Abstract

Parasites of the genus *Lankesterella* are blood coccidia described in various passerine species and represent a less explored group within the phylum Apicomplexa. This study examined the prevalence and persistence of this genus in repeatedly captured warblers of three species: the Eurasian reed warbler (*Acrocephalus scirpaceus*), the marsh warbler (*A. palustris*), and the sedge warbler (*A. schoenobaenus*). Between 2015 and 2023, 288 samples from 109 individuals were collected and analyzed using nested PCR and microscopy. Besides *Lankesterella*, samples were tested for other blood parasites of warblers, specifically the genera *Haemoproteus* and *Plasmodium*. The protocol applied for detecting *Lankesterella* also detected the genus *Isospora*. The overall prevalence was 18 % for *Lankesterella*, 25 % for *Isospora*, 35 % for *Haemoproteus*, and 12 % for *Plasmodium*. Differences in prevalence between sexes were not statistically significant. Significant differences in prevalence among the warbler species were observed only for the genus *Plasmodium*. Eight *Lankesterella* lineages, ten *Isospora,*, eleven *Haemoproteus* and five *Plasmodium* lineages were found. One new lineage of *Lankesterella* and five new lineages of *Isospora* were discovered. Within a season, high persistence rates were recorded for *Lankesterella* (83 %) and *Haemoproteus* (63 %), while the persistence of *Isospora* infections was low (8 %). Between seasons, infections persisted in 60 % of *Lankesterella*, 64 % of *Haemoproteus*, and 33 % of *Isospora* cases. The nested PCR method demonstrated higher efficiency compared to microscopy in detecting *Isospora* and *Plasmodium* parasites.

Keywords: *Lankesterella*, *Haemoproteus*, *Plasmodium,* prevalence, persistence, blood parasite, passerines