

## ABSTRACT

Oxyurid nematodes *Aspicularis tetraptera* and *Syphacia obvelata* are both common mouse intestinal parasites; in the same location several species of trichomonads occur. *Tritrichomonas muris* is the most often found, but there are also some others: *Tritrichomonas minuta*, *Pentatrichomonas hominis* or *Hexamastix muris*. It is known that, under some circumstances, trichomonads can be found in the intestine of mouse pinworms, as reported by Theiler and Farber (1936) for *T. muris* in *A. tetraptera* and *S. obvelata*. What is interesting, trichomonads were found also in pinworms from trichomonad-negative mice. In 1933, Becker observed motile trophozoites of *T. muris* in the egg of *S. obvelata*. These observations offer a chance that the protist may be transmitted to a new host in similar manner (*via* pinworm eggs) as it was described for *Histomonas meleagridis*.

In our study we document trichomonads in pinworm bodies, determine species of trichomonads, search for their localization, morphology and, based on the data, assess possibility of trichomonad transmission to a new mammalian host *via* pinworm eggs. By use of classical histology, *in situ* hybridization and transmission electron microscopy, we observed trichomonads exclusively in the intestinal lumen of both pinworm species. They were found in the entire pinworm intestine and, if alive, they showed typical motility (undulating membrane can be observed). The data collected from autopsy of 55 mice showed that trichomonads are more often found in the intestine of *A. tetraptera* (in mice infected with either one or two pinworm species). DNA analysis of trichomonad-positive pinworms, as well as TEM identified the species of trichomonads present in pinworm bodies as *T. muris* and *T. minuta*. Electron microscopy also allowed description of trichomonads in the pinworm intestine – no interaction with intestinal epithelium and no cell division was detected. Trichomonads of *T. muris* were found to form pseudocysts.

Results achieved in this study do not support the theory about transmission of these protists *via* pinworm eggs, and suggest the presence of these protists in pinworm bodies is accidental.