

An Alternative Semi-Defined Larval Diet for Rearing of Sand Fly Species *Phlebotomus argentipes* in Laboratory

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Abstract : *Phlebotomus argentipes* is an established vector for Visceral Leishmaniasis in Indian subcontinent. Laboratory colonization of Sand flies is imperative in research on vectors, which requires a proper diet for their larvae and adult growth that ultimately affects their survival and fecundity. In most of the laboratories, adult Sand flies are reared on rabbit blood feeding/artificial blood feeding and their larvae on fine grinded rabbit faeces as a sole source of food. Rabbit faeces are unhygienic, difficult to handle, high mites infestation as well as owing to bad odour which creates menacing to human users ranging from respiratory problems to eye infection and most importantly it does not full fill all the nutrients required for proper growth and development. It is generally observed that the adult emergence is very low in comparison to egg hatched, which may be due to insufficient food nutrients provided to growing larvae. To check the role of food nutrients on larvae survival and adult emergence, a high protein rich artificial diet for sand fly larvae were used in this study. The composition of artificial diet to be tested includes fine grinded (9 gm each) Rice, Pea nuts & Soyabean balls. These three food ingredients are rich source of all essential amino acids along with carbohydrate and minerals which is essential for proper metabolism and growth. In this study artificial food was found significantly more effective for larval development and adult emergence than rabbit faeces alone (P value >0.05). The weight of individual larvae was also found higher in test pots than the control. This study suggest that protein plays an important role in insect larvae development and adding carbohydrate will also enhances the fecundity of insects larvae.

Keywords : artificial food, nutrients, *Phlebotomus argentipes*, sand fly

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