

## **Preliminary Investigations for antioxidant properties of ferns species collected in Long Banga, Sarawak**

### **ABSTRACT**

Ferns are traditionally consumed as vegetables and used to prevent or cure various ailments as they have a few medicinal properties including antioxidant activity. However, little is known on ferns in Long Banga, Sarawak such as *Calymmodon clavifer*, *Hymenophyllum acanthoides*, and *Oleandra pistillaris* especially on their medicinal properties. Thus, the study is carried out to evaluate the antioxidant activity of crude extracts of *Calymmodon clavifer*, *Hymenophyllum acanthoides* and *Oleandra pistillaris* collected in Long Banga, Sarawak. All crude methanolic extracts were subjected to 1,1-diphenyl-2-picrylhydrazyl (DPPH) antioxidant assay. Total phenolic and total flavanoid content were also determined for phytochemical analysis. DPPH antioxidant test of all extracts showed that *H. acanthoides* gave the significant EC<sub>50</sub> value 0.030 mg/ml in comparison to the EC<sub>50</sub> value of the standard used, Trolox 0.035 mg/ml. Furthermore, phytochemical analysis showed higher total phenolic and total flavanoid content in the crude extract of *H. acanthoides* with the values of  $304.81 \pm 0.47$  mg gallic acid equivalent (GAE)/g and  $231.09 \pm 0.91$  mg catechin equivalents (CE)/g, respectively supporting the high antioxidant activity of *H. acanthoides* from DPPH test. Therefore, ferns collected in Long Banga, Sarawak shows promising potential as antioxidant agents to be used as alternative approach in therapeutic applications or preventions.