


Abstract

# Phytochemical Analysis and Antioxidant Evaluation of Blackberry, Blueberry, and Goldenberry Extracts <sup>†</sup>

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<sup>†</sup> Presented at the 3rd International Electronic Conference on Processes—Green and Sustainable Process Engineering and Process Systems Engineering (ECP 2024), 29–31 May 2024; Available online: <https://sciforum.net/event/ECP2024>.**Keywords:** phytochemical analysis; antioxidant evaluation; berry varieties; extraction yield; bioactive compounds

This study investigates three widely used berry varieties—Blackberry (*Rubus fruticosus*), Blueberry (*Vaccinium sect. Cyanococcus*), and Goldenberry (*Physalis peruviana*)—which hold significance in traditional medicine and contribute substantially to global fruit consumption. These berries have long been recognized for their medicinal properties in traditional medicine, prompting the need for a comprehensive examination. The primary objectives of this study were to analyze the phytochemical composition of methanolic extracts from Blackberry, Blueberry, and Goldenberry, and to assess their antioxidant activity using the DPPH spectroscopy assay. Berries were procured from the local market, meticulously cleaned, shade-dried, and ground. A 24-h soaking process with methanol as the solvent produced individual methanol extracts at a concentration of 2 g/100 mL. Extraction yield was determined through reduced-pressure drying. Phytochemical screening involved the identification of alkaloids, phenols, steroids, glycosides, and saponins using standard methods. Antioxidant activity was evaluated using the DPPH spectroscopy method. The analysis revealed the presence of phytoconstituents in all three berry varieties. The DPPH assay demonstrated concentration-dependent scavenging of DPPH free radicals by the methanolic extracts. The results revealed that Blueberry exhibited the highest antioxidant activity, followed by Blackberry and Goldenberry, indicating significant variations among these berries. Blackberry, Blueberry, and Goldenberry exhibited commendable antioxidant activity, establishing them as valuable sources of natural antioxidants. These findings underscore the potential health benefits associated with the consumption of these berries, aligning with their traditional medicinal applications and emphasizing their role as natural antioxidants in a balanced diet.



**Citation:** Kumar, S.; Chauhan, D.D.A.P.S.; Prasad, M. Phytochemical Analysis and Antioxidant Evaluation of Blackberry, Blueberry, and Goldenberry Extracts. *Proceedings* **2024**, *105*, 95. <https://doi.org/10.3390/proceedings2024105095>

Academic Editor: Dariusz Dziki

Published: 28 May 2024



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**Author Contributions:** Conceptualization, S.K. and D.D.A.P.S.C.; methodology, S.K.; software, D.D.A.P.S.C.; validation, M.P., S.K. and D.D.A.P.S.C.; formal analysis, S.K.; investigation, M.P.; resources, S.K. and D.D.A.P.S.C.; data curation, D.D.A.P.S.C.; writing—original draft preparation, D.D.A.P.S.C.; writing—review and editing, M.P.; visualization, S.K.; supervision, M.P. All authors have read and agreed to the published version of the manuscript.

**Funding:** This research received no external funding.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Research data is unavailable due to privacy or ethical restrictions but it may be provided if requested.

**Conflicts of Interest:** The authors declare no conflict of interest.

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