



QUALITATIVE PHYTOCHEMICAL PROFILING OF IN VITRO PROPAGATED *Marchantia polymorpha* AND *Marchantia polymorpha* subsp. *montivagans* FROM MT. KITANGLAD, BUKIDNON, PHILIPPINES

Aires Jean E. Duave^{1*} and Lesley C. Lubos²

¹Lantapan National High School-Senior High School, Poblacion, Lantapan,
Bukidnon, 8722, Philippines

²Bukidnon State University, Poblacion, Malaybalay City, Bukidnon 8700,
Philippines

*Corresponding author: airesjean.eroisa001@deped.gov.ph

ABSTRACT – *Marchantia* species contain diverse secondary metabolites that have been investigated for their potential biological and biotechnological significance. However, limited information is available on the qualitative phytochemical composition of *Marchantia* taxa propagated under in vitro conditions. This study determined the qualitative phytochemical profile of in vitro-propagated *Marchantia polymorpha* and *Marchantia polymorpha* subsp. *montivagans* established from specimens collected in Mt. Kitanglad, Bukidnon, Philippines. Healthy gametophytes collected across nine elevational gradients were established under aseptic in vitro conditions using a sterilized garden soil and coco peat substrate (1:1). Following the culture period, harvested thalli were subjected to ethanolic extraction and qualitative phytochemical screening by an accredited laboratory using standard procedures. Eight classes of secondary metabolites were screened. Both taxa tested positive for flavonoids, tannins, saponins, and phenolic compounds, with differences in reaction intensity between taxa. *Marchantia polymorpha* showed a strongly positive (+++) reaction for flavonoids and weakly positive (+) reactions for tannins, saponins, and phenolic compounds, whereas *Marchantia polymorpha* subsp. *montivagans* showed a moderately positive (++) reaction for tannins and weakly positive (+) reactions for flavonoids, saponins, and phenolic compounds. Alkaloids, glycosides, terpenoids, and oxalates were not detected in either taxon. The findings establish the presence of several secondary metabolite classes in the in vitro-propagated *Marchantia* taxa examined, particularly flavonoids, tannins, saponins, and phenolic compounds. These results provide baseline phytochemical information that may support subsequent studies on the biological activities, antibacterial properties, conservation, and biotechnological applications of these taxa.

Keywords: *in vitro* propagation, *Marchantia polymorpha*, *Marchantia polymorpha* subsp. *montivagans*, phytochem



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