D-01:LABORATORY REARING OF *Anopheles culicifacies* THE MAJOR VECTOR OF MALARIA IN SRI LANKA AND SOME POTENTIAL MALARIA VECTORS WITH OBSERVATIONS ON THEIR LIFE CYCLES

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The ecological aspects of *Anopheles culicifacies* Giles, the major malaria vector in Sri Lanka and other potential vector species have been extensively investigated. However, very little work has been done on the genetics or physiological aspects of *Anapheles culicifacies* mainly due to the non-availability of an adequate laboratory colony as it is not easily amenable to colonization.

Larvae hatching from eggs collected from wild-caught gravid females of *An.culicifacies* and four other potential malaria vectors, namely, *An.subpictus, An. nigerimus, An.barbirostrics, An.jamesi* were reared successfully in media containing sand and well water. Liver powder and dried yeast solution were used for 1st instars, and fish meal dust for other instars as larval food.

The mean pupation and mean emergence of *An.culicifacies, An.subpictus, An.nigerrimus, An.barbirostrics* and *An.jamesi* were found to be 9$\pm$1/10.5$\pm$ 1.2; 8$\pm$ 1/10$\pm$0.8; 9.5$\pm$1.6/11$\pm$1.8;

14$\pm$2/16$\pm$ 2 and 11$\pm$ 1.2/12$\pm$1.3 days respectively. The average adult emergence rate of *An.subpictus, An.nigerrimus, An.barbirostrics* and *An.jamesi* were 91%, 69.9%, 82.6% and 75% respectively.

An.culicifacies showed an average adult emergence rate of 78% under the same laboratory conditions and rearing techniques adopted. This 'survival' rate indicates a significant improvement in larval rearing procedures followed in the present study in comparison with 50% average 'survival' rate recorded by Ainsley (1976) in his successful colonization attempts of *An.culicifacies.* The mean adult emergence of *An.culicifacies* occurred 10.5 days after oviposition.

These results are indicative of the possibility of having sufficient numbers of *An.culicifacies* under laboratory conditions that would facilitate genetic and other studies related to its control in spite of the fact that a free-mating colony has yet not been established. Work is continuing along this line as well while a forced mated colony is maintained in the laboratory of *An.culicifacies* for 32 generations.

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