INTRODUCTION
Culex vishnui has been so named by Theobald (1901) according to whom this is one of the commonest of Indian mosquitoes prevailing from North-West frontier to Assam and Burma, and through peninsular India to Ceylon (Srilanka). It is, however, less common at high altitudes. Its range of distribution extends from Mesopotamia to China and Japan and throughout the oriental region as far as South-East as New Guinea (Barraud, 1934).

This species has again come into the lime light in view of the fact that during the first reported epidemic of Japanese encephalitis in the State of West Bengal, India, the JE virus was isolated from it (Chakraborty et al., 1975). Subsequently, the JE virus was again isolated from a pool of C. vishnui mosquitoes in 1974.

Although the JE virus has been isolated in India from 10 species of mosquitoes belonging to the genus Culex, Anopheles, and Mansonia (Hati, 1981), its principal vectors are the mosquitoes belonging to the different species of Culex (Pant, 1979). Again repeated isolation
of the JE virus from *C. vishnui* in two successive epidemics of 1973 and 1976 in West Bengal suggests the possibility of this mosquito as being the vector of the JE virus in West Bengal (Chakraborty *et al.*, 1980).

Thereafter in 1980 in Kolar district, South India, natural infections of the JE virus in *C. vishnui* were reported from the National Institute of Virology, (vide Information document, NIV, Pune, 1980, p 62). Before those studies, the JE virus was obtained in nature from *C. vishnui* mosquitoes in North Arcot District in South India (Carey *et al.*, 1968).

These studies also point out that besides West Bengal, *C. vishnui* plays some role in transmitting the JE virus in nature in other parts of India also.

Actually in India up to 1980, altogether 39 strains of the JE virus have been isolated in nature from 10 species of mosquitoes belonging to the genus *Culex*, *Anopheles*, and *Mansonia*. Prior to 1956, altogether 17 strains of the JE virus were isolated from *C. vishnui* complex (Hati, 1981).
However, until 1969, the taxonomic status of *C. vishnui* was not very clear. It was Reuben (1969) who first demonstrated that *C. vishnui* complex consisted actually of three species namely, *C. vishnui*, *C. tritaeniorhynchus*, and *C. pseudovishnui*.

Of those three species mentioned above, *C. tritaeniorhynchus* mosquitoes have been incriminated as the vectors of the JE virus in South India, as in many other countries (Chakraborty et al, 1975), while according to some researchers, *C. vishnui* seems to play a significant role in northern India (Hati, 1981).

In the circumstances stated above the importance of *Culex vishnui* can never be ignored. Reuben (1971a,b,c,d,e,f) during her studies on the mosquitoes of North Arcot District, Tamil Nadu, India, worked extensively on the seasonal density and dominance, biting cycles and behaviour on human and bovine baits, host preference, breeding places etc. (Reuben (1978) also worked on the mosquitoes collected in the Krishna - Godavari delta, in Andhra Pradesh, India. Further, Reuben and Panicker (1979) studied human behaviour influencing man-mosquito contact and the mosquito biting
activity on children in a South Indian village community. The bionomics of *C. vishnui* was thus extensively studied in South India.

But very little is known about this species, specially in endemic areas of West Bengal, where from *C. vishnui* mosquitoes have been incriminated atleast twice as the vectors of the JE virus in nature. The composition of *C. vishnui* amongst the *C. vishnui* complex and its distribution, resting, preferences in different biotopes, seasonal dominance, manbiting propensity, both indoors and outdoors, and preference of blood meals in the endemic villages are not known. The flight range of the mosquitoes has never been studied. The present status of susceptibility has also not been determined. The breeding behaviour of *Culex vishnui* is still obscure, hence it is impossible to come to any conclusion as to the exact bionomical behaviour of *C. vishnui* in the eastern parts of India. It is thus felt imperative to study in details, the biology of *Culex vishnui*, and hence this investigation.