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Exploration of pteridophytes in Aluthakanni river, Tenkasi Taluka, Tamil nadu

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Abstract

The present study was exploration of pteridophyte species of Alutha kanni river, Tenkasi, Tirunelveli district, Tamilnadu. The results of field study observed by 6 species of pteridophytes have been collected and identified. The pteridophytes species of *Azolla pinnata* R. Br., *Marsilea minuta* L., *Salvinia molesta* D.S. Mitch, *Nephrolepis multiflora* (Roxb.) F.M.Jarret ex C.V.Morton (syn. *Davallia multiflora* Roxb.), *Adiantum capillus-veneris* L., and *Pityrogramma calomelanos* (L.) Link was first time reported in the river of Alutha kanni, Tenkasi, Tirunelveli district, Tamilnadu.

Keywords: Pteridophytes, Aluthakanni river, Tirunelveli

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1. Introduction

Pteridophytes are of most important species of ground flora of moisture region and interest to a diverse group of people comprising botanists, landscape architects, gardeners, terrestrial ecologists, wild food lovers, wild-life biologists, and students of nature of all sorts. About 13600 species of pteridophytes are known for all around in the world (Moran, 2008). About 1100 pteridophyte species in India and of these 337 taxa are considered to be threatened or endangered (IUCN, 2010). The pteridophytes species are dependent upon the microclimatic conditions of the region for their successful survival in that region. More kind of disturbance is hindering the evolutionary process leading to their population decline. Factors such as climatic change, industrialization, encroachment of forest lands, over exploitation of natural resources, large scale collection of ferns from the forests by visitors and local people for ornamental purpose, medicinal purpose and during excursions, etc. pose a major threat to the survival of these groups of plants. The present study was preliminary report on exploration of pteridophytes species of Aluthakanni River, Tirunelveli district, Tamil nadu.

2. Materials and Methods

The preliminary exploration studies of pteridophytes were survey on Aluthakanni River, Tenkasi, Tirunelveli District, Tamil Nadu, and South India from during the period of October2012- November, 2013. The collected pteridophytes species were described and identified in local flora (Manickam and Irudayaraj,1992).

3. Results and Discussion

In results of the field work observed that 6 species of pteridophytes were collected and studied in the Alutha kanni river, Tenkasi, Tirunelveli district, Tamilnadu (Table-1 and Photo-1). The pteridophytes species of *Azolla pinnata* R. Br., *Marsilea minuta* L., *Nephrolepis multiflora* (Roxb.) F.M.Jarret ex C.V.Morton (syn. *Davallia multiflora* Roxb.), *Adiantum capillus-veneris* L., and *Pityrogramma calomelanos* (L.) Link. were reported in the first time in Alutha kanni river (Plate-1). The important of pteridophyte is commonly occurring in several regions of Western Ghats and India and they were play in different role in the forest ecosystem. Both species of *Salvinia molesta* D.S. Mitch and *Azolla pinnata* R. Br., were remarkable activity of removal of heavy metals and treatment of wastewater (Sanyahumbi *et al.,* 1998; Vermaat and Hanif, 1998). Earlier studies on *Salvinia* such as *S. herzogii*, *S.minima*, *S. natans*, *S. rotundifolia* possess the potential of removing various contaminants including heavy metals from the waste water (Nichols *et al*., 2000; Olguín *et al*., 2007; Suné *et al*., 2007). Dixit, (2000) who has reported that ornamental values of both species of *Adiantum* and *Nephrolepis.* The conclusion of the present study was first time reported in the six species of pteridophytes present in the Aluthakanni River in Tenkasi Taluka, Tirunelveli District, Tamil Nadu.

Table-1: Preliminary survey of pteridophytes in Aluthakanni River, Tenkasi Taluka, Tamil nadu

Sl.No	Plant Name	Family	Type of Nature
1	*Azolla pinnata* R. Br.	Azollaceae	Aquatic
2	*Salvinia molesta* D.S. Mitch	Salviniaceae	Aquatic
3	*Marsilea minuta* L.	Marsileaceae	Aquatic
4	*Nephrolepis multiflora* (Roxb.) F.M.Jarret ex C.V.Morton (syn. Davallia multiflora Roxb.)	Nephrolepidaceae	Lithophyte
5	*Adiantum capillus*-veneris L.	Pteridaceae	Lithophyte
6	*Pityrogramma calomelanos* (L.) Link.	Pteridaceae	Lithophyte

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Photo-1: Natural View of Aluthakanni River and Pteridophytes species

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5. References

Moran, R.C. 2008. Diversity, biogeography and floristics. In: Ranker TA, Haufler CH (Eds) *Biology and Evolution of Ferns and Lycophytes*, Cambridge University Press, Cambridge, pp. 367-394.

IUCN, 2010. Guidelines for Using the IUCN Red List Categories and Criteria, version 8.1 (August 2010), prepared by the Standards and Petitions Subcommittee of the IUCN Species Survival Commission: on www. http://intranet.iucn.org/webfiles/doc/SSC/RedList/ RedListGuidelines.pdf

Manickam, V.S. and Irudayaraj, V. 1992. Pteridophyte Flora of Nilgiris, South India. Bishen Singh Mahendra Pal Singh, Dehra Dun.

Sanyahumbi, D., Duncan, J.R., Zhao, M. and Van Hille, R. 1998. Removal of lead from solution by non viable biomass of water fern *Azolla filiculoides. Biotech Lett.,* 20: 745 - 747.

Vermaat, J.E. and Hanif, M.K. 1998. Performance of common duckweed species (Lemnaceae) and the water fern *Azolla filiculoides* on different types of wastewater. *Water Res (Oxford),*32: 2569 - 2576.

Wagner, G.M. 1997. *Azolla:* A review on its biology and utilization. *Bot Rev.,* 63: 1- 26.

Usher, G. 1974. A dictionary of plants used by Man. Hafner Press, New York.

Nichols, P.B., Couch, J.D. and Al-Hamdani, S.H. 2000. Selected physiological responses of *Salvinia minima* to different chromium concentrations. *Aquatic Botany,* 68: 313-319.

Olguín, E.J., Sánchez-Galván, G. and Pérez-Pérez, P. 2007. Assessment of the phytoremediation potential of *Salvinia minima* Baker compared to *Spirodela polyrrhiza* in high-strength Organic Wastewater. *Water, Air and Soil Pollution,* 181: 135-147.

Suné, N., Sa´nchez, G., Caffaratti, S. and Maine, M.A. 2007. Cadmium and chromium removal kinetics from solution by two aquatic macrophytes. *Environmental Pollution,* 145: 467-473.

Dixit, R.D. 2000. Conspectus of Pteridophytic diversity in India. *Indian Fern Journal,* 17: 77 - 91.