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In vitro Callus Formation from Leaf Segments of *Coscinium fenestratum* (Gaertn.) Colebr as Affected by Culture Medium, Plant Growth Regulators and Physical Environmental Factors

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Roots and stems of *C. fenestratum* contain alkaloids, berberine, sistesterol etc. (Gunatilake *et. al.*, 2002).Therefore it is beneficial to identify the capability of callus and cell cultures of *C. fenestratum* for synthesis and extraction of active ingredients using *in vitro* techniques.

Leaves at different maturity stages were surface sterilized and cultured on MS (Murashige and Skoog, 1962), WPM (Lloyd and McCown, 1980) and B5 (Gamborg *et al.*, 1968) media containing 0, 0.2 and 0.4 mg/L of 6-benzyl amino purine (BAP) with α-napthalene acetic acid (NAA), indol acetic acid (IAA) or 2, 4- dicloro-phenoxy acetic acid (2, 4-D) (0, 1, 2, 3 and 4 mg/L). Cultures were incubated under total dark, intermediate and 16 hour light (1000 lx) conditions. All the experiments were designed according to Completely Randomized Design (CRD) with 20 replicates.

Results revealed that light-green coloured immature leaves of *C. fenestratum* produced yellowish powder and compact callus masses under dark conditions in WPM medium with all the hormone combinations. Berberine formed and accumulated in the culture medium disturbed the further growth of callus. Frequent sub-culturing was practiced and WPM medium containing 0.4 mg/L BAP with 2 mg/L 2,4-D produced highest proliferation of callus.