

VECTORIAL ROLE OF *ANOPHELES SUBPICTUS* GRASSI AND *ANOPHELES CULICIFACIES* GILES IN ANGUL DISTRICT, ORISSA, INDIA

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Abstract. Malaria transmission by *Anopheles subpictus* Grassi, 1899 and *Anopheles culicifacies* Giles, 1901 was studied from March 2004 to February 2007 in Angul District, Orissa, India, which is highly endemic for malaria. Adult mosquitoes were collected from human dwellings using sucking tubes and a mechanical aspirator. After identification, some *An. subpictus* and *An. culicifacies* specimens were subjected to a precipitin test to determine their anthropophilic index and the remaining samples were preserved in isopropyl alcohol for sporozoite detection by nested PCR. *An. subpictus* was the most prevalent (29.0%) anopheline species detected, followed by *An. culicifacies* (11.6%). The anthropophilic index for the *An. subpictus* was higher than *An. culicifacies* and was highest during the summer season. Malaria sporozoite rates of 0.52% and 1.82% were detected for *An. subpictus* and *An. culicifacies*, respectively. Sporozoites were detected during the summer in *An. subpictus* and during the rainy season and winter in *An. culicifacies*. The slide positivity rate (SPR) was high during the summer. The high anthropophilic index and presence of sporozoites in *An. subpictus* during the summer indicate *An. subpictus* is a contributory factor for the high SPR during the summer, and *An. culicifacies* is a contributory factor for the high SPR during the rainy and winter seasons, along with other anophelines. In the present study *An. subpictus* has been incriminated as a vector of malaria for the first time in Orissa.

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