

## Antioxidant activity of flavonoid constituents from the leaves of *Macaranga tanarius*

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**Abstract.** The beneficial health effect of natural flavonoids in plants is mainly because of their antioxidant properties. In the present study, antioxidant activity of isolated compounds from the leaves of *Macaranga tanarius* including nymphaeol C (**1**), solophenol D (**2**), nymphaeol A (**3**) and nymphaeol B (**4**) was conducted using 2,2-diphenyl-1-picrylhydrazyl (DPPH) method. The result showed that compound **2** revealed potential antioxidant activity followed by **1** and **4** with IC<sub>50</sub> values of 55.13, 62.14 and 72.83  $\mu$ M, respectively. While compound **3** showed antioxidant activity with IC<sub>50</sub> value of 102.12  $\mu$ M.

### 1. Introduction

The genus *Macaranga* is belong to family Euphorbiaceae which produces phenolic compounds including flavonoids and stilbenoids which are integrated with terpenoid types. *Macaranga tanarius* is one of the plants which had been use as a traditional medicinal plant as antipyretic, antitussive, ametic agent and anti-inflammatory [1]. The uniqueness of flavonoids and stilbenoids from the plant is the presence of substituted terphenyl compounds including isoprenyl, geranyl, farnesyl and geranyl geranyl [2-4]. There are significant numbers of bioactivities of flavonoids and stilbenoid constituents were reported such as antioxidant, cyclooxygenase (COX) inhibitory, anticancer, antitumor, antimalarial activities and as a regulator of growth [4, 5]. Regarding to the wide spectrum of pharmacological activity of the constituents from the plant, hence the chemical constituents isolated by Marliana (2018) were investigated for those antioxidant activity by 2,2-diphenyl-1-picrylhydrazyl (DPPH) scavenging method [6].

The difference in the strength of the activity of antioxidant of flavonoid derivatives that was successfully isolated was an interesting study to evaluate the effect of the substituents of the compounds on their antioxidant activity.

