1. INTRODUCTION

Malaria continues to be a major public health problem in most countries of tropical world including India. Human malarial parasites are transmitted only by anopheline mosquitoes. The genus *Anopheles* is represented by about 422 species throughout the world and among them, 70 species are reported to be vectors of malaria under natural conditions (Service, 1993).

In India, there are 56 anopheline species, of which 13 have been incriminated as malaria vectors. Eight species of *Anopheles* have been reported to play a major role in transmission of human plasmodia and five others to have local importance (Rao, 1984). Despite the implementation of National Malaria Eradication Programme (NMEP) for nearly four decades, malaria continues to persist in some hard-core areas of the country, particularly in hilly and forest areas. In India, 2.5 million malaria cases are being reported annually, of which 35-40% is due to *P. falciparum* infections (source: NMEP).

The Jeypore hilly tract (east central India) is one among the present hard-core malarious areas in India, where involvement of multiple vectors in the transmission of malarial parasites has been reported during pre-DDT period (Senior White, 1937; 1938 and Senior White et al., 1945). Natural infections with human plasmodia were recorded in six *Anopheles* species viz., *Anopheles fluviatilis, Anopheles minimus, Anopheles culicifacies, Anopheles aconitus, Anopheles jeyporiensis* and *Anopheles varuna*. DDT residual spraying under NMEP has almost eradicated *An. minimus* from this part of the country and reduced the abundance of *An. fluviatilis, An. culicifacies*, and *An. varuna*. However, *An. jeyporiensis* occurs in considerable numbers even
today despite the insecticidal application of the national programme (Gunasekaran et al., 1989).

Its vectorial status, however, is not known.

An. jeyporiensis was recorded for the first time in the Jeypore hills by Stephens and Christophers (1902) who related the hyperendemicity of malaria in this locality to the presence of An. jeyporiensis in large numbers. An. jeyporiensis is widely distributed in India, except in north and northwest and it is a common anopheline species in the Western Ghats of Karnataka, Kerala and in east central India. An. jeyporiensis has been considered as a malaria vector of local importance in Assam, Kerala, Karnataka and east central India where natural infections with oocysts were recorded (Rao, 1984). It is a vector of importance in Burma (Myanmar), Bangladesh, Hong Kong and Indo China. Human plasmodial infections in this species were reported in South China (Wattal, 1961) also. However, until now, no specimen with sporozoites was found amongst the wild caught females of An. jeyporiensis in India. The species was considered as one of the malaria vectors probably based on the findings of matured oocysts containing well differentiated sporozoites on the stomach wall of An. jeyporiensis (Iyengar, 1934). Some researchers considered this species as a ‘suspect vector’ (Wattal, 1961; Nandi et al., 1993). Thus, the role of this species in parasites transmission in India remains obscure.

In a situation like Jeypore hills, where malaria persists for many decades despite vector control measures and more than one species transmit malaria parasites, information on bionomics and the role in transmission of malaria parasites pertaining not only to the primary