

Abstract

Annonaceous Acetogenins Reported for the First Time in the Leaves and Fruit's Pulp of *Annona atemoya* †

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Abstract: *Annona atemoya* is a commercially important fruiting plant belonging to the Annonaceae family. It is widely cultivated in tropical and subtropical continents. It is also known as the custard apple which is a hybrid between two Annonaceae species, those being *Annona cherimola* and *Annona squamosa*. This study aimed to investigate the phytochemical constituents and pharmacological activity of various parts of *A. atemoya* including leaves and fruit's pulp. The leaves and fruits of *A. atemoya* were collected in July 2020 from a local farm in Queensland, air dried at room temperature (3 days–1 week) and then ground to a powder. The leaves and pulp were separately extracted with hexane, ethyl acetate and finally ethanol for three days each. The preliminary results of Thin layer chromatography (TLC) and Nuclear magnetic resonance (NMR) experiments indicated the presence of annonaceous acetogenins for the first time in the leaves and pulp as pink bands after reacting with Kedde reagent. For the leaves, ten compounds were identified, two of them were isolated and the other confirmed via NMR and MS analysis. The ethyl acetate extract of leaf was the richest in an abundance of acetogenins in comparison to the hexane extract. With regards to the fruit's pulp, the concentration of acetogenins was very low compared to the leaves. Future studies will focus on testing either isolated compounds or crude extracts using various cancer cell lines.

Keywords: *Annona atemoya*; annonaceous acetogenins; isolation; leaves; fruit; biological activity

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