

OF LEMURS AND LOUSE FLIES: IMPLICATIONS OF LEMUR ECOLOGY AND BEHAVIOR ON PARASITE SPECIFICITY IN RANOMAFANA NATIONAL PARK, MADAGASCAR

S.E. Vaughn, E.M. McGee

San Jose State University, San Jose, California, USA

Presenter's Email: svaughn@science.sjsu.edu

The louse fly, *Allobosca crassipes* (Diptera: Hippoboscidae), is an obligate ectoparasite exclusive to lemurs of Madagascar. Host specificity in *A. crassipes* is moderately low when compared with other hippoboscids associated with mammals and birds. *A. crassipes* has previously been identified with *Eulemur macaco*, *E. rubriventer*, *Lepilemur mustelinus*, and *Avahi laniger*. Research in Ranomafana National Park (RNP) in southeastern Madagascar has resulted in the identification of a new association of this fly with the black and white ruffed lemur *Varecia variegata variegata*, and a confirmed association with Milne-Edwards' sifaka *Propithecus edwardsi*. These associations suggest that the louse fly is even less host specific than previously thought. Host specificity of ectoparasites is believed to be determined by the behavior and ecology of both host and parasite. Low host specificity is predicted to occur when multiple host species come into contact and the parasite is mobile. However, host lemur species in RNP do not typically interact and the vagility of *A. crassipes* is limited as the adult becomes flightless shortly upon emerging from the puparia. In these circumstances, host behavior and ecology appear to be a more likely mechanism driving these associations. Our data suggest that habitat disturbance in RNP is not directly affecting the lemur-lyouse fly interaction, as parasite load is comparable between disturbed (Talatakely; 3.8 flies/sifaka) and undisturbed (Vatoharanana, 3.9 flies/sifaka) forests. Anthropogenic disturbance may, however, be indirectly contributing to low host specificity by forcing proximity and potentially increasing the likelihood of interaction between host species.

Keywords: louse fly, lemurs, host specificity