



Nutritional and toxicological evaluation of the fruits of *Tridimeris chiapensis* (Annonaceae).

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Abstract

The *Annonaceae* family includes around 2,500 species distributed in tropical and subtropical regions. In Mexico, the genus *Tridimeris* is the only endemic taxon of this family, with *Tridimeris chiapensis* standing out, a species endemic to Chiapas classified as critically endangered. Despite its biological importance, its nutritional composition and food safety are unknown, which limits its use and conservation. In this context, the present study proposes characterizing the nutritional content of the fruits at three ripening stages (green, ripe, and fully mature), as well as a preliminary toxicological evaluation through bioassays with *Artemia salina*. Fruits of *Tridimeris chiapensis* were selected at three stages of ripeness, which were separated into shell, pulp, and seed to obtain 27 analysis samples. Proximal analyses were conducted to determine moisture, ash, fat, fiber, and protein, following the A.O.A.C. (2000) methodology. Ethanol extracts in different concentrations (1000, 200, 100, and 10 ppm) were also prepared for toxicological evaluation. The toxicity of the extracts was assessed using bioassays with *Artemia salina*, monitoring the survival of nauplii over 24 hours in 40 experimental units. The proximal analyses indicated that the pulp had a high moisture content (84–87%), low fat content (0.2–0.5%), and fiber between 2 and 3%. Preliminary tests showed that the pulp exhibited significant toxicity at low concentrations and long exposure times, while the seed and the peel did not show any differences compared to the control.

Therefore, *Tridimeris chiapensis* shows potential as a regional food resource; however, its sustainable use should be integrated into conservation strategies, considering its endemic nature and limited distribution in the state of Chiapas.

Keywords: *Tridimeris chiapensis*, *Artemia salina*, *Annonaceae*.

[1] Guo et al., 2017; Nge et al., 2025. [2] Ortiz-Rodríguez et al., 2021. CANTERA Scientific Outreach Gazette. [3] López-Martínez., 2022. Nova scientia versión On-line ISSN 2007-0705.

