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In vitro studies in *Celastrus paniculatus* Willd., and green synthesis of silver nanoparticles

D H Tejavathi and R Niranjana
Bangalore University, India

Celastrus paniculatus Willd., belongs to the family Celastraceae is one of the important medicinal plants. Various parts of the plant are used in indigenous systems of medicine for their immense health benefits. In Ayurveda, the seeds are recognized as an effective nervine tonic. Apart from seeds, other parts like those that bark, leaf and root are used to overcome pain and local inflammations. Because of its extensive medicinal uses, overexploitation has led to the threatened status of the taxon. *In vitro* culture technique is one of the promising methods for conservation and propagation of threatened taxa. Nodes, internodes and leaf were cultured on Murashige and Skoog's medium supplemented with various concentrations. Both direct and indirect organogenesis was obtained from the cultures. The effective combinations of hormones for direct and indirect organogenesis were found to be MS+NAA+BA/BAP and MS+NAA+BAP+TDZ+ - glutamine respectively. Thus, obtained shoots were rooted on MS+IBA/IAA medium and further successfully acclimatized on soilrite. About 50% of survival rate was recorded. In view of its threatened status and medicinal properties, synthesis of nanoparticles has a significant and promising role to play in pharmaceuticals. Hence, silver nanoparticles from seed extracts were synthesized and standard tools such as UV-Vis spectrophotometer, SEM and XRD, characterize them. Efficacy of these nanoparticles against known pathogens is under study.

tejavathi_hanu@yahoo.com