

Activity of digestive enzymes in *Zonocerus variegatus* (Orthoptera: Pyrgomorphidae) gut homogenates during post-embryonic development

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Abstract

The activity of five enzymes – amylase, α -glucosidase, cellulase, proteinase and lipase – present in the foregut, midgut and hindgut of the African variegated grasshopper *Zonocerus variegatus* (L.) was studied in the post-embryonic stages of the insect. The activities of all the enzymes increased with age of the insect, with the adult stage having significantly higher ($P < 0.05$) activity than the lower instars. The midgut had the highest activity for all the enzymes except for amylase. Proteinase activity was the highest, and cellulase the lowest in the gut regions. These findings indicate that the adult stage of the polyphagous insect has higher digestive capacity than the immature stages.