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RESEARCH ARTICLE

A systematic study of the pteridophytic flora of Sivasagar district, Assam

■ **NIPUN BARUWATI AND MANJIT GOGOI**

SUMMARY

An enumeration of the pteridophytes in the reserve forest of Sivasagar district, Assam, is presented and is the first report for the area. A total of 68 specimens of pteridophytes were collected and classified into 68 species from 27 families, the pteridophyte biodiversity in these reserve forests likely highest overall biodiversity region of Sivasagar district. Although ferns dominated at all taxonomic levels in different habitats. According to habitat types, the specimens can be classified into four groups: terrestrials 38 species, epiphytes 14 species, lithophytes 5 species, aquatic plant 08 species and climbers 3 species, although 5 species were found in more than one habitat.

Key Words : Pteridophytic flora, Pteridophytic plant species

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Sivasagar district has much significance due to ecological, biological and geomorphological background. Rich floristic diversity and great variability of species at ecosystem level is consisting of deferent types of vegetation in various habitats. The geo-coordinate of the district is 26°46'8" North latitude and 94°44'35'' East longitude and geographical area of the district is 2,668 sq. kms. The pteridophytes formed a dominant part of earth's vegetation in the historic past. In present day flora excluding the non-vascular plants, they rank only next to the spermatophytes. No doubt lesser in number, the pteridophytes land a distirct charm and physiognomy to the landscape. The elegant tree ferns of the warm humid forest of Sivasagar district, the epiphytic ferns and the hanging club-mosses of the tropical forests attract once attention. Some of them grow in water and form a luxuriant hydrophilic component of the lakes, ponds and pools (Azolla, Marsilea).

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The contemporary nomenclature of species of pteridophytic plants following Ching (1936, 1938), Copeland (1947), Panigrahi (1960) have been employed in the enumeration. As far as possible, references to Beddomes book (1876) have been cited with the species. The arrangement of pteridophytes is according to the alphabetical order of their scientific name in Table 1.

MATERIALS AND METHODS

The observations are based on surveys conducted in different areas of Sivasagar district during 2011-2012. Field collections of pteridophytic plants were conducted at monthly intervals from selected sites specially in five different reserve forests. The specimens were collected and photographs were taken of each species. Some specific pteridophytes rich sites such as Abhoypur reserve forest, Sola reserve forest and Geleky reserve forest were selected for repeated visits. Collected specimens were identified using keys and descriptions from taxonomic literature, such as Floras, manuals, monographs, as well as research papers etc.

RESULTS AND DISCUSSION

During survey in the study site in the year 2011-2012 a

Table1: Enumeration of pteridophytic plant species with their scientific name, family and habit found in Sivasagar district

Scientific Name	Family	Habit
Acrostichum aureum Lin.	Pteridaceae	Terrestrial
A. thalictroides Lin.	Pteridaceae	Lithophytes
Adiantum incisum Forsk	Adiantaceae	Terrestrial
A. philippense Lin.	Adiantaceae	Epiphytes
Aleuritopteris farinose Forsk.	Polypodiaceae	Epiphytes
Alsophila gigantea Wall ex Hook	Cyathiaceae	Terrestrial
A. khasiana Moore ex Kuhn.	Cyathiaceae	Terrestrial
Angiopteris evecta Forst.	Angiopteridaceae	Terrestrial
Arachnioides aristata Frost. f.	Dryopteridaceae	Terrestrial
Aspidium biserratum Sw. Schard	Dryopteridaceae	Terrestrial
Asplenium nidus. Lin.	Aspleniaceae	Epiphytes
A. ensiformis Wall ex Hook and Grev	Aspleniaceae	Epiphytic
A.normale D. Don	Aspleniaceae	Epiphytes
A. phyllitidis D.Don	Aspleniaceae	Epiphytes
Azolla pinnata R.Br	Azollaceae	Aquatic
Blechnum orientalis Lin.	Blechnaceae	Terrestrial
B. alpinium Gist	Blechnaceae	Terrestrial
Cyathia assamica (Wall ex Hoosk) Copel	Cyatheaceae	Terrestrial
C. henryi (Bak) Copel	Cyatheaceae	Terrestrial
Ceratopteris thalictroides Lin	Parkeriaceae	Aquatic
Cheilanthes farinosa (Forsk)Kaulf.	Adiantaceae	Terrestrial
*Christella parasitica (*L.) Lev.	Thelypteridaceae	Terrestrial
Diplazium asperum Bl.	Woodsiaceae	Terrestrial
D. esculentum (Retz.) Sw.	Woodsiaceae	Terrestrial
Diksonia antarctica Smith ex E. Brown	Diksoniaceae	Terrestrial
Drymoglossum heterophyllum (L.) Trimen.	Polypodiaceae	Epiphytic
Drynaria quercifolia Lin.	Polypodiaceae	Epiphytes
D. popinqua (Wall ex Mett) J. Sm.	Polypodiaceae	Epiphytes
D. propinqua (Wallex Mett) J.Sm	Polypodiaceae	Epiphytes
Dryopteris cochleata (Buch-Haqm ex D.Don)	Dryopteridaceae	Terrestrial
Equisetum debile Roxb	Equisitaceae	Terrestrial
E. diffusum D. Don	Equisitaceae	Terrestrial
Gleichnia dictum Sm	Gleichniaceae	Terrestrial
Helminthostachys zeylanica (L.) Hook	Ophioglossaceae	Terrestrial
Lindsaea odorata Roxb. Ex. Griff	Lindsaeaceae	Terrestrial
Lycopodium cernum Lin.	Lycopodiaceae	Terrestrial
Lycopodium clavatum Lin.	Lycopodiaceae	Terrestrial
Lycopodium alpinium Lin.	Lycopodiaceae	Terrestrial
Lygodium flexusum Lin.	Lygodiaceae	Climbers
L. japonicum Thunb	Lygodiaceae	Climbers
Lygodium microphyllum (Cav.) R. Br.	Lygodiaceae	Climbers
Marsilea vestita Hook and Grev	Marsileaceae	Aquatic
Marsilea minuta Lin.	Marsileaceae	Aquatic
Marsilea quardrifolia Lin.	Marsileaceae	Aquatic
Neplarolepis biserrata (Sw.) Schott	Davalliaceae	Lithophytes
N. exaltata (L.)Schott.	Davalliaceae	Lithophytes
Oleandra wallichi Hook. Presl	Oleandraceae	Terrestrial

