Ethnopharmacological communication

Evaluation of the use of Cocos nucifera as antimalarial remedy in Malaysian folk medicine

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1. Introduction

The coconut (Cocos nucifera Linn.) is an important member of the family Areaceae (palm family). It is an ornamental tree grown in villages and towns in Malaysia. The coconut is native to the littoral zone of Southeast Asia (Malaysia, Indonesia, Philippines) and Melanesia (Chan and E elevitch, 2000). Ethnobotanically, a decoction of the white flesh of the fruit is used by the rural population in Malaysia to treat malaria or fever (Al-Adhroey et al., 2010). The husk fibre of the coconut fruit showed a number of activities against helminths (Oliveira et al., 2009), Leishmania species (Mendonça-Filho et al., 2004) and microbes (Esquenazi et al., 2002). However, studies on the phytochemical screening, acute oral toxicity of the white flesh and its activity against malaria are nonexistent in the literature. Hence, this study aims to investigate and find out the phytochemical constituents, acute oral toxicity and antimalarial activity of the methanol white flesh extract of Cocos nucifera.

2. Materials and methods

2.1. Plant materials

The plant part was collected in May 2009 and identified by a taxonomist in the Department of Botany, University of Malaya. A voucher specimen (KLU 047212) of the plant was deposited at the herbarium of University of Malaya, Malaysia.

2.2. Extraction

The white flesh was dried for 2 weeks. The powdered material was macerated in absolute methanol for 72 h to give the crude methanol extract. The filtrate was concentrated and evaporated to dryness in vacuum 40 °C using a rotary evaporator, which was freeze-dried. The extractive value (%) w/w of the dry extracts was 4.19%. The dry extract was stored in a refrigerator at 4 °C until used.

2.3. Phytochemical screening

Phytochemical screening of the white flesh extract was carried out according to the qualitative phytochemical screening tests described by Hymete (1986), Trease and Evans (1989) and Sofowora (1993) to expose the presence of its chemical constituents.