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Harslund, Jakob le Fèvre; Mandrupsen, Karina; Bollen, Peter

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Syphacia obvelata and Radfordia affinis infection in mice

Treatment strategy, implementation of a new health monitoring system and establishment of improved quarantine procedures

Jakob le Fèvre Harslund, Karina Mandrupsen & Peter Bollen
Biomedical Laboratory, University of Southern Denmark, DK-5000 Odense C, Denmark

In 2014 we experienced an infection with Syphacia pinworms. Subsequent health monitoring revealed positive findings of Radfordia and Tritrichomonas. Activities were initiated in an attempt to eliminate the infections and to prevent future similar events.

Materials & methods
Steps in diagnosis and prevention of Syphacia obvelata and Radfordia affinis at the central animal facility of the University of Southern Denmark are presented graphically.

Syphacia obvelata infection was initially diagnosed by perianal tape tests from clinically infected mice and subsequently also by PCR on feces samples.

Radfordia affinis infection was initially diagnosed by microscopy of fur smears from clinically affected mice, demonstrating live fur mites.

Results
After fenbendazole treatment mice were screened by perianal tape tests and PCR analysis of feces samples. All samples negative for pinworms.

Treatment with selamectin has led to complete eradication of fur mites in the facility. Screenings by microscopy and PCR of fur swaps, as well as samples from exhaust manifolds of IVC, were negative.

Discussion and conclusion
Previously imported animals were accepted after evaluation of a recent health monitoring report only. Due to growth of an average population of 2,594 mice in 2008 to 4,957 in 2012, the number of imports and staff movements has increased drastically, resulting in a higher risk for infections.

The infections with pinworms and fur mites were eliminated and successive health monitoring demonstrated continuous absence of these pathogens.

Treatment strategies for eliminating Tritrichomonas muris have not yet been established, and protozoa are diagnosed on irregular basis by PCR and microscopy on intestinal smears.