

# Morphogenetic Studies and *In vitro* Propagation of Some Mosses

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## ABSTRACT

Stable axenic cultures of the five moss taxa viz. *Atrichum undulatum* var. *gracilisetum* Besch., *Pogonatum microstomum* (Schwaegr.) Brid., *Physcomitrium eurystomum* Sendtn., *Bartramia leptodonta* Wils. and *Ditrichum tortuloides* Grout have been established by inoculating their spores into defined hormone-free media and study on spore germination and morphogenesis of these species has been carried out. Differentiation of protonema into well defined leafy gametophores occurred in the four taxa, while culture of *Pogonatum microstomum* remained bud free. Half strength Knop's macronutrients + Nitsch's trace elements with 10 ppm freshly prepared ferric citrate devoid of sucrose found suitable for the optimum growth and micropropagation of these taxa in continuous light of 4000-5500 lux and at  $21 \pm 2^\circ\text{C}$  temperature. Morphological features of chloronemal cells are characteristics of the respective species, while features like relative amount of chloronema and caulonema and time taken in spore germination and gametophore development are governed by culture conditions.

**Key words:** Culture, mosses, protonema, spores

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