“Bioactive molecules with insecticide potential from *Clitoria farchildiana* seeds”

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*Clitoria fairchildiana*, commonly known as sombreiro, is a native leguminous tree, frequently employed in urban and rural arborisation programs. In the literature, there are no reports on insect seed predation for this species; the rare reports on insects attacking the plants are on defoliator lepidopterans, such as *Urbanus acawioios*, *Hyperchiria incisa* and the psyllid *Euphalerus clitoriae*. For this reason, we believe these species seeds may contain an unexplored defensive arsenal with insecticide potential and we aim to investigate the protein side of such defenses. The experimental strategy was to fractionate the seed cotyledonary flour in protein groups according to their solubility; albumins, globulins, kafirins, glutelins, cross-linked kafirins and cross-linked glutelins were obtained. All fractions were subjected to protein quantification analysis by BCA assay and analysed by SDS-PAGE. In order to evaluate the insecticidal potential of these fractions, the bruchid beetle *Callosobruchus maculatus* was employed as insect model. The fractions were incorporated in 400 mg artificial seeds, containing cowpea flour (preferential diet of *C. maculatus*) and additions of increasing concentrations of tested fractions (0.05%, 0.1%, 0.2%, 0.3%, 0.4%, 0.5%, 1% and 2.5%). Seeds were then exposed to two-days old adult fertilized females which were allowed to oviposit for 24 h. After this time, a maximum of three eggs were kept on each seed. After 20 days of incubating the seeds at BOD chambers, under constant controlled temperature and humidity, seeds were removed and opened for counting and weighing the surviving larvae. All experiments were done in triplicate. Glutelins and cross-linked kafirins were the only fractions where surviving larvae were found when incorporated over 0.2%. The most toxic fraction was the kafirins, where no larva has survived at any concentration. As a whole, all protein fractions displayed deleterious effects on larval development, indicating a high potential of control for *C. maculatus*.

Word Keys: *Clitoria fairchildinana*, defensive proteins, bioinsecticide, *Callosobruchus maculatus*.

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