

Influence of JHA and Ecdysteroid on Reproduction in *Dysdercus similis* (Hemiptera: Pyrrhocoridae)

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Abstract : Juvenile hormone analogue, fenoxycarb and ecdysterone, when applied at varying concentrations in the adult females of *Dysdercus similis*, in situ histochemical observations of treated ovarian and adipose tissues during the first gonotrophic cycle elicited drastic histomorphological changes in both tissues. The action and effect of both JHa and ecdysterone on ovarian development, vitellogenesis, the activity of follicular epithelium, chorion formation all were monitored in detail. SDS-PAGE electrophoretic analysis showed drastic downregulation on the protein profile of differently treated tissue samples. After exogenous JHa supply, resorption of the developing oocytes was also often noticed. Gradational decline and disappearance of different protein bands in treated both ovarian and adipose tissues noticed could be due to the depletion of specific metabolites essential for oocyte development and maturation. Natural products support both crop production and the environment that being effective in pest control, less toxic to non-target organisms and at the same time biodegradable. Hence, these could be utilized as an attractive alternative to the synthetic chemical insecticides for at least cotton bug pest management. Increasing IGR dosages is found to elicit both qualitative and quantitative depletion of protein metabolites and drastic histochemical changes in the gonads of the treated forms brought forth the production of a large number of immature mal-formed oocytes. Findings in greater detail could be discussed.

Keywords : juvenile hormone, ecdysone, *P. picta*, *Dysdercus similis*

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