

EFFECT OF DEFORESTATION ON AVIAN PARASITICCO-INFECTIONS IN RECAPTURED BIRDS OF THE TALANGAYE RAINFOREST OF CAMEROON

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Although much is known about malaria, its transmission, its genomics, and drug interactions, relatively little is known about how rapid ecological changes affect the transmission of the disease in real time, particularly in co-infection scenarios with other parasitic infections. Given the socioeconomic patterns of malaria infection and other diseases in humans, the use of birds for the study of infectious diseases is advantageous because they represent natural populations that can be studied in both human-impacted environments and in pristine unaltered forests. In order to create a link between avian blood borne parasitic co-infections and deforestation, bird sampling was conducted in intact and degraded forest in real time by mist netting. We analyzed the prevalence variation and co-infections of four avian blood-borne parasite genera: *Plasmodium* spp, *Haemoproteus* spp, *Leucocytozoon* spp and *Trypanosoma* spp and the superfamily Filarioidea in all recaptured birds following deforestation using both microscopy and PCR techniques. After two years of sampling, a total of 1954 birds were caught belonging to 26 families and 67 species, 156 of which were recaptures. The most abundant birds recaptured were *Bleda notatus* (20.51%), *Alethe castanea* (18.59%) and *Stiphornis erythrothorax* (8.97%). Only the *Plasmodium* genus prevalence varied significantly in the intact forest and it was highest in the fire-crested alethe (*Alethe castanea*). In fire-crested alethe and yellow-whiskered greenbul (*Eurillas latirostris*) microfilariae prevalence positively correlated with *Trypanosoma* prevalence. A negative microfilariae correlation with *Haemoproteus* prevalence and no correlation with *Plasmodium* prevalence were observed. Three morpho *Trypanosoma* species were reported (*T. everetti*, *T. anguiformis*, and *T. naviformis*). *Trypanosoma everetti* predominated of all *Trypanosoma* spp. and it was present in three avian hosts; olive sunbird (*Cyanomitra olivacea*), yellow-whiskered greenbul and fire-crested alethe. The results provide insight into the impacts of deforestation on co-infection and have implications for the study of infectious diseases in rapidly changing environments.

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