Comparison of Antioxidant Activity and Phytochemical Content of Borneo Wild Berry, Rubus fraxinifolius (Rogimot)

ABSTRACT

Rubus fraxinifolius, locally known as Rogimot, is an underutilized edible fruit and grown wildly around Mount Kinabalu, Sabah. Antioxidant activities and phytochemicals content in three different parts (i.e., fruit, stem and leaves) of this plant were analyzed by using 2,2-diphenyl-1-picrylhydrazyl (DPPH), 2-2'-Azinobis(3-ethylbenzothiazoline)-6-sulphonic acid (ABTS), as well as ferric reducing/antioxidant power assay (FRAP). Samples were freeze-dried and extracted using 5 different solvents namely dH2O, absolute ethanol, 80% (v/v) ethanol, absolute methanol and 80% (v/v) methanol. The result of antioxidant tests showed that 80% (v/v) methanol crude extract display higher antioxidant value compared to the other solvents extract. Phytochemical analysis from these extracts showed that the TPC and TFC were higher in the leaves at 56.32 ± 0.05 (mg GAE/g) and 31.36 ± 1.05 (mg CE/g), respectively. Meanwhile, TAC and TCC were found higher in the fruit flesh at 22.27±1.28x10-14 (mg C-3-GE/g) and 10.02 ± 0.22 (mg BC/g), respectively. The same trend was found for antioxidant assay, where leaves show highest values as compared to the other plant parts. These finding suggested that the leaves of R. fraxinifolius has a potential to be used as a natural antioxidative for human health.