Table 1: Contd.……..

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Ophioglossum reticulatum Lin.	Ophioglossaceae	Terrestrial
Ophioglossum reticulatum Lin. f.	Ophioglossaceae	Epiphytes
Polypodium scouleri Hook and Grev.	Polypodiaceae	Terrestrial
Polystichum munitum (Kaulf.) C. Presl.	Dryopteridaceae	Terrestrial
Psilotum nudum Lin.	Psilotaceae	Lithophytes
Pteridium acquilinum (L.) Kuhn	Dennstaeditaceae	Terrestrial
Pteris vittata Lin.	Pteridaceae	Terrestrial
Pteris ensiformis Burm. f	Pteridaceae	Terrestrial
*Pyrrosia adnascens (*Sw) Ching	Polypodiaceae	Epiphytic
P. flocculosa (D.Don) Ching	Polypodiaceae	Epiphytic
P. piloselloides (L.) M.G.Price	Polypodiaceae	Epiphytic
Salvinia cucullata Wall	Salviniaceae	Aquatic
S. rotundifolia Willd	Salvinaceae	Aquatic
Sellaginella decipiens Warb	Sellaginalaceae	Terrestrial
S. wallichii (Hook and Grev) Spring	Sellaginalaceae	Terrestrial
S. pinnata (Don)Spr.	Sellaginalaceae	Lithophytes
S. semicordata Wall	Sellaginalaceae	Terestrial
S. monospora Spring	Sellaginalaceae	Terestrial
Stenochlaena palustris (Burm. f.) Bedd.	Blechnaceae	Terrestrial
Isoetes orcuttii A.A. Eaton	Isoetaceae	Aquatic
Woodwardia fimbriata Smith in Rees.	Polypodiaceae	Terrestrial

total number of 68 species of the pteridophytic plants representing 41 genera under 27 families were collected, preserved and identified. The species of pteridophytes collected have been generally found to grow as shady moist places, on rocks of the reserve forest and as epiphytes on the branches of the tree plants and on the old wall and some as aquatic in the ponds and lakes of the study area.

From the above findings it was recorded that the terrestrial pteridophytes were dominant with 38 species followed by epiphytes with 14 species, aquatic 8 species and lithophytes and climbers pteridophyte with 3 species each. The dominant family polypodiaceae comprised of 10 species followed by Seleginallaceae with 5 species, Aspleniaceae, Cyathiaceae, Pteridaceae and Dryopteridaceae with 4 specvies each, Adiantaceae, Marsiliaceae, Lygodiaceae, Lycopodiaceae, Blechnaceae and Ophioglossaceae with 3 species each and Salviniacea, Woodseaceae, Equisitaceae and Davalliaceae with 2 species each and remaining families 1 species each. The dominant genera recorded Selaginella with 5 species followed by Asplenium with 4 species and Drynaria, Lycopodium, Lygodium, Marsilea, Pyrrosia with 3 species each.

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