

## **Potential ornamental Ferns from Nilgiris, Tamil Nadu.**

**Sonia Abraham<sup>\*</sup>, V.S. Ramachandran and C. Sofia**

*Taxonomic and Floristic Laboratory, Department of Botany, Bharathiar University, Coimbatore  
Tamil Nadu, India*

---

### **ABSTRACT**

*Pteridophytes are of immense economic importance as medicinal, food, shelter, ornamental plants etc. Field studies in Nilgiris during 2010-2012 resulted in the documentation of 153 ferns and 18 fern-allies. Out of which, twenty potential ornamental ferns were listed out and the same is provided.*

**Key words:** Pteridophytes, Nilgiris, ornamental ferns, Tamil Nadu.

---

### **INTRODUCTION**

India is a mega biodiversity country with about 17,000 species of vascular plants. More than 1200 species of fern and fern- allies have been reported from India [4], [5]. Within India, the Western Ghats, one of the hotspots of the world, possess a large extent of biodiversity. It has been estimated that around 233 species of ferns found to occur in the southern Western Ghats [8]. The Nilgiri hills, a part of Western Ghats, is one of the most fascinating features of the Indian subcontinent from the bio-geographical point of view and it is located between 11° 10' and 10° 30' N latitude and between 76° 25' and 77° 00' E longitude with an elevation from 350 m to 2657m. Nilgiri vegetation consists mainly of undulating grasslands interspersed with numerous isolated forests with sharply defined borders, popularly known as 'shola'.

Dixit and Vohra [6] gave a brief account on the edible and medicinally important Pteridophytic species from India. Further information on the economic utility of the Pteridophytes is given by various workers [3], [7], [9], [10], [11] from India for the various uses and medicinal property of Pteridophytes. Benjamin and Manickam [2] reported the medicinal uses of sixty one Pteridophytes used by the tribals of Western Ghats. Besides the economic values, a large number of them are cultivated for their ornamental value either in indoors of the houses or outdoors in the botanical gardens due to their delicate beauty and grace [11].

Even though there are many studies on the ethno-botanical importance and medicinal uses of ferns, there are very few studies on the ornamental values of ferns, particularly from India. There is no previous report of the economic importance of ferns from Nilgiris. In the present study, the ornamental potential of some of the ferns from Nilgiris is discussed.

### **MATERIALS AND METHODS**

Intensive field explorations were carried out in Nilgiri district during the year 2010-2012, to document the ferns and fern-allies. The collected plants were identified with the help of *The Ferns of Southern India* [1] and *Pteridophyte Flora of the Western Ghats – South India* [8]. The potential ornamental ferns were also listed out.

---

**RESULTS AND DISCUSSION**

The study has resulted in the documentation of 153 ferns and 18 fern-allies in which twenty potential ornamental ferns were selected and are listed below. Images of some of the potential ornamental ferns were provided in plate 1.

*Actiniopteris radiata* (Sw.) Link (Actiniopteridaceae) “Fan fern” – These are highly decorative small fern with its palm-like attractive fronds. Best suitable for rockeries and can also used as pot plants.

*Adiantum lunulatum* Burm. (Adiantaceae) “The maiden hair fern” – It has short creeping rhizomes, black wiry stems with delicate triangular to oval leaves. It is suitable to grown as pot plant. Grow in partial shade in moist well drained soils.

*Asplenium nidus* L. (Aspleniaceae) “Bird’s nest fern” – This is used as house plant and also grown in gardens for its attractive shape of the leaves and grows well in moist shady places which need little care.

*Asplenium normale* (Aspleniaceae) – Dark green, shade-loving fern which can be grown in small pots as an indoor ornamental plant.

*Cyathea nilgirensis* Holtt. (Cyatheaceae) “Tree fern” – It is a large tree fern with attractive fronds and it is suitable to grow in the centre of the lawn and gardens.

*Cheilanthes swartzii* Webb. et Benth. (Cheilanthaceae) – Plant with small, green attractive fronds and black brittle stipe is best suitable for rockeries. It can also be grown in small pots.

*Deparia petersenii* (Kunze) M. Kato (Athyraceae) – A medium sized fern, grown in shady places and well-suited for indoor gardens.

*Diplazium esculentum* (Retz.) Sw. (Athyraceae) – Grown as pot plant under moist, well drained soil. The faded fronds should be removed frequently to avoid drying. Proper care is must.

*Doodia dives* Kunze (Blechnaceae) – This fern attractive for its shape of fronds and it is well suited for growing in gardens as potted plants. Also suitable for gardens with rock and soil.

*Doryopteris concolor* (Langsd. et Fisch.) Kuhn (Sinopteridaceae) – Ferns with attractive palmate shape fronds which can be grown in rockeries.

