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PHYTOCHEMICAL INVESTIGATION AND ALLELOPATHIC POTENTIAL EVALUATION OF *Brachiaria ruziziensis*.

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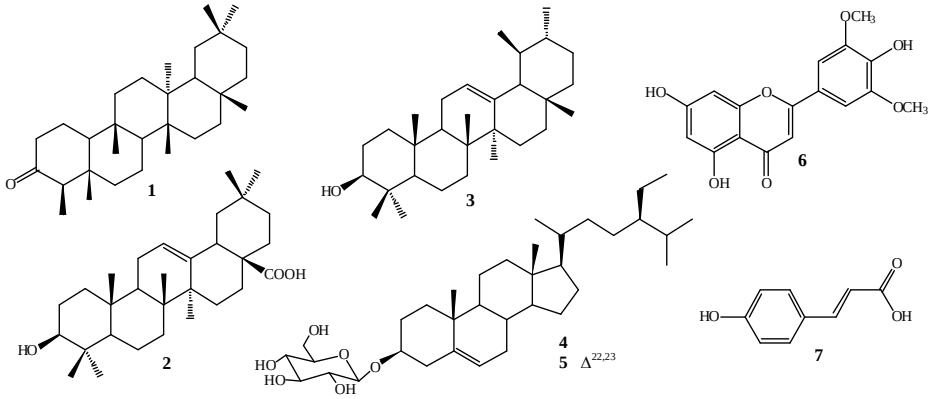
Allelopathic studies constitute a tool to find new compounds that can be used as natural herbicides. *Brachiaria ruziziensis* R. Germ. & C. M. Evrard (Syn. *Urochloa ruziziensis*), a species traditionally used in the crop rotation system to reduce weed emergence [1], are a potential source for allelopathic compounds. This species, commonly known as "Congo grass", is originally from Africa, and it is distributed throughout the Brazilian territory [2]. In the present work, a bioguided identification of phytotoxic compounds of *B. ruziziensis* was conducted. Dried aerial parts of *B. ruziziensis* (3.0 kg) were powered and exhaustively extracted with methanol at room temperature. Vacuum concentration yielded the crude methanol extract (223.7 g), which was suspended in H_2O:MeOH (3:1) and partitioned into hexane, dichloromethane, ethyl acetate and 1-butanol. The hexane (5.8 g), dichloromethane (20.7 g), and ethyl acetate (10.1 g) fractions were submitted to successive chromatographic columns over silica gel and Sephadex LH-20 to afford seven compounds. The isolated compounds were identified, by comparison of their spectroscopic data with those reported in the literature, as friedelin (**1**), oleanolic acid (**2**), α-amyrin (**3**), β-sitosterol-3-β-*O*-D-glucopyranoside (**4**), stigmasterol-3-β-*O*-D-glucopyranoside (**5**), tricin (**6**) and *p*-cumaric acid (**7**). All compounds are being described for the first time in this species, except the *p*-cumaric acid [3]. The evaluation of *B. ruziziensis* allelopathic potential was carried on with weeds that most affects soybean production: *Bidens pilosa*, *Euphorbia heterophylla* and *Ipomoea grandifolia*. The crude extract, fractions, and subfractions were evaluated against seed germination, primary root and primary stem growth, root and stem fresh and dry weight, and total growth of each weed species. The results showed that *B. pilosa* and *E. heterophylla* were the weeds most affected by the crude extract and fractions of *B. ruziziensis*. The most significant results were obtained for the dichloromethane fraction and its subfractions, of which were isolated the compounds: friedelin (**1**), oleanolic acid (**2**), α-amyrin (**3**), β-sitosterol-3-β-*O*-D-glucopyranoside (**4**) and stigmasterol-3-β-*O*-D-glucopyranoside (**5**).



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