



## Morphology study of *Lecanopteris carnosa* from Melghat Forest, Amravati Dist. Maharashtra State

**U.R.Kokate**

HOD, Botany, Arts, Science & Commerce  
College, Chikhaldara,  
Dist Amravati,  
drujwalakokate@gmail.com

**G.D.Muratkar**

HOD, Environment Science,  
Arts, Science & Commerce College,  
Chikhaldara, Dist Amravati  
gmuratkar@gmail.com

### Abstract

The Pteridophyta formed a dominant part of Earth's vegetation in the historic past (280 – 230 million years ago). In the present day flora, excluding the non-vascular plants, they rank only next to the spermatophytes. Melghat is known as paradise of Vidharbh. Melghat means the 'meeting of Ghats' which is just what the area is, a large tract of unending hills. The forest of Melghat is mostly of the Dry Mixed Deciduous type and one of the important forests of Vidharbh region. Melghat lies on the Southern shoot of the Satpuda range of hills. This part of Satpuda is known as Melghat, It consists of succession of hills and vallies.

The entire area of the Melghat is covered by the forest of the Dry deciduous Teak Forest. *Tectona grandis* is the most important and dominant species distributed in the entire areas. The high altitude with heavy rain fall, high moisture, humidity, minimum moderate temperature, waterfalls, moist rocks, and humus soil. Pteridophytes grow under shady and damp places, along waterfalls, road sides of Ghats; in association with Angiosperms and Gymnosperms.

**Key words** – *Lecanopteris*, Melghat Forest, Plant specimen, Pteridophytes.

### Introduction -

Melghat is known as paradise of Vidharbh. Melghat means the 'meeting of Ghats' which is just what the area is, a large tract of unending hills. The forest of Melghat is mostly of the Dry Mixed Deciduous type and one of the important forests of Vidharbh region. Melghat lies on the Southern shoot of the Satpuda range of hills. This part of Satpuda is known as Melghat, It consists of succession of hills and vallies.

The entire area of the Melghat is covered by the forest of the Dry deciduous Teak Forest. *Tectona grandis* is the most important and dominant species distributed in the entire areas. The high altitude with heavy rain fall, high moisture, humidity,





minimum moderate temperature, waterfalls, moist rocks, and humus soil. Pteridophytes grow under shady and damp places, along waterfalls, road sides of Ghats, in association with Angiosperms and Gymnosperms. The forest of Melghat is mostly of the Dry Mixed deciduous type and one of the important forests of Vidarbha region of Maharashtra in India. The vegetation varies considerably with the change in altitude, soil, temperature, humidity and rainfall. The average rain fall varies from 1300 mm to 1450 mm, the temperature range varies from 13 to 410 c and humidity varies from 48% to 100%. The soil is also different types. The general floristic study of Melghat Forest includes the plants like 94 tree species, 708 shrubs, 368 small herbs, 66 climbers, 2 species of Bamboo, 127 species of grasses. Pteridophytes flourishes in Melghat under shady and damp places, along waterfalls, road sides of Ghats, in association with Angiosperms and Gymnosperms.

#### **Material and Method –**

Pteridophytes division of vascular plants which do not produce seeds. It include Ferns, Club mosses and Horse tail. In Melghat under shady and damp places, along waterfalls, road sides of Ghats, in association with Angiosperms and Gymnosperms.

The plant specimen of *Lecanopteris* was collected in every stage of their growth and habitats and reproduction from different localities of Melghat Forest area. The plants were collected in tin vasculum. The plants are pressed flat, before their wilting. They are pressed after the day's visit.

The *Lecanopteris* were pressed between the sheets of news or blotting paper. These sheets were alternated between sheets of blotting paper. The plant became dry by transferring their moisture into the blotting papers.

After drying of plant material, the plant specimen were mounted on herbarium sheets of standard size. The specimens are labeled as per all data. The *Lecanopteris* specimen were preserved in 4% formalin solution.

#### **Observation –**

The xerophytic sporophyte is perennial, ornamental introduced from Pachmarhi to Chikhaldara. The sporophylls are observed with sporangium from August to December. The sporophyte with root, rhizome and fronds. Stem herbaceous in young and woody in old sporophyte. The frond 45-47cm long. Lamina irregularly





dissected, green coloured 2 x 8cm. Sori developed in two rows. Each sorus circular brown coloured. Sori 0.3 – 0.7 cm in diameter.

Rhizome long or short, creeping, cylindrical or dorsiventrally compressed, much branched, dictyostelic, scaly; scales peltate. Fronds isomorphic or dimorphic. Lamina simple, margin entire, veins free.

Spore producing organs are the sporangia grouped in sori. Sori presents along the side of veins, on dorsal side of the marginal reflexed lobe. Sori with indusium and long multicellular stalk. Wall of sporangium is thin, radial and inner tangential wall called annulus, on one side of annulus 2 to 3 thin walled cells forms a stomium. Wall encloses with many spores inside. Each spore with outer wall exine and inner wall thin.

**Result and Discussion** - Pteridophyta are treated as vascular cryptogams as they



have a well-developed conducting system. The plants are with feather like fronds. Vascular cryptogams are, therefore, an assemblage of seed less vascular plants that have successfully invaded the land and reproduced by means of spores.

While studying the *Lecanopteris*, the observation is as the Filicophyta are an assemblage of vascular cryptogams that have established themselves most successfully to life on land. The fern shows varied habitats, diverse habit, supremacy in vegetative propagation and the remarkable success in competition with the modern

seed plants. The living ferns spread widely in East and West Melghat forest area at high altitude, in moist conditions along ghat roads.

Rhizome long or short, creeping, cylindrical or dorsiventrally compressed, much branched, dictyostelic, scaly; scales peltate. Fronds isomorphic or dimorphic. Lamina simple, margin entire, veins free.





Spore producing organs are the sporangia grouped in sori. Sori presents along the side of veins, on dorsal side of the marginal reflexed lobe. Sori with indusium and long multicellular stalk. Wall of sporangium is thin, radial and inner tangential wall called annulus, on one side of annulus 2 to 3 thin walled cells forms a stomium. Wall encloses with many spores inside. Each spore with outer wall exine and inner wall thin.

**References :**

- Baishya, A.K. & R.R. Rao; (1982), Ferns and fern-allies of Meghalaya State, India.- Jodhpur (Scientific Publishers).
- Bir, S.S.; (1960), Acta Bot. Neerlandica 9: 224-234.
- Blatter, E.; (1922), The Ferns of Bombay : D.B. Taraporevalasans and Co. 122 p.
- Chandra, S.;(2000), The Ferns of India. Enumeration, synonyms and Distribution.- 459p.
- Dhore, M.A and P.A. Joshi; (1981), Flora of Melghat Tiger Reserve 1-24.
- Patel, R.I.; (1968), Forest Flora of Melghat. International Book Distributor, Deharadun: v- xxii.