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Preliminary survey on the distribution of Pteridophytic flora in Razole Mandal, East Godavari district, Andhra Pradesh

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Abstract

This communication deals with the distribution of the species belongs to Pteridophytic flora in some villages of the Razole Mandal, East Godavari district, AP. Studies were made for a period of one year from January to December 2013 on species distribution of Pteridophytes in agricultural fields of the different villages in Razole Mandal. A total of 10 species belongs to 8 families were reported in this investigation. These species were present in the coconut fields, along the side of the creeks and canals. Dominant forms reported in this study were species of Marselia, Salvinia, Azolla and Pteris.

Key words: Pteridophytes, distribution, agricultural fields, Razole Mandal.

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1. Introduction

Pteridophytes are first vascular cryptogams in the plant kingdom distributed in temperate, sub tropical regions prefer to grow in cool shady places besides found in aquatic habitats. Few species able to grow in xeric conditions also. Several investigators (Dixit,1975; Pande and Pande, 1991; Khullar *et al*., 1991 and Khullar, 2000) studied the distribution, abundance and ethno botanical importance of Pteridophytes. In India, Pteridophytes are distributed in Himalayas, Eastern Ghats and Western Ghats of India. Murty *et al*., (2011), Narasimha Rao and Lohitasyudu (2012) studied the quantitative observations on flora of Pteridophytes at Punyagiri Hill near Vizianagaram and Madugula of Eastern Ghats of India respectively. Narasimha Rao *et al.,* (2013) studied the species composition and medicinal importance of Pteridophytes in Paderu forest region of Eastern Ghats of India. In the present study a preliminary investigation was undertaken on distribution of flora of Pteridophytes in the coconut fields and paddy plantations of Razole Mandal, East Godavari district, Andhra Pradesh.

2. Materials and Methods

2.1 Study sites and Methods

Razole is situated 270 KM away from the Visakhapatnam city at latitudes 16.47˚N and longitudes 81.83 E.˚ Razole Mandal comprises of many villages but only six villages such as Mulikipalli, Kadali, Kunavaram, Chintalapalli, Ponnamanda and Gogannamatam were selected for this study. Five field trips were conducted in every village during the year 2013 to collect the information in different seasons of the year. In this preliminary study only visual observations were made without any numerical data collection. Coconut fields, paddy fields, canals, creeks and edges of lakes and wet, marshy lands were examined for collection of information on distribution of Pteridophytes.

3. Results and Discussion

Table 1 shows the total number of Pteridophytic flora present in the different villages of the Razole Mandal of East Godavari district. A total of 10 species of Pteridophytes were recorded in the present study and they are belonging to 8 genera and 8 families. Species of *Salvinia* and *Azolla* are distributed in the paddy fields, nearby ponds and lakes. *Salvinia* species are creating problems to the farmers due its wide spread in the paddy fields within a short span of time. It is problematic to the farmers to control this weed.

Table-1: Flora of Pteridophytes in Razole Mandal, East Godavari district. Andhra Pradesh

S. No	Name of the plant	Family
1	*Azolla pinnata* R.Br.	Azollaceae
2	*Lygodium flexiosim* Linn	Schizaceae
3	*Marsilea coromandelica* Linn	Marseliaceae
4	*Marsilea minuta* Linn	Marseliaceae
5	*Nephrolepsis cordifolia* Linn.	Nephrolepidaceae
6	*Pteridium aquilinum* (L.) Kuhn.	Dennstaedtiaceae
7	*Pteris vittata* Linn	Pteridaceae
8	*Salvinia auriculata* Abul	Salviniaceae
9	*Salvinia natans* (L)All	Salviniaceae
10	*Selaginella involvense* Sw.in Bull	Selaginellaceae

Fig.1: Photograph showing the species of different Pteridophytes growing along the banks of the small creek.

While species of Azolla are useful for the paddy cultivators because BGA which present in cavity of leaf base able to convert the atmospheric nitrogen into nitrate or ammonia and helps for the enrichment of the soil. Species of *Marsilea* are present along the banks of the canals, small creeks and edges of lakes and ponds. This *Marsilea* species is used as fodder for cattle in the local regions. Species of *Pteris* and *Pteridium* are raised in the house holds as ornamental plants. Information was collected regarding the medicinal applications some species of Pteridophytes in this region. Species of *Lygodium* was used in wound healing, eczema and treatment of jaundice. Leaves of *Marsilia coromandelica* are mixed with garlic and make it a paste. This paste used to treat cold and cough. *Nephrolepsis cordifolia* is useful to treat liver ailments. Pteridophytes are in general distributed in the evergreen forests, moist forest regions which needs cool and low temperature and continuous wet conditions (Murty *et al*., 2011, Narasimha Rao and Lohitasyudu, 2012 and Narasimha Rao *et al*., 2013).

In the present study Pteridophytic flora was reported in the subtropical to tropical conditions where temperature is raised to 35 to 40 ^{0}C during the summer months. Species of *Pteris*, *Pteridium* and *Marsilea* are distributed abundantly in these regions. Further numerical studies on this flora along with utility of the important genera such as *Marsilea* and *Azolla* will be helpful for the local folk as well to add some information to scientific literature.

4. Acknowledgement

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