

ACETOGENINS FROM *ANNONA CRASSIFLORA* SEEDS

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The Annonaceae plant species represent potential sources of biologically active acetogenins, that have shown broad range of potential biological roles, for example, cytotoxic, antitumor, antiparasitic, pesticide, antimicrobial, and immunosuppressive activities(1,2). *Annona crassiflora* Mart. is a native Brazilian tree growing in the "cerrado" area and the seeds are traditionally used in folk medicine as antidiarrheal and insecticide (3). Phytochemical investigation of the seeds from a plant collected in Itatiaiuçu - Minas Gerais, led to the isolation of two new Annonaceous acetogenins and other five known acetogenins.

A 75% ethanol extract of *A. crassiflora* seeds showed to be highly active by the brine shrimp lethality test and also disclosed significant "in vitro" cytotoxicity to human lung carcinoma (A-549) and melanoma (RPMI 7951) cells.

From the ethanolic extract, seven pure acetogenins were obtained, two of which, araticulin (1) and 4-deoxycrassiflorin (2), are new natural compounds. The known compounds crassiflorin (=bulatanocina, cherimolin-2) (3), annonin I (=squamacin) (4), almunequin (5), bullatacin (6) and muricatetrocin B (7) are report for first time for this species. The petroleum ether extract of *A. crassiflora* seeds afforded the acetogenin crassiflorin (=bulatanocina, cherimolin-2). Araticulin (1), crassiflorin (3) and annonin I (4), when tested, showed significant activities against human tumor cell lines in culture when compared with adriamycin.

Ethanolic extracts from seeds of *Annona crassiflora* were efficient in controlling *Spodoptera frugiperda*, an insect that attacks young maize plant in the field provoking losses of approximately 34 % in crop production. In laboratory, experiments with those extracts at a concentration range from 2000 to 10000 µg mL<sup>-1</sup> showed from 40 to 100 % larvae mortality, when compared to commercial insecticide at same test conditions. On the other hand, surviving larvae did not complete the biologic cycle due to severe reduction on weight, size and head capsule. Therefore, seeds ethanolic extracts presents potential insecticide action against that insect.

