

STUDIES OF PHLEBOTOMINE SAND FLY (DIPTERA: PSYCHODIDAE) POPULATIONS IN LIMESTONE AREAS AND CAVES OF WESTERN MALAYSIA

M Khadri Shahar¹, A Abu Hassan², HL Lee¹ and MR Che Salmah²

¹Medical Entomology Unit, Infectious Diseases Research Centre, Institute for Medical Research, Kuala Lumpur; ²School of Biological Sciences, Universiti Sains Malaysia, Penang, Malaysia

Abstract. Phlebotomine sand flies were collected using CO₂ baited CDC light trap in 2000 and 2001 in limestone areas and caves of western Malaysia. A total of 1,548 specimens were collected comprising 18 species from two genera: *Phlebotomus* (6 spp) and *Sergentomyia* (12 spp). *Phlebotomus major major* (38.9%) was the predominant species followed by *Sergentomyia perturbans* (20.1%), *P. stantoni* (15.3%) and others. Biting activity of the sand flies at the Gua Senyum caves, Gua Kota Gelanggi, Batu caves and Gua Kelam were observed using the bare leg landing catch (BLC) technique. Four *Phlebotomus* spp at Gua Senyum were found to bite humans with a unimodal biting peak (between 01:00 and 04:00 AM). At Gua Kota Gelanggi *P. major major* was observed to bite humans, but at Batu Caves and Gua Kelam no sand flies were observed to bite humans. *Sergentomyia* spp did not feed on humans even though high numbers were caught in light traps. The populations of phlebotomine sand flies fluctuated, with several peaks especially among *P. major major* which peaked in December and was low in February and August. *Phlebotomus stantoni* was abundant throughout 2001. Most species populations were weakly related to rainfall because they inhabited caves.

Keywords: *Phlebotomus*, *Sergentomyia*, phlebotomine sand fly, Malaysia

Correspondence: Mohd Khadri Shahar, Medical Entomology Unit, Infectious Diseases Research Centre, Institute for Medical Research, Jalan Pahang, 50588 Kuala Lumpur, Malaysia.
Tel: 6 03 26162691; Fax: 6 03 26162689
E-mail: khadri@imr.gov.my