

**IN VITRO CLONAL PROPAGATION OF *ARISTOLOCHIA ELEGANS* MAST.**

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**REFERENCES**

- BISWAS A., BARI M. A., ROY M., BHADRA S. K. (2007). *In vitro* regeneration of *Aristolochia tagala* Cham. a rare medicinal plant of Chittagong hill tracts. *Journal of Bio-Science*, 15: 63-67.
- BLISS B. J., LANDHERR L., DEPAMPHILIS C. W., MA H., HU Y., MAXIMOVA S. N. (2009). Regeneration and plantlet development from somatic tissues of *Aristolochia fimbriata*. *Plant Cell, Tissue and Organ Culture*, 98: 105-114.
- BRAVO C., YORMANN G., LLORENTE B. (1999). Micropropagation of *Aristolochia fimbriata* Cham. *Acta Horticulturae*, 502: 339-346.
- DEY A., NONGDAM P., NANDY S., MUKHERJEE S., MUKHERJEE A., TIKENDRA L., PANDEY D. K. (2021). Polyamine elicited aristolochic acid production in *in vitro* clonally fidel *Aristolochia indica* L.: An ISSR and RAPD markers and HPTLC based study. *South African Journal of Botany*, 140: 326-335.
- GATTI E., VECCHI M. (2017). Micropropagation of *Aristolochia rotunda* L. *Plant Biosystems*, 151: 581-583.
- IZQUIERDO A. M., ZAPATA E. V., JIMÉNEZ-FERRER J. E., MUÑOZ C. B., APARICIO A. J., TORRES K. B., TORRES L. O. (2010). Scorpion antivenom effect of micropropagated *Aristolochia elegans*. *Pharmaceutical Biology*, 48: 891-896.
- MANJULA S., THOMAS A., DANIEL B., NAIR G. M. (1997). *In vitro* plant regeneration of *Aristolochia indica* through axillary shoot multiplication and organogenesis. *Plant Cell, Tissue and Organ Culture*, 51: 145-148.
- MURASHIGE T., SKOOG F. (1962). A revised medium for rapid growth and bio assays with tobacco tissue cultures. *Physiologia Plantarum*, 15: 473-497.
- NATH S., GHOSH N., ANSARI T. A., MUNDHRA A., PATIL M. T., MANE A., DEY A. (2022). Genetic diversity assessment and biotechnological aspects in *Aristolochia* spp. *Applied Microbiology and Biotechnology*, 106: 6397-6412.
- NEGI P. S., HAJRA P. K. (2007). Alien flora of Doon valley, Northwest Himalaya. *Current Science*, 92: 968-978.
- PANDEY A. K., PANDEY M., TRIPATHI B. D. (2015). Air pollution tolerance index of climber plant species to develop vertical greenery systems in a polluted tropical city. *Landscape and Urban Planning*, 144: 119-127.
- SARMA B., TANTI B. (2017). *In vitro* regeneration of plantlets from nodal explants of *Aristolochia saccata* and *Aristolochia cathartii*. *European Journal of Biological Research*, 7: 191-201.
- SEBASTINRAJ J., SIDIQUE K. I. (2011). *In vitro* rapid clonal propagation of *Aristolochia bracteolata* Lam. (Aristolochiaceae) - a valuable medicinal plant. *World Journal of Agricultural Sciences*, 7: 653-658.
- SCHENK R. U., HILDEBRANDT A. C. (1972). Medium and techniques for induction and growth of monocotyledonous and dicotyledonous plant cell cultures. *Canadian Journal of Botany*, 50: 199-204.
- SONIYA E. V., SUJITHA M. (2006). An efficient *in vitro* propagation of *Aristolochia indica*. *Biologia Plantarum*, 50: 272-274.
- STARR F., STARR K., LOOPE L. (2003). *Aristolochia littoralis*. Maui, Hawaii, USA: United States Geological Survey- Biological Resources Division: 1-5.
- TARTOURA K., DA ROCHA A., YOUSSEF S. (2004). Synergistic interaction between coumarin 1,2-benzopyrone and indole-3-butryric acid in stimulating adventitious root formation in *Vigna radiata* (L.) Wilczek cuttings: I. Endogenous free and conjugated IAA and basic isoperoxidases. *Plant Growth Regulation*, 42: 253-262.
- TORRES L. O., ALEJANDRO M. I., ELSA V. Z., ENRIQUE J. F., CRESCENCIO B. M., ANTONIO J. A. (2007). Micropropagation of *Aristolochia elegans* (Mast.). *Journal of Crop Science and Biotechnology*, 10: 141-146.
- VELUCHAMY S., RAJAPPAN A. P. (2008). Stimulation of micropropagation of the medicinal plant *Aristolochia indica* L. through nodal explants by adenine sulphate. *The Asian and Australasian Journal of Plant Science and Biotechnology*, 2: 39-41.
- VERMA P. K., KEWAT A. K., RAWAT K. K., ANUP C. (2018). Invasion of *Aristolochia littoralis* Parodi in Kailash Sacred landscape, Uttarakhand. *Indian Journal of Forestry*, 41: 231-233.
- WONG N. H., TAN C. L., KOLOKOTSA D. D., TAKEBAYASHI H. (2021). Greenery as a mitigation and adaptation strategy to urban heat. *Nature Reviews Earth & Environment*, 2: 166-181.