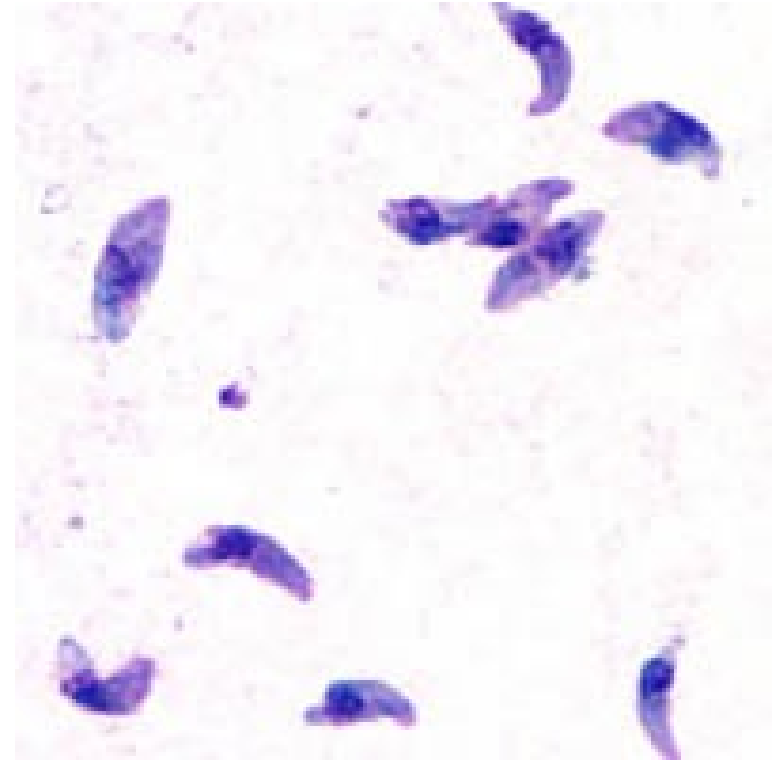




- *Toxoplasma gondii*:
 - found worldwide
 - can infect all warm-blooded animals
 - can only reproduce in felides
 - one of the commonest parasites in developed countries => toxoplasmosis
 - alters rodent behavior



Toxoplasmosis in humans

- most often no symptoms
- occasionally:
 - fever
 - aching muscles
 - tiredness
 - feeling sick
 - sore throat
 - swollen glands
- usually disappear on their own after 6 weeks, but cysts formed in the brain remain.
- lifelong immunity after having the disease once.
- dangerous for weak immune systems (affects retina, brain, lungs), and if first exposure during pregnancy (can cause fetal death and abortion, associated with neurologic deficits)
- behavioral effects?
 - Increases likelihood of giving birth to boys rather than girls (51% → 72%)
 - Professor Jaroslav Flegr of Charles University in Prague has discovered evidence that infection by intracellular protozoan parasite *Toxoplasma gondii* (*T. gondii*) causes changes in human personalities.

He found the women infected with *Toxoplasma* spent more money on clothes and were consistently rated as more attractive. “We found they were more easy-going, more warm-hearted, had more friends and cared more about how they looked,” he said. “However, they were also less trustworthy and had more relationships with men.”

By contrast, the infected men appeared to suffer from the “alley cat” effect: becoming less well groomed undesirable loners who were more willing to fight. They were more likely to be suspicious and jealous. “They tended to dislike following rules,” Flegr said.

Toxoplasmosis in rodents

- behavior alterations:
 - reduces innate aversion to cat odor specifically, without affecting other defensive behaviors or memory, anxiety, fear, social tasks.
 - changes seem to persist even after inflammation and for low levels of parasite presence
 - Mechanisms?
 - altering dopamine production?
 - inhibitory activity
 - effect through amygdala? Switch between defensive and rewarding pathways
 - change activity of non-invaded cells

References

- <https://en.wikipedia.org/wiki/Toxoplasmosis>
- <https://www.nhs.uk/conditions/toxoplasmosis/>
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