



# MORPHOTAXONOMICAL STUDY OF *SELAGINELLA BLATTERI* FROM MELGHAT FOREST, AMRAVATI DISTRICT.

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## Abstract

Melghat Forest 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 most prominent geological feature of Melghat is the Gavilghad range of hills which is abundantly rich in biological diversity. The entire area of Melghat is covered by the forest of the Dry deciduous Teak Forest. It extends for about 65 km from North to South between latitude 21° 46' and 20° 11' North and about 95 km. from East to West between longitude 77° 03' and 76° 03' East.

As the name implies, Melghat is literally a meeting place of Ghats. It consists of succession of hills and vallies with constant and abrupt variations in altitude, aspects and gradient. The annual rain fall varies from place to place within short distance; with the change in altitude and aspects. The annual rain fall varies from place to place within short distances; with the change in altitude and aspects.

Pteridophytes formed a dominant part of Earth's vegetation in the historic past. In the present day flora, excluding the non-vascular plants, they rank only next to spermatophytes. In Melghat Forest the moisture present in the invisible form in the troposphere belt of the atmosphere, is known as humidity. The relative humidity in Melghat Forest area varies from 63.25 -64.0. So that Pteridophytes flourishes very well in Melghat Forest. *Selaginella blatteri* also flourishes finely in Melghat Forest in rainy season.

Key words – Pteridophytes, Melghat, Sellaginella.

## Introduction –

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.

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

## Materials and Methods

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 *Selaginella blatteri* 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 Selaginella was pressed between the sheets of news or blotting paper. These sheets were alternated between sheets of news or 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 Selaginella specimen were preserved in 4% formalin solution.

**Observation –**

Selaginella blatteria along the road sides in moist condition. It is distributed from August to October. The sporophyte observed from September to October.

The sporophyte herbaceous, dorsiventral prostrate, 6-16 cm long. Stem herbaceous, dichotomously branched, solid, prostrate, green, smooth and glabrous. The hairs unicellular. Leaves microphyllous, heterophyllous. Each leaf traversed by single unbranched mid-rib. The leaf with ligule, ligule arises from the base of each leaf.

Ligule delicate green with entire margine and acute apex, tongue shaped. A mature ligule has a prominent basal portion called the glossopodium. The ligule is a secretory structure which secretes water and mucilage. The leaves from four side of the stem. The larger leaves on the ventral side of the stem in opposite decussate manner.

Rhizophore leaf less, positively geotropic organ bears roots at the swollen end. A single rhizophore comes out downward from the rhizome. A rhizophore is an organ intermediate in structure and function between the stem and root, it is root like in appearance and behavior but has no root cap.

Rhizophores grow down to the soil and true roots emerge from them. Roots adventitious originate from the tips of rhizophores, dichotomously branched. The roots have root cap and bear root hairs.

Strobilus- The spore bearing organ is known as Strobilus. Sporangia bearing organ is sporophyte. The sporangia develop in the axil of leaves called as Sporophylls. The sporophylls are similar to photosynthetic vegetative leaves. There are two types of sporangia. The microsporangia, the sporophyll bearing microsporangia called microsporophyll. The megasporangia, the sporophyll bearing megasporangia called mega-sporophyll. The strobilus always terminal in position. The sporophylls ligulate which are present between the sporangium and the base of sporophylls. The strobilus also called the sporangiferous or the cone.



Selaginella blateri , HABITAT

**Result and Discussion**

The pteridophytes are considered as a first vascular plants that colonized the terrestrial habitat. In the course of evolution they reached up to arbore scent habit that has resulted into a gigantic and thick forest in Siluro-Devonian period. Pteridophytes have well developed conducting system. The plants are with feather like fronds.

The living members are represented by living taxa widely distributed over the surface of the global part. In Melghat Forest area Selaginella with three different species distributed in different climatic conditions. Selaginella distributed on rock at moist condition with creeping stem, spirally arranged leaves, sporangia arranged in terminal strobilus.

Selaginella shows ecological succession in forest ecosystem.

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