

Biology of Phlebotomus sandflies (Diptera: Psychodidae) in two contrasting leishmaniasis foci of south-west Saudi Arabia

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Abstract: In south-west Saudi Arabia two forms of leishmaniasis occur. Visceral disease (VL) due to *Leishmania infantum* affects humans (mainly infants) in lowland areas and cutaneous disease (CL) due to *L. tropica* affects a broader age group in highland areas. *Leishmania infantum* is common in dogs and may occasionally infect man. Longitudinal sampling of sandflies in two foci with matched sticky and light traps inside and outside houses demonstrated that, although the species composition was very similar, the dominant species in the highlands (*Phlebotomus sergenti* Parrot) was different from that in the lowlands (*P. bergeroti* Parrot). In both habitats there was a marked seasonal variation in abundance, peak levels in the lowlands preceding the highlands, as did sandfly numbers inside houses compared to outside houses. *Phlebotomus sergenti* were found infected with *L. tropica* in June and July which, together with its endophilic behaviour, incriminated this species as the vector of cutaneous disease. The vector of visceral disease in humans is suspected to be either *P. alexandri* Sinton or *P. orientalis* Parrot, but not *P. arabicus* Theodor as previously suggested.