Trends in Parasitology | Parasite of the Month

Spirocerca lupi

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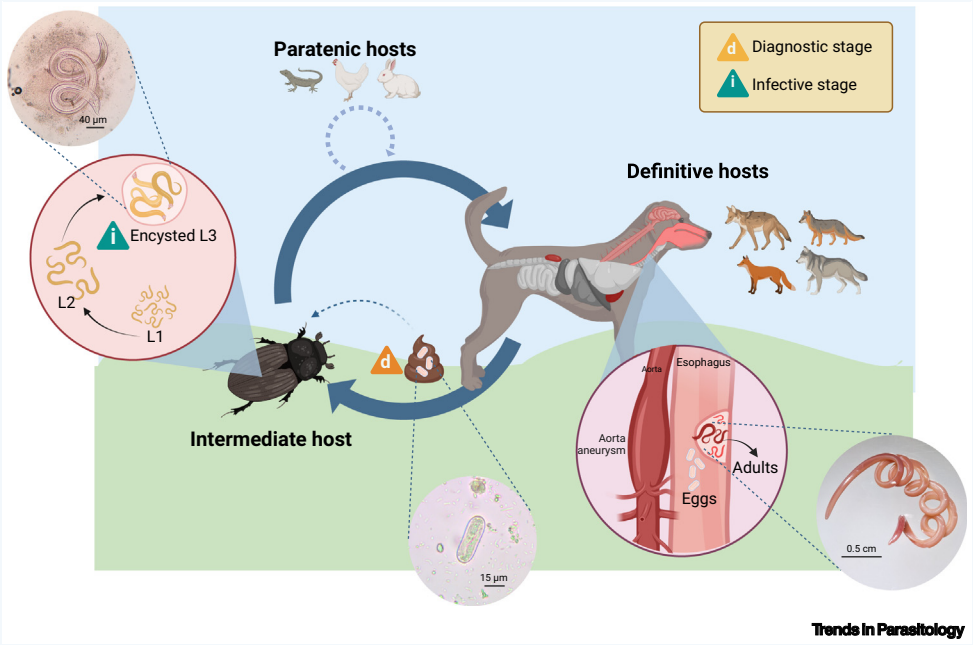
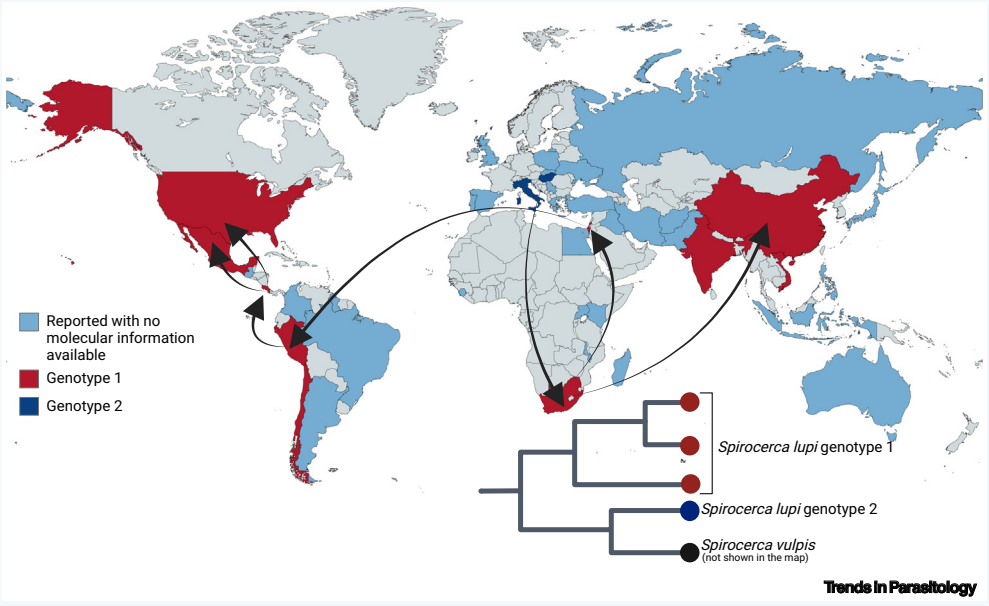


Spirocerca lupi is a parasitic nematode that infects domestic and wild canids in tropical and subtropical regions. This parasite has an indirect life cycle that involves scarabaeoid intermediate hosts and most commonly domestic dogs as definitive hosts. Dogs become infected with *S. lupi* by eating coprophagous beetles containing third-stage larvae (L3). In the dog's stomach, L3 are released and migrate through the aorta wall toward the esophagus, where female worms develop and release eggs shed in the dog's feces. Eggs are then consumed by beetles and develop further into infective L3. Infection induces esophageal neoplasia in some dogs. Dogs are diagnosed by the observation of eggs in coprological analysis, endoscopy, radiography, or computed tomography. Early stages of infection are subclinical, and therefore infection is underdiagnosed. Treatment involves the administration of doramectin, milbemycin oxime, or a combination of imidacloprid/moxidectin.



KEY FACTS:
Several canid species