IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

A review on Taxonomical study of Equisetum (Horse tail Fern) from Melghat Forest.

U.R.Kokate

Botany department

Arts, Science and Commerce College Chikhaldara, Dist Amravati.444807

Abstract –Melghat Forest is Dry deciduous type forest.Forest has biodiversity in flora and fauna. Melghat means meeting of ghats. The Pteridophytes formed a dominant part of Eath's vegetation in the historic past (280-230 million years ago).Melghat lies on the southern shoots of the Satpuda range of hills. This part of Satpuda is known as Melghat; consists of succession of hill and vallies. Rare and endemic flora of North, East and Western Ghats are also found here.

The entire area of the Melghat is covered by the forest of the "Dry deciduous Teak Forest." The forest of Melghat is dry tropical forest. Tectona grandis is the most important and dominant species .The environment of Melghat forest is favourable for the flourishes of Pteridophytes well.

Key words- Equisetum, Horse tail fern, Pteridophytes, Melghat.

Introduction = :

Melghat means meeting of ghats. Pteridophytes formed a dominant part of Earth's vegetation in the historic past 9280-230 million years ago). In the present day flora, excluding the non -vascular plants, they rank only next to the spermatophytes. The present day fern have managed to conserve to conserve the former diversity and glory of their ancestors. The Melghat forest composed of Gugamal National Park (core area) with 361.28sq.km.area, Melghat Sanctuary (Buffer and tourism area) with 788.75sq.km. area and Multiple use area (Reserve forest) with 526.90 sq.km.area.

The geological formation represented in the Melghat Forest is the Deccan trap. The annual rain fall varies from place to place within short distances, with the change in altitude and aspects. The lowest rainfall is 964.3mm and hightest rainfall is 1458.4 mm. The moisture percentage is high which is favourable for pteridophytes .The relative humidity in Melghat forest varies from 63.25-64.0.Rain fall is high .The Equisetum collected from the bank of water falls and marshy places .

Materials and Methods :=

Pteridophytes formed a dominant part of earth vegetation in the historic past. The pteridophytes have a distinct charm and physiognomy to the landscap. The Melghat forest Tropical Dry deciduous Forest has high and low elevations of Valleys and diverse topography. The high altitude with heavy rain fall, high moisture, humidity, minimum moderate temperature, waterfalls, moist rocks and humus soil.

The specimens of Equisetum were collected in every stage of their growth and habitats and reproduction from different localities Chikhaldara of Melghat Forest area. A single specimen with rhizoids, rhizome, frond or sporophyll or sporocarp collected at maturity period of plants, which is necessary for identification. Also visited the different localities and Horse tail were collected for several times in a season. The plants are pressed and collected in collection bottle also and in bottle preservative that is 4% formaline is used as a preservative.The plants specimen pressed in blotting paper .and are frequently changed after a fixed period. And then the specimen are mounted on herbarium sheets.

The morphotaxonomical work or description of equisetum was done and identified with the consultation of different Pteridophytic Floras of India.

Observation :-

The plant body erect, branched and differentiated into roots, rhizome, aerial branches , leaves and strobilus. The underground rhizome has distinct nodes and internodes. The nodes bear aerial branches and roots. Roots produced on the lower side of the node, slender and fibrous. Lengt of aerial branch varies from30.1 to 35.0 cm. Stem rough, branches are sterile and fertile. Leaves present on nodes, small, simple, scaly, whorled and fused laterally and have free tips. Number of leaves six, non chlorophyllous and scaly.

The spore producing organs are sporangia borne in cones, generally terminating the main axis and sometimes the lateral branches .

Discussion :-

The pteridophyta are treated as vascular cryptogams as they have a well developed conducting system.The horse-tail grow comparatively lager in numbers than hydrophytes.Equisetum is a herbaceous having aerial branches.Equisetum possess roots by which yhey are fastened to the soil. Melghat forest area shows ecotypic variation, in some areas it grows on hard rock in open forest with direct sunlight, moderare tempature, lithophytic. *Equisetum debile* distributed at higher altitudes between 1500-2100 feet above sea level, grows along the bank of water fall, rivers, pools in the hill station area of Melghat.

It is commonly known as horse-tail. Sporophyte perennial with well developed root, stem rhizomatous, aggregated in to a terminal strobilus. It is microphyllous and grows under shaded environment. The species is homosporous.

The stem shows siphonostele, vascular bundles are arranged in a ring. The vascular bundles are situated opposite to the ridges and alternate to the Vallecular canals. The roots shows tri to hexarch vascular bundles.Each sporangium is elongated and sac like , on their maturity the sporangia open by longitudinal slits for dispersal of spores.Equisetum debile is the indicator of high altitude and humidity.

References :-

Bir, S.S.; (1968), Pteridophytic flora of Simla hills (North-Western Himalayas) –I. Introduction and general account. Nova. Hedwigia 16 : 439-447.

Batter, E,; (1922), The Ferns of Bombay : D.B. Taraporevalasons and Co. 122.p.

Dixit.R,D. and Rameshkumar, (2002), Pteridophytes of Uttaranchal : A chck list.

Dhore, M.A. & P.A.Joshi ; (1988), Flora of melghat Tiger Reserve 1-24.

Fotedar, R.L. and Bir, S.S. ; (19810, Structure of phloem in two members of Ophioglossaceae from India Phytomorphology 30 : 164-172.

Patel, R.I.; (1968), Forest Flora Of Melghat. International Book Distributor, Deharadun. : v-xxii.