

**Efficacy of *Lygodium microphyllum* in Mitigating Carbon Tetrachloride (CCl<sub>4</sub>)-Mediated Oxidative Hepatic Injury in Rats.**

Charles Gnanaraj and Ying Ping Chang

Department of Chemical Science, Faculty of Science, Universiti Tunku Abdul Rahman, Bandar Barat, 31900 Kampar, Perak, Malaysia.

Corresponding author email: [jcharlesgnanaraj@gmail.com](mailto:jcharlesgnanaraj@gmail.com)

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UNIVERSITI TUNKU ABDUL RAHMAN, BANDAR BARAT, 31900 KAMPAR, PERAK, MALAYSIA.

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**ABSTRACT**

Aqueous extract of *Lygodium microphyllum* (Cav.) R.Br. (Lygodiaceae), a medicinal plant used by local communities in Sabah, was tested for antioxidative and hepatoprotective activity. Several in vitro studies on various extracts of *L. microphyllum* were carried to determine total phenolic and flavonoids contents, DPPH radical scavenging activity. In vivo animal studies were carried out to evaluate hepatoprotective effects of *L. microphyllum* at different doses (200, 400 & 600 mg/kg b.w.) against CCl<sub>4</sub> (1.0 ml/kg b.w.)-mediated liver injury and histopathological alterations. *L. microphyllum* possessed strong antioxidant activity in vitro and has the ability to scavenge DPPH free radicals effectively. Aqueous extract of *L. microphyllum* was able to reduce the levels of ALT, AST and MDA in a dose-dependent manner. GSH levels and antioxidant enzymes activities (GPx, GR, CAT, GST and QR) were significantly elevated dose-dependently in *L. microphyllum* treated groups. *L. microphyllum* alone treated group (600 mg/kg b.w.) exhibited similar results as normal control group. Histopathological (H&E) alterations proved the protective effects of *L. microphyllum* towards normalization of hepatocytes. The ethnobotanical claim is in harmony with the findings of this experiment. Antioxidative properties of *L. microphyllum* could be attributed for the hepatoprotective effect of this plant.