

Hemocyte populations in *Zonocerus variegatus* (L.) (Orthoptera : Pyrgomorphidae) during post-embryonic development

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Abstract: The focus of this study is to examine the trend in the number and types of hemocytes in all the developmental stages of *Zonocerus variegatus*. The types and number of hemocyte cells present in *Z. variegatus* during post-embryonic development was evaluated with the aid of hemacytometer. Six hemocyte cells were observed in all the developmental stages from the 1st instar larva to the adult stage, namely: prohaemocytes (PRS), plasmatocytes (PLS), granulocytes (GRS), spherulocytes (SPS), oenocytes (OES) and adipohaemocytes (ADS). However, OES was not found in the haemolymph of 1st instar larval stage. PLS had the highest total mean count while OES had the least total mean count of all the six hemocytes. The adult stage had significantly ($P < 0.05$) higher hemocyte count relative to other developmental stages, however, no significant difference ($P > 0.05$) existed between the hemocyte count of the 1st and the 2nd instar larval stages. This study shows that the adult stage is immunologically able to adapt to the environment better than other lower developmental stages.

Key words: *Zonocerus variegatus*; hemocyte cells; post-embryonic development; hemocyte count; hemacytometer