

Enumeration of pteridophytes in Banajalaya conserved forest area of Shimoga District, Karnataka

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ABSTRACT

Nineteen species of pteridophytes belongs to 11 families were authentically documented in Banajalaya region in Sagar taluk of Shimoga district. Pteridaceae was occurred as the dominant family in study area. The majority of the ferns are terrestrial, two of them are epiphytic, and one is hydrophytic species. Present study helpful for conservation programmes of these ferns, which are important for their academic, medicinal and ornamental values.

Keywords: Pteridophytes, Diversity, Banajalaya forest, Karnataka.

Introduction

The pteridophytes are the non-flowering, vascular and spore bearing plants including ferns and fern allies. They grow luxuriantly in moist tropical and temperate forests and their occurrence in different eco-geographically threatened regions from sea level to the mountains are of much interest[1]. The Pteridophytes being an important part of the flora of a region, from the next important part after the angiosperms. The world flora consists of approximately 12,000 species of pteridophytes of which around 1000 species distributed into 192 genera and are likely to occur in India. The Western Ghats is one of the hotspots of the world and also one of significant geographical regions. Around 233 species of ferns occur in Southern India[2-3].

India is mega biodiversity country with about 13,000 species of vascular plants including about 1000 species of ferns and fern allies. It is our response to conserve them for the future [4].

The Indian Western Ghats with about 320 species of ferns and fern allies is one of the richest region in pteridophytes[5]. To conserve the world flora, the IUCN (International Union for Conservation of Nature) has made special efforts to identify the rare and endangered vascular plants. The information contained in the 1997 IUCN Red list of Threatened plants is useful for conservationists. According to IUCN Red list, out of 511 families of vascular plants currently recognized, 372 of these contain globally threatened and / or extinct species[4].

The study area which consists of 40 acres forest and more then 700 plants are grown. The altitude is 579 meters (1,900 feet) above M.S.I. The study area located in Sagara taluk Shimoga district lies between 14° 16' 67" N latitude and 75° 03' 33" E longitude. The vegetation including semi evergreen and evergreen forest. The present work concentrated on enumeration of Pteridophytes in Banajalaya region Sagar taluk Shimoga district.

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Materials and Methods

A survey of pteridophytes in Banajalaya forest was conducted during the period 2013-2014. Diagnostic features of all the specimens were studied and relevant field notes were made on fresh plant material. Specimens were identified by referring to available literature and Pteridophytic floras[6-13].

Authentications of the species was confirmed by referring the herbarium at Department of Applied Botany, Kuvempu University, Shankaraghatta. All the collected specimens were properly processed as herbarium specimens, which have been deposited in the Department of Applied Botany, Kuvempu University, Shankaraghatta. For nomenclature, Fraser-Jenkins has been followed [14].

Results and discussions

Frequent field visits were taken upto collect data of the incidence of pteridophytes during 2013-2014. The present account is based on survey and collection field trips to various localities in Banajalya region of Shimoga district, Karnataka. In study area, 19 species of Pteridophytes were collected and identified, which belongs to 16 genera and 11 families (Table.1). These

species grow on exposed areas, shady areas, stream banks, hill slopes, tree trunks, and bare or mossy rocks. Vegetation including semi-evergreen and evergreen forest is one of the important localities in study area for Pteridophytes. In terms of abundance, the commonest fern species were members of Pteridaceae (six species), Selaginellaceae (two species) and rest of the families having one species each in study area. Some of the ferns are epiphytic in nature. Out of 19 species, 16 species are terrestrial, 2 species are epiphytic in nature. The only one hydrophytic fern is *Ceratopteris thalictroides* (L.) Brongn which belong to the family Pteridaceae. Now a days many ferns are on decline due to over exploitation and pollution. The present study may be helpful for the conservation of ferns. A detailed survey of ferns is therefore essential before they become extinct and necessary to maintain and conserve the regions of their respective habitats.

Table.1. Habitat distribution of Pteridophytes in Banajalya forest region of Shimoga district, Karnataka, South India

Sr. no	Name of the Species and Herbarium no.	Family	Habitat
1	<i>Adiantum capillus veneris</i> L KU/TT/09-DPN02	Pteridaceae	T
2	<i>Adiantum concinnum</i> Humb.& Bonpl. ex Willd KU/NT/09-DPN23	Pteridaceae	T
3	<i>Adiantum philippense</i> L. KU/TT/09-DPN03	Pteridaceae	T
4	<i>Angiopteris helferiana</i> C.Presl KU/NT/09-DPN21	Marattiaceae	T
5	<i>Athyrium hohenackeranum</i> (Kunze) T.Moore KU/CT/09-DPN12	Woodsiaceae	T
6	<i>Blechnum orientale</i> L. KU/ST/09-DPN06	Blechnaceae	T
7	<i>Ceratopteris thalictroides</i> (L.) Brongn. KU/TT/13-DPN55	Pteridaceae	A
8	<i>Cyathea gigantea</i> (Wall. ex Hook.) Holttum KU/NT/09-DPN11	Cyatheaceae	T
9	<i>Drynaria quercifolia</i> (L.) J.Sm. KU/NT/09-DPN01	Polypodiaceae	E
10	<i>Lindsaea heterophylla</i> Dryand. KU/KT/13-DPN63	Lindsaeaceae	T
11	<i>Lycopodiella cernua</i> (L.) Pic.Serm. KU/TT/10-DPN36	Lycopodiaceae	T & L
12	<i>Lygodium flexuosum</i> (L.) Sw. KU/MT/09-DPN13	Lygodaceae	T
13	<i>Microsorium zippelii</i> (Blume) Ching KU/TT/09-DPN14	Polypodiaceae	E
14	<i>Pityrogramma calomelanos</i> (L.) Link. KU/ST/11-DPN28	Pteridaceae	T
15	<i>Pteris pellucida</i> C.Presl KU/NT/09-DPN16	Pteridaceae	T
16	<i>Selaginella delicatula</i> (Desv.exPoir) Alston KU/ST/13-DPN69	Selaginellaceae	T
17	<i>Selaginella tenera</i> (Hook. & Grev.) Spring KU/MT/13-DPN70	Selaginellaceae	T
18	<i>Tecteria coadunata</i> Ching KU/TT/11-DPN51	Tectariaceae	T
19	<i>Thelypteris dentata</i> (Forsk.) E.P.St.John KU/KT/13-DPN59	Thelypteridaceae	T

Note: T:Terrestrial; L: Lithophytic; E: Epiphytic; A:Aquatic;

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