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FLAVONOLS FROM THE LEAVES *Lygodium microphyllum* (Lygodiaceae)

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ABSTRACT

Flavonol compounds, quercetin (1) and quercetin-3-*O*-β-D-glucopyranoside (2) have been isolated from the ethyl acetate extract of *Lygodium microphyllum* leaves. The chemical structures of flavonol compounds were identified based on spectroscopic data and by comparison of spectral data obtained previously. The discovery of flavonol compounds in *Lygodium microphyllum* was shown in this study for the first time.

Keywords : *Lygodium microphyllum*, quercetin, quercetin-3-*O*-β-D-glucopyranoside, Lygodiaceae.

ABSTRAK

Senyawa flavonol, quercetin (1) dan quercetin-3-*O*-□-D-glucopiranosida (2) telah diisolasi dari ekstrak etil asetat daun *Lygodium microphyllum*. Struktur kimia senyawa flavonol diidentifikasikan berdasarkan data-data spektroskopi dan perbandingan data spektra yang diperoleh sebelumnya. Penemuan senyawa flavonol ini baru dilaporkan pada penelitian ini untuk pertama kali.

Kata kunci : *Lygodium microphyllum*, quercetin, quercetin-3-*O*-β-D-glucopiranosida, Lygodiaceae.

INTRODUCTION

Susu A fern has survived since Paleozoic era and can adapt to variety environmental changes (Wallace et al., 1991), thus fern contain a lot of useful secondary metabolites, including flavonoids, steroids, alkaloids, phenols, triterpenoids, various kinds of amino acids and fatty acids (Zeng-fu et al., 2008). One from thousands of ferns species that have interesting pharmacological benefits is Lygodiaceae family. The genus belong to Lygodiaceae family only *Lygodium* (Guo-gang et al., 2012). Generally, *Lygodium* genus is a group of ferns that spread and always propagate in other plants. *Lygodium* genus are different from other kinds of ferns because it has roots that crawl on the ground rhizomes and fleshy and can only live in the open because they like the sunlight. Some plants from *Lygodium* genus are invasive and has become a problem in a number of forest areas. It's growing fast and lack of predator makes these plants dominate, displacing wildlife, threatens biodiversity, and enhance the human-animal conflict (Zheng and Xing, 2009). One of the invasive species from *Lygodium* genus is *L. microphyllum*. Plants of this genus have a variety of properties that have been widely recognized, thus the utilization of plants from genus is quite expected. Some herbs of *Lygodium* genus widely used by people one of them as traditional medicine as hepatitis medicine (Zheng and Xing, 2009), back pain, rheumatism