

B-02 Multiplication of the Fern *Platycerium verrucosum* from spores in axenic culture

S A Krishnarajah, S Karunaratne
(*Royal Botanic Gardens, Peradeniya*)

Growing of ornamental plants at home and at work environments has become popular in the recent past. Ferns have also become part of ornamentals which

are in great demand. However propagation techniques for many of the rare ferns are not known to local growers.

The fern *Platynerium verrucosum* was multiplied through spores in axenic culture. The Knudson C and ½ strength Murashige and Skoog media were tested for use as culture media. Both media proved to be suitable for germination and development of spores and no hormones were added to the medium.

Mature sporangia were collected from a greenhouse grown specimen. Spores were surface sterilized in a 10% Clorox solution for 20 min and cultured in both the above media. Initially thallus formation was seen 4-6 weeks after inoculation of spores. Subsequently sporophyte formation was also seen in both media after 6-8 months in culture. Cultures were maintained at a temperature of about 25°C and a 16 h photoperiod of 23 $\mu\text{mol m}^{-2}\text{s}^{-1}$.

When cultures were dense at the gametophytic stage, thallus elongated and grew away from the media, changing their characteristic heart shape. Cultures had to be less dense and frequently transferred in order to avoid such deformation of thallus, browning at bases of culture and in some cases to avoid competition between sporophytes formed in large numbers close to each other.

Rooting of sporophytes was poor in culture. However, when acclimatization was done in polyethylene tunnels maintaining high levels of humidity (90-95%), they survived and continued to grow. Coconut fibre was used as the growing medium.