YSCMR 2021

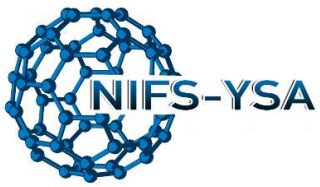
Proceedings of the

Young Scientists' Conference on Multidisciplinary Research - 2021

Virtual International Conference

21st October 2021

"Multidisciplinary Research for Tomorrow's Challenges"



ISSN 2815-0260

Proceedings of the Young Scientists' Conference on Multidisciplinary Research - 2021

21st October 2021

Published by:
Young Scientists' Association (NIFS-YSA),
National Institute of Fundamental Studies,
Hanthana Road, Kandy,
Sri Lanka
www.nifs.ac.lk
Tel: +94 (0) 812 232 002
Email: ysa@nifs.ac.lk

Cover page design & Page setup

Buddhika Karunarathne, Mahesh Senarathna, Hiran Kankanamge

ISSN 2815-0260
Proceedings of the Young Scientists' Conference on Multidisciplinary Research-2021
Young Scientists' Association, National Institute of Fundamental Studies, Sri Lanka
21st October, 2021

Antioxidant property and total phenolic content of selected underutilized fruits in Sri Lanka

K.M.L.A.K. Munasinghe[1,2], A.G.A.W. Alakolanga[1,3], N.S. Weerakkody[2], N.K.B. Adikaram[1], L. Jayasinghe[1*],

[1]*National Institute of Fundamental Studies, Kandy, Sri Lanka.*
[2]*Department of Agriculture and Plantation Engineering, Open University Sri Lanka, Nawala*
[3]*Department of Export Agriculture, Faculty of Animal Science and Export Agriculture, Uva Wellassa University, Badulla*

[*]*lalith.ja@nifs.ac.lk*

Background: *Cynometra cauliflora* (Namnam), *Morus rubra* (Red mulberry) and *Psidium cattleionum* (Cherry guava) are commonly found fruits in Sri Lanka. However, the nutritional and biochemical properties of these fruits have not been studied extensively.

Objectives: This study was designed to evaluate the antioxidant activity and total phenolic content of these fruits.

Methods: The samples were collected at a matured stage from wild and air-dried fruits, in order to get rid of moisture. Dried samples were ground and extracted with Ethyl acetate and Methanol successively. The extracts were evaporated using a rotary evaporator <40℃ to obtain crude extracts. The antioxidant properties of all extracts were studied using 2,2 Diphenyl-1-picrylhydrazyl DPPH assay with ascorbic acid as the standard and the polyphenol content was measured in terms of gallic acid equivalents using Folin-Ciocalteu method. The experiment was conducted using a Complete Randomized Design (CRD) with 3 replicates.

Results: IC_{50} values in terms of DPPH radical scavenging activity were recorded and all three fruits consisted with comparable activities with the standard. All species were reported high IC_{50} values in MeOH extraction compared to EtOAc extraction. Out of three species namnam MeOH extract reported the highest 51.74 mg/ galic acid and the lowest was in namnam EtOAc extract:22.02 mg of galic acid equivalent per 1g.

Conclusion: All three fruits are rich in antioxidants which can scavenge DPPH free radicals as well as with high levels of polyphenols, thereby the greater potential to be used as antioxidant sources in functional foods.

Keywords*: Antioxidant, Free radical, Gallic acid, Total phenolic content, Underutilized fruits*