

Determination of total phenolics and flavonoids content and evaluation of antioxidant activity of *Tomborissa comorensis* fruit

A. Ouakil¹, H.H. Soule², H. El Hajaji¹, N. Lachkar¹, O. Elmahdi³, B. El Bali¹
and M. Lachkar¹

¹ *Engineering Laboratory of Organometallic, Molecular Materials and Environment, Faculty of Sciences, Sidi Mohammed Ben Abdellah University, 30000 Fez, Morocco.*

² *Faculty of Sciences and Technology, University of Comoros, Moroni, Po. Box 2585, Comoros.*

³ *Multidisciplinary Faculty, Sidi Mohammed Ben Abdellah University, Taza, Morocco.*

Abstract

The objective of this study was to perform phytochemical screening, estimate total phenolics, flavonoids and to evaluate antioxidant potential of *Tomborissa comorensis* fruit. The dried and pulverized fruit of *Tomborissa comorensis* (150g) were extracted exhaustively by Soxhlet with increasing polarity of solvents (hexane, ethyl acetate and methanol). Folin-Ciocalteu reagent and aluminium chloride colorimetric methods were used to estimate total phenolic and flavonoid content of 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. Total phenolic and flavonoids contents results are showed in a large dominance in methanol extract. All tests showed significant dose dependent antioxidant activities. The ethyl acetate extract shows the high activity in DPPH radical scavenging activity but in reducing power assay, it's the methanol extract which manifested the 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.