A Note on the Vector of *Plasmodium juxtanucleare* in Ceylon

by

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*Plasmodium juxtanucleare* is widespread in domestic fowls in Ceylon but the identity of the vector has not been established according to Dhanapala (1962). He found that *Aedes aegypti, Aed. albopictus, Aed. togoi, Armigeres subalbatus, Culex pipiens pipiens, C. p. molestus* and *C. p. fatigans* were all refractory to infection.

Bennett and Warren (1966a) working in Malaya, found *C. sitiens* infected with *P. juxtanucleare*. The sporogonic development of *P. juxtanucleare* in *C. sitiens* was studied and it was shown for the first time that the parasite possessed a pedunculated oocyst. *C. sitiens*, however, was found to be "less than ideal as a vector of *P. juxtanucleare*" as a high percentage of experimentally infected mosquitoes showed degenerating oocysts. It was also found that *C. sitiens* was not completely susceptible to infection with the Ceylon strain of *P. juxtanucleare* (Bennett and Warren, 1966b).

*Mansonia crassipes* has been shown to be a vector of *P. gallinaceum* and *P. circumflexum* in Ceylon (Niles, Fernando and Dissanaike, 1965; Dissanaike, Nelson, Fernando and Niles, 1965). Recently *M. crassipes* has been found naturally infected with *P. juxtanucleare*. Several wild-caught *M. crassipes* were in an infective condition showing sporozoites in the salivary glands and mature pedunculated oocysts on the gut wall. A strain of *P. juxtanucleare* isolated in chicks by the inoculation of sporozoites from wild-caught *M. crassipes* is now being maintained in the laboratory.

*M. crassipes* is a widespread mosquito, being distributed from India and Ceylon almost right through South-East Asia to New Guinea and Northern Australia and across the Pacific to Fiji Islands. It is primarily a bird-feeder and is exceedingly exophilic in behaviour (Niles, 1966). If dissections of *M. crassipes* are more widely carried out—not always an easy matter on account of the difficulty of obtaining material even where it abounds—it may prove to be a potentially important vector of *P. juxtanucleare* and other *Plasmodium* species of avian origin in areas where it has least been suspected.

REFERENCES


