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Bioactive Compounds from Amazonian Fruits: Functional Potential and Technological Valorization

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The Amazon is one of the world's largest reservoirs of biodiversity and harbors fruit species with high nutritional, functional, and biotechnological value, whose scientific exploration can contribute both to the valorization of regional resources and to the development of new food ingredients and products. Amazonian fruits have a diverse composition of macro- and micronutrients and stand out for the presence of bioactive compounds, such as polyphenols, flavonoids, carotenoids, terpenes, and other metabolites associated with antioxidant and antimicrobial activities, as well as with different biological effects demonstrated mainly in *in vitro* studies. Despite this potential, many species and fruit fractions remain underexplored, while challenges related to characterization, standardization of analytical methods, extraction efficiency, and technological application still limit their broader use. In this context, experimental studies with cupuaçu (*Theobroma grandiflorum*) and buriti (*Mauritia flexuosa*) have shown that seeds, pulp, and peel can represent relevant sources of phenolic compounds, flavonoids, and carotenoids, exhibiting antioxidant activity and *in vitro* antiproliferative effects. In addition to the natural composition of the matrix, the method used to obtain these compounds is a key factor for their effective utilization. Ultrasound-assisted extraction applied to cupuaçu seeds increased the recovery of phenolic compounds and flavonoids and improved antioxidant capacity compared with conventional extraction, demonstrating the potential of emerging technologies to enhance the valorization of these raw materials. Therefore, the study of Amazonian fruits, combined with the development of more efficient and sustainable extraction processes, may expand the use of regional resources and by-products and support their application in functional

foods, natural preservatives, and other value-added products, provided that such development is accompanied by strategies for the sustainable use of biodiversity.

Referências bibliográficas:

DE ALMADA-VILHENA, Andryo O. *et al.* Prospecting Pharmacologically Active Biocompounds from the Amazon Rainforest: In Vitro Approaches, Mechanisms of Action Based on Chemical Structure, and Perspectives on Human Therapeutic Use. **Pharmaceuticals**, v. 17, n. 11, p. 1449, 30 out. 2024.

JAIMES, Lizeth Mercedes Garcia *et al.* Amazonian fruits as reservoirs of antimicrobial bioactive compounds: mechanisms of action and biotechnological perspectives. **Biodiversity and Conservation**, v. 35, n. 5, p. 133, abr. 2026.

NOGUERA, Nathan Hargreaves *et al.* Emerging berries from the Brazilian Amazon and Atlantic Forest biomes: new sources of bioactive compounds with potential health benefits. **Food & Function**, v. 15, n. 11, p. 5752–5784, 2024.

SALDARRIAGA, Sebastián *et al.* Phenolic Composition, Antioxidant, and Anti-Proliferative Activities Against Human Colorectal Cancer Cells of Amazonian Fruits Copoazú (*Theobroma grandiflorum*) and Buriti (*Mauritia flexuosa*). **Molecules**, v. 30, n. 6, p. 1250, 11 mar. 2025.

VARGAS, Valentina *et al.* Ultrasound-assisted extraction of bioactive compounds from copoazú (*Theobroma grandiflorum*) seeds for functional food applications. **Applied Food Research**, v. 6, n. 1, p. 101695, jun. 2026.

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