

**PHYTOCHEMICAL SCREENING AND INSECTICIDAL EFFECT
OF *Dendrobium crumenatum* ON *Lasius niger* (BLACK ANT)**

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ABSTRACT

PHYTOCHEMICAL SCREENING AND INSECTICIDAL EFFECT OF *Dendrobium crumenatum* ON *Lasius niger* (BLACK ANT)

The aim of this study is to identify the phytochemical screening and insecticidal effect of *D. crumenatum* on *L. niger*. The two different types of extract stems of *D. crumenatum* were screened for secondary metabolite constituents and insecticidal effect on *L. niger* (black ant). The stem sample were extracts with different solvent, hexane and methanol. The percentage yield of crude extracts calculated found that methanol showed the highest percentage followed with hexane with 10.18% and 4.40% respectively. Phytochemical screening of the extracts revealed the presence of alkaloids, saponins, tannin and terpenoids in the plants investigated. However, flavonoid absence in the hexane extract and methanol extract absence of flavonoid and tannin. The extracts stem of *D. crumenatum* of different concentrations were also investigated for their insecticidal effect on *L. niger*. The concentration was used at 1.875 mg/l, 3.75 mg/l, 75 mg/l, 150 mg/l and 300 mg/l. Average mortality indicated that the extracts caused significant mortality on the target insects. The bioassay has indicated that the toxic effect of the extracts was proportional to the concentration and higher concentration has stronger effect. From the study, hexane extract stem of *D. crumenatum* could cause the highest significant mortality compared to methanol extract. The thin layer chromatography (TLC) analysis is used as confirmation of secondary metabolite found in the extracts stem of *D. crumenatum*. The TLC analysis revealed that hexane extract has the most number of compound present with 15 compounds and methanol extract with 12 compounds respectively. Thus, stem of *D. crumenatum* plant extract could be used as bio-pesticide against *L. niger*.

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