

DETECTION OF 7S STORAGE SEED PROTEINS (VICILINS) IN INTERNAL ORGANS OF LARVAE OF THE BRUCHIDS *ACANTHOSCELIDES OBTECTUS*, *CALLOSOBRUCHUS MACULATUS* AND *ZABROTES SUBFASCIATUS* (COLEOPTERA: CHRYSOMELIDAE: BRUCHINAE)

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The toxicity of variant vicilins (7S storage globulins) of cowpea seeds (*Vigna unguiculata*) is considered as the main resistance factor present in some African genotypes against the bruchid *Callosobruchus maculatus*. There is evidence that the toxic properties of vicilins may be related to their recognition and interaction with glycoproteins and other membrane constituents along the digestive tract of the insect. However, the possibility of a systemic effect is now being investigated. The objective of this work was to study the fate of vicilins of *V. unguiculata*, *Phaseolus vulgaris* and *Phaseolus lunatus* in internal organs of larvae and adults of three important bruchid pests, the cowpea weevil *C. maculatus*, the Mexican bean weevil *Zabrotes subfasciatus* and the common bean weevil *Acanthoscelides obtectus*. The internalisation of vicilins and their presence in insect tissues were observed by using SDS-PAGE, ELISA and Western blotting. Vicilins were detected in the haemolymph and in internal organs, such as fat body in the three bruchid species. Binding of vicilins to microvilli appeared to lead to their transport across the gut cells by transcytosis, followed by circulation throughout the haemolymph and deposition in the fat body.

Supported by: FAPERJ, CNPq and UENF.