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A STUDY ON ELECTROPHORESIS ANALYSIS OF ALPHA ESTERASE ISOZYMES DURING DIFFERENT DEVELOPMENTAL STAGES OF KALIMPONG-A (KA), NEW BIVOLTINE-18 (NB_{18}), AND PURE MYSORE (PM) LINES OF BOMBYX MORI L

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ABSTRACT

A science concerned with establishing durable classification has itself undergone tremendous changes in the last three decades. Traditional approach still is the basis of all taxonomical studies. 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, present study was designed with the main purpose to analyze the activities of alpha esterase isozymes by electrophoresis method during different developmental stages of new breeding lines viz. Kalimpong-A (KA), NB_{18}, 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_{18}, and PM have been grouped into different zones. The nomenclature of enzyme banding pattern has been followed. Results demonstrated that total number of 21 esterase bands were found in pure races and the isolated lines. High esterase activity was noticed in pure races than the isolated lines. 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, Alpha Esterase, Electrophoresis, Pupa, Larva*

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