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Antioxidant and antimicrobial potential of the hydroalcoholic and aqueous extracts of the Cholupa (*Passiflora maliformis*)

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The Cholupa (*Passiflora maliformis*) is an exotic herbal-fruit, highly desired by its sensory qualities. In Colombia, the Cholupa's crop has been mainly destined to the fresh consumption. However, the current increment of degenerative diseases among people such as cancer has proposed the *Passiflora* genus as an alternative worldwide for their pharmaceutical properties, which gives to the crop a promising future in the world market. The main objective of this study was to determine the antioxidant and antimicrobial activity in aqueous and hydroalcoholic extracts of *Passiflora ligularis*. It was used the reflux extraction method, using as solvent water, ethanol 35% (v/v) and 70% (v/v), working with leaves and flowers as plant material. The analysis demonstrated that both aqueous and hydroalcoholic extracts present phenolic compounds, achieving maximum levels of 7.35 mg Eq Ac. Gal/g dry matter. Also was determined the maximum total flavonoids equivalent to 11.94 mg Eq Vitexin/g dry matter on hydroalcoholic extracts. *In vitro* antioxidant activity of the extracts was evaluated using the methodology of capturing the free radical (DPPH) and Ferric Reducing Power (FRAP), in both methods was determined that hydroalcoholic extracts were more active. The corresponding test antimicrobial activity indicated that the extracts of *Passiflora maliformis* have the ability to reduce the growth of both *E. coli* (ATCC 25922) and *S. aureus* (ATCC 25923), mainly finding that aqueous extracts possess greater power microbial inhibition than the hydroalcoholic ones. In this study, it also was possible to identify a correlation between the phenols and antioxidant activity (FRAP).

Biography

Sergio Andrés Cabrera Navarro is an Agroindustrial Engineer and currently, he is studying his Master's Degree in Agrofood Science at the University of Tolima-Colombia. He is a Consultant of the nanotechnology and biotechnology line of the Tecnoparque Nodo La Granja-SENA Regional, Tolima. He has researched on bio-compounds, phytochemicals, antioxidants and antimicrobial on natural products. He has published an article related to the antioxidant and antimicrobial activity of the extracts of Granadilla (*Passiflora ligularis*). Currently, he supports the development of innovative prototypes for agro-industrial companies in the Tecnoparque-SENA Tolima, Colombia.

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