*Drynaria quercifolia* (L.) J. Sm. (Polypodiaceae) “Oak leaf fern” – This can be grown in gardens in ground or as epiphytes. An outstanding plant to grown as pot plant in indoors.

*Lygodium flexuosum* (L.) Sw. (Schizaeaceae) “Climbing fern” – Climber with attractive foliage, suitable for growing on walls and trellis.

*Marsilea minuta* L. (Marsileaceae) “Water fern” – These ferns grown well in moist part of the garden, around or in water features or floating attractively in shallow ponds or streams. They can be also grown in aquarium or shallow water containers.

*Odontosoria chinensis* (L.) J. Sm. (Lindsaeaceae) – This is a beautiful fern with thin fronds, suitable for hanging baskets.

*Ophioglossum reticulatum* L. (Ophioglossaceae) “Adder’s tongue plant” – This pretty fern is well suited for outdoor in cool climates and it can be planted beneath trees. Excellent for potted plant.

**Plate 1: Potential ornamental ferns from Nilgiris.**

**Plate: Potential ornamental ferns from Nilgiris**



*Doryopteris concolor* (Langsd. et Fisch.) Kuhn



*Pteris argyrea* T. Moore



*Actiniopteris radiata* (Sw.) Link



*Cheilanthes swartzii* Webb. et Benth.



*Lygodium flexuosum* (L.) Sw.



*Marsilea minuta* L.

*Osmunda huegaliana* Presl. (Osmundaceae) – The foliage of the fern is very attractive and it can be grown as pot plant in indoors.

*Parahemionotis cordata* (Roxb. ex Hook. & Grev.) Fras. Jenk. “Rabbit’s ear fern” – This attractive dwarf fern is ideal for rockeries.

*Pityrogramma calamelanos* var. *aureoflava* (Hook.) Weath. ex Bailey (Hemionitidaceae) “Golden fern” – This can be grown as a potted plant in indoors. Fronds are much attractive with the golden-yellow powder beneath it.

*Pteris argyrea* T. Moore (Pteridaceae) – This is an excellent fern suitable for indoor decoration. It is a beautiful fern with several variegations and has lengthened leaflets with silvery white band in the centre. The plant grows well in shady and moist places. It can be grown in small pots.

*Stenochlaena palustris* (Burm.) Bedd. (Blechnaceae) – Beautiful climbing fern which is suitable for trellis, arches and trailed around tall trees.

### CONCLUSION

Ferns have got great aesthetic value for their elegant fronds and a large number of them are cultivated as ornamental plants in houses and botanic gardens. Twenty potential ornamental ferns were listed in the present study and majority of them are suitable for indoor gardens. Five plants are best for rockeries. The ferns can grow well in such moist and shady conditions in the gardens where other plants usually cannot grow.

### REFERENCES

- [1] Beddome R.H., *The Ferns of Southern India*. Gantz Bros., Madras, **1864**, (Reprinted: Today and Tomorrow's Printers & Publishers, New Delhi, **1970**).
- [2] Benjamin A., V.S. Manickam, Medicinal Pteridophytes from the Western Ghats, *Indian J. Trad. Know.* **2007**, 6(4): 611-618.
- [3] Benniamin A., Medicinal ferns of North Eastern India with special reference to Arunachal Pradesh. *Indian J. Trad. Know.* **2011**, 10(3): 516-522.
- [4] Chandra S., *The ferns of India (Enumeration, Synonyms & Distribution)*, International Book Distributors, Dehra Dun, India, **2000**.
- [5] Dixit R. D., *A census of the Indian Pteridophytes*, Flora of India ser. 4, Botanical Survey of India, Howrah, Calcutta, India, **1984**.
- [6] Dixit R. D., J. N. Vohra, *A dictionary of the Pteridophytes of India*, Botanical Survey of India, Howrah, Calcutta, India, **1984**.
- [7] Kaushik P., K. Dhiman, Common medicinal Pteridophytes, *Indian Fern J.* **1995**, 12: 139-145.
- [8] Manickam V. S., V. Irudayaraj, *Pteridophyte Flora of the Western Ghats – South India*, B. I. Publications, New Delhi, India, **1992**.
- [9] Nayar B. K., Medicinal ferns of India, *Bull. Nat. Bot. Gard. Lucknow*, **1957**, 29: 1-36.
- [10] Singh H.B., M.V. Viswanathan, Useful Pteridophytes of India – A gift of nature to Human beings, *J. Econ. Tax. Bot., Add. Ser. 12*, **1996**, 24-36.
- [11] Vasudeva S. M., Economic importance of Pteridophytes, *Indian Fern J.*, **1999**, 16: 130-152.