DUSK TO DAWN ACTIVITY PATTERNS OF ANOPHELINE MOSQUITOES IN WEST TIMOR AND JAVA, INDONESIA

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Abstract. Malaria is a serious health issue in Indonesia. We investigated the dusk to dawn anopheline mosquito activity patterns, host-seeking and resting locations in coastal plain, hilly and highland areas in West Timor and Java. Adult mosquitoes were captured landing on humans or resting in houses or animal barns. Data analyzed were: mosquito night-time activities; period of peak activity; night-time activity in specific periods of time and for mosquito resting locations. Eleven species were recorded; data were sparse for some species therefore detailed analyses were performed for four species only. In Java *Anopheles vagus* was common, with a bimodal pattern of high activity. In West Timor, its activity peaked around midnight. Other species with peak activity around the middle of the night were *An. barbirostris* and *An. subpictus*. Most species showed no biting and resting preference for indoors or outdoors, although *An. barbirostris* preferred indoors in West Timor, but outdoors in Java. *An. aconitus* and *An. annularis* preferred resting in human dwellings; *An. subpictus* and *An. vagus* preferred resting in animal barns. *An. barbirostris* preferred resting in human dwellings in West Timor and in animal barns in Java. The information is useful for planning the mosquito control aspect of malaria management. For example, where mosquito species have peak activity at night indoors, bednets and indoor residual spraying should reduce malaria risk, but where mosquitoes are most active outdoors, other options may be more effective.

Keywords: Anopheline mosquitoes, overnight activity, biting preferences (landing rates), resting preferences, Java, West Timor, Indonesia

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