus senegalensis* (Lam.) Exell (2008) in: <http://www.metafro.be/prelude>
15. National Plant Data Center, NRCS, USDA. Baton Rouge, LA 70874-4490 USA. <http://plants.usda.gov>. *Balanites aegyptiaca* . [Google Scholar]
16. Ndoye M, et al. Reproductive biology in *Balanites aegyptiaca* (L.) Del., a semi-arid forest tree. *Afr J Biotechnol*. 2004;3:40–6. [Google Scholar]
17. Pandey CN. Gujarat, India: Gujarat Ecological Education and Research Foundation; 2005. *Medicinal plants of Gujarat*; p. 387. [Google Scholar]
18. Schmidt L, Jøker D. Danida Forest Seed Centre, Seed Leaflet. No.21. 2001 [Google Scholar]
19. *The Wealth of India, A Dictionary of Indian Raw Materials and Industrial Products*, Publications and Information Directorate, Council of Scientific and Industrial Research, New Delhi. 1988;2:3. [Google Scholar]
20. *The wealth Of India, A Dictionary Of Indian, Raw material and Industrial product*, Publication and Information Directorate, Council of Scientific and Industrial research, New Delhi. 1998;2:3. [Google Scholar]
21. Upadhyay B., Parveen, .Dhaker,A.K and KumarA. (2010) Ethno medicinal and ethnopharmacostatistical studies of Eastern Rajasthan,India *Journal of Ethnopharmacology*,129(1,4):64-86.
22. Vijigiri D, Sharma PP. Traditional uses of plants in indigenous folklore of Nizamabad District, Andhra Pradesh, India. *Ethnobotanical Leaflets*. 2010;14:29–45. [Google Scholar]
23. Watt JM, Breyer-Brandwijk MG. Edinburgh and London: E. and S. Livingstone; 1962. *The Medicinal and Poisonous Plants of South and East Africa*; pp. 1064–5