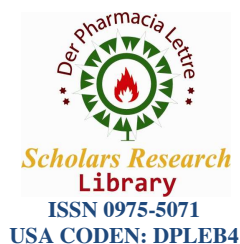




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Phenolic compounds from the stem bark of *Saccopetalumhorsfieldii* Benn

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ABSTRACT

Column chromatographic separation of the methanol extract from the *Saccopetalumhorsfieldii* Benn's stem bark yielded four phenolic components including three flavonoids, kaempferol-3,4'-dimethylether(1), quercetin-3,7-dimethylether(2), quercetin-3,7,4'-trimethylether(3), and one alkaloid, lirioidenine (4). The structures of these compounds were determined based on UV, IR, HRESIMS, 1D and 2DNMR data.

Keywords: flavonoid, alkaloid, *Saccopetalumhorsfieldii* Benn, Annonaceae.

INTRODUCTION

Annonaceae is a family of plants which grows in tropical and subtropical regions. This family consists of 130 genus and more than 2000 species. In Indonesia, there are more than 20 genus. Genus which have been researched are *Annona*, *Guatteria*, *Artabotrys*, *Goniothalamus*, *Polyalthia*, *Uvaria*, *Asimia* and *Xylopi*. [1]. *Saccopetalum* is one genus that has not been much studied. There was only a small amount of research investigated the species belonged to *Saccopetalum* genus, especially *Saccopetalumhorsfieldii* Benn., a plant with a synonym name *Miliosahorsfieldii* [2].

As a result of our research for phenolic compound in this Indonesian plant, we report the isolation of phenolic compounds, kaempferol 3,4'-dimethylether(1), quercetin 3,7-dimethylether(2), quercetin 3,7,4'-trimethylether(3), and lirioidenine (4). from the methanol extract of the stem bark of *Saccopetalumhorsfieldii* Benn. The phytochemical data of this species has not been yet reported.

MATERIALS AND METHODS

General

UV and IR spectrum were measured with a Beckman DU-7500 and Perkin Elmer Spectrum FTIR Shimadzu 5300 spectrometer, respectively. ^1H and ^{13}C NMR spectrum were recorded with a JEOL 400 spectrometer operating at 400 (^1H) and 100 (^{13}C) MHz in DMSO-d_6 using TMS as the internal standard. Mass spectrum was obtained with a Waters LCT Premier XE. Vacuum liquid chromatography (VLC) and column chromatography were carried out using Si gel 60 GF₂₅₄ and Si gel 60. For TLC analysis, pre-coated silica gel plates (Merck Kieselgel 60 GF₂₅₄, 0,25 mm thickness) were used.

Plant material

The stem bark of *Saccopetalumhorsfieldii* Benn was collected from Purwodadi Botanical Garden, Center of Biological Research and Development, National Institute of Science, Pasuruan District, East Java, Indonesia.