

CHEMICAL CONSTITUENTS

OF

PSEUDUVARIA RUGOSA

BY

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ABSTRACT

Investigation on the chemical constituents of the stem bark of the *Pseuduvaria rugosa*, which belonged to the family of Annonaceae, resulted in the isolation and characterization of nine interesting compounds. The chromatographic separation of the alkaloid fraction of the dichloromethane extract afforded seven alkaloids. All of them possessed oxoaporphine skeleton where rugosanine, 3-methoxycepharadione-B, ouregidione and norcepharadione-A have proved to be the member of the small group of 4,5-dioxoaporphine. The rest were known oxoaporphines, namely, liriodenine, oxoputerine and atherospermidine. However, rugosanine that carried aldehyde group at C-7, appeared to be a new compound.

Besides that, two chroman compounds have also been separated from the petroleum-ether extract and were identified as PR8, rugosin-A and PR9, rugosin-B. Both of them possessed benzopyran ring system with long-chain carboxylic acid attached to the pyran ring and appeared to be new chromans.

All of these compounds were isolated through conventional methods. Preparative thin layer chromatography and HPLC techniques have also been employed. Subsequently, the structures of the purified compounds were elucidated using spectroscopic methods; UV, IR, MS and NMR.

ABSTRAK

Penyelidikan ke atas kulit batang dari spesies *Pseuduvaria rugosa* yang berasal dari famili Annonaceae telah dijalankan. Dalam kajian ini, sembilan sebatian semulajadi tulen telah dapat diasingkan dan dikenalpasti formula strukturnya. Pemisahan dan pengasingan sebatian tersebut telah dilakukan dengan kaedah kromatografi. Sebanyak tujuh sebatian alkaloid telah diasingkan dari ekstrak diklorometana. Alkaloid tersebut tergolong dari kumpulan oksoaporphina, dimana rugosanina, 3-metoksisepharodion-B, ouregidion dan norsepharadion-A adalah dari kumpulan kecil, 4,5-dioksoaporphina. Sementara yang selebihnya dikenali sebagai liriodina, oksoputerina dan atherospermidina. Bagaimanapun, rugosina yang mengandungi kumpulan aldehid pada C-7 merupakan sebatian baru dan belum pernah dijumpai dalam mana-mana spesies tumbuhan.

Selain daripada itu, dua sebatian kroman turut juga diasingkan daripada ekstrak petroleum-ether dan dikenali sebagai PR8, rugosin-A dan PR9, rugosin-B. Kedua-dua sebatian ini mempunyai sistem benzopiran dimana asid karboksilik rantai panjang wujud sebagai terbitan pada gelang piran. Kedua-dua sebatian kroman ini merupakan sebatian baru yang belum pernah dijumpai dalam mana-mana spesies tumbuhan sebelum ini.

Kesemua sebatian-sebatian di atas diasingkan menggunakan kaedah-kaedah konvesional. Teknik kromatografi persediaan dan HPLC telah juga digunakan manakala formula struktur sebatian tulen yang diperolehi ditentukan melalui kaedah spektroskopi; UV, IR, MS dan NMR.

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