RESEARCH NOTES
(I)

VEGETATIVE PROPAGATION OF LESS KNOWN FERN – *CYRTOMIUM CARYOTIDEUM* – A NEW APPROACH

Ferns have graced our planet for millions of years. About 12,000 species of ferns occur worldwide. The variety to be found among them is staggering in its array of forms, textures, and even colours. From towering tree ferns to tiny water clovers, ferns and fern allies offer a wide range of uses in the garden and home (Hoshizaki and Moran, 2001).

Caryotideum means 'Caryota-like'. The name comes from the genus Caryota, palms with pinnate leaves. *Cyrtomium caryotideum* belonging to family Dryopteridaceae is a native of South-East Asia, China, Northern India and islands of the South Pacific. 'Fishtail holly fern' is the most used common name for *Cyrtomium caryotideum* on the premise that the three-pronged leaf ends look like the tails of fishes.

It is also called 'Dwarf holly fern' because it is usually only one foot tall. Over time it can spread by rhizomes to 90 cm or wider and will likely need to be dug up and divided every few years. The rhizome is used as an anthelmintic, chiefly for the expulsion of tapeworm (Chopra and Nayar, 1986)..

Increasing biotic pressure on the Himalayan ecosystem and the ruthless over-exploitation of natural resources in general threaten this Himalayan fern. Both natural and man-made factors have been responsible for extinction of this beautiful fern. It is well known that several plant species have become extinct due to certain natural phenomena. In some other cases, species become too old or senescent and suffered genetic depletion, thus becoming unable to adapt to the new environment, leading to their restricted distribution and eventually extinction. Anthropogenic factors have accelerated rarity and extinction of plant species (Kant and Sharma, 2005).

The present study documents a successful attempt to multiply this fern through rhizomes. The study was carried out in Lesser Known Tree Species (LKTS) Nursery of Forest Research Institute, Dehra Dun located at 30° 19' N latitude and 78° 03' E longitude. Plants of the fern were collected during the month of March 2006 from Chakrata Forest Division (under Yamuna Circle) at an altitude of 2,100m. The division is situated between latitudes 20° 26' and 31° 2' N and longitudes 77° 38' and 78° 4' E. This fern was found to be growing in shady, rocky places and near ravine area. The ferns collected were split in two ways, (i) rhizome without leaves and (ii) rhizome with leaves. Split plantlets were put in wooden pots, potting media consisting of pebbles, moss, sand and soil.

The split plantlets of the fern in the form of rhizome without leaves showed 90 per cent mortality whereas rhizome with

leaves have shown 90 to 90.2 per cent new fronds emergence. It is found that 2-3 rhizome bulge with leaves gives better result. It was also observed that holly fern grows well in 50 % shade. Due to its beautiful and peculiar appearance, it can be multiplied for botanical as well as aesthetic purposes which can be a good choice for containers, rock gardens, or rocky ground, where other ferns do not grow well. Moreover, its medicinal value needs more study to find out the possibility of its commercial exploitation by local people. Considering the medicinal value of this species, *in-situ* as well as *ex-situ* conservation is needed at this juncture.

This study will also help in redeeming the habitat of this threatened fern due to degradation and over-exploitation.

References

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