

## **A STUDY ON ELECTROPHORESIS ANALYSIS OF BETA ESTERASE ISOZYMES DURING DIFFERENT DEVELOPMENTAL STAGES OF KALIMPONG-A (KA), NEW BIVOLTINE-18 (NB<sub>18</sub>), AND PURE MYSORE (PM) LINES OF *BOMBYX MORI* L**

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### **ABSTRACT**

*The molecular data, in particular gel electrophoresis of enzymes and numerical methods of analysis have proven useful in many groups of insects and will see much wider use in future. Therefore, we in the current study we aimed to analyze the activities of alpha esterase isozymes by electrophoresis method during different developmental stages Kalimpong-A (KA), NB<sub>18</sub>, and Pure Mysore (PM) of *Bombyx mori* L. Standardized disc electrophoresis method was performed. Esterase isozymes form distinct enzymes zones in the photographs and in the zymogram and these have been numbered in cathodal to anodal sequence. These isozyme patterns have been established after repeated runs. The total isozymes of different developmental stages of KA, NB<sub>18</sub>, and PM have been grouped into different zones. The nomenclature of enzyme banding pattern has been followed. The relative front (Rf) of the esterase and phosphatase bands of all the developmental stages with reference to known indicator dye was calculated. Results demonstrated that beta-esterase zymograms during development revealed 16 bands in KA, 18 bands in NB<sub>18</sub>, and 19 bands in PM were observed. However, 10 bands in KA, 12 bands in NB<sub>18</sub> are strongly resulted in KA during embryogenesis. The esterase activity was high in pupal stage followed by larval stage. Specific bands responsible for molecular differentiation for sexual dimorphism as well bands characteristic of bivoltine and multivoltine races have been identified.*

**KEYWORDS:** *Bombyx Mori L, Beta Esterase, Electrophoresis, Pupa, Larva*

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