

Antiparasitic activity of the medicinal plant *Dillenia suffruticosa* against the marine leech *Zeylanicobdella arugamensis* (Hirudinea) and its phytochemical composition

ABSTRACT

Zeylanicobdella arugamensis (Annelida: Hirudinea), a marine parasitic leech, is currently affecting different species of cultured groupers, hybrid groupers, snappers and sea bass in Malaysia. *Dillenia suffruticosa* (Dilleniaceae), a medicinal plant found in Sabah, has been selected in our experiment to kill the leeches as a natural control method. The leech-infested hybrid groupers were collected from aquaculture facilities, and the isolated leeches were challenged against methanol extract of *D. suffruticosa* leaves. The experiment was carried out using various concentrations of the extracts such as 25, 50 and 100 mg/ml. The methanol extract showed significant antiparasitic activity against *Z. arugamensis* with 100% mortality at a concentration of 100 mg/ml in 14.39 ± 3.75 min., followed by 50 and 25 mg/ml in 32.97 ± 9.29 and 41.77 ± 5.40 min., respectively. The phytochemical composition of the extract was determined using GC-MS analysis to understand the nature of the principal compounds responsible for its antiparasitic properties. The leaves of *D. suffruticosa* demonstrated the presence of different bioactive compounds of various natures with varying percentages. Thus, it could be revealed that the methanol extract of *D. suffruticosa* mainly contains vital phytochemical compounds and showed an effective antiparasitic activity against the harmful leeches of hybrid groupers.