

ABSTRACT

STUDY ANTIMALARIAL ACTIVITY *IN VITRO* AGAINST *PLASMODIUM FALCIPARUM* FROM *ARTOCARPUS* SPP. PLANTS GROWN IN BOTANICAL GARDEN OF BALIKPAPAN, EAST BORNEO

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Malaria is an infectious disease that still remain endemic in Indonesia, especially at the east part of Indonesia. The number of morbidity and mortality remains high due to the development of resistance by the lethal causative parasite, *Plasmodium falciparum*. Natural products are generally used in drug discovery and drug design, including antimalarial drugs. The aim of this study are to (1) identify the phytochemical constituent (2) measure the antimalarial activity of hexane, dichloromethane, and methanol extract of leaves and stem bark from several *Artocarpus* spp. plants, such as *Artocarpus sericarpus* (pedalai), *Artocarpus anisophyllus* (mentawa), and *Artocarpus dadah* (dadak) from Moraceae, which obtained from the exploration of Balikpapan Botanical Garden. In this study, antimalarial assay was performed using enzyme-linked immunosorbent assay (ELISA) with HRP2 measurement and microscopic method. The results showed that from 18 samples, 12 samples are active as antimalarial with inhibition percentage ranged from $50,9 \pm 0,6\%$ to $74,4 \pm 2,3\%$. Its rich chemical substances are considered to take effect on antimalarial activity, such as polyphenols, flavonoids, terpenoids, and anthraquinone.

Keywords : antimalarial, extract, *Artocarpus sericarpus*, *Artocarpus anisophyllus*, *Artocarpus dadah*, Moraceae, inhibition percentage, ELISA, HRP2, microscopic, Balikpapan Botanical Garden.