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Abstract

Determination of Total Phenolics and Flavonoids Content and Evaluation of Antioxidant Activity of *Tomborissa comorensis* Fruit †

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Abstract: The objective of this study was to perform phytochemical screening, estimate the total phenolics and flavonoids, and to evaluate the antioxidant potential of *Tomborissa comorensis* fruit. The dried and pulverized fruit of *Tomborissa comorensis* (150 g) were extracted exhaustively by the Soxhlet method with increasing polarity of solvents (hexane, ethyl acetate, and methanol). Folin–Ciocalteu reagent and aluminum chloride colorimetric methods were used to estimate the total phenolic and flavonoid content of the extracts. Three different methods, namely, 2,2-diphenyl-1-picrylhydrazyl (DPPH) free radical scavenging activity, reducing power scavenging activity (FRAP), and total antioxidant capacity, were used to determine in vitro antioxidant activity. Phytochemical screening concerns the presence of flavonoids in the ethyl acetate and methanol extracts and tannins only on the methanol extract. The total phenolic and flavonoid content results show greater dominance in the methanol extract. All tests showed significant dose-dependent antioxidant activities. The ethyl acetate extract shows high activity in DPPH radical scavenging activity, but in a reducing power assay, it is the methanol extract that manifested high activity. The results of this study show that the fruit of *T. comorensis* is a rich source of phenolic compounds that can play an important role in preventing the progression of many diseases.

Keywords: *Tomborissa comorensis*; antioxidant activity; phenolic content; flavonoid content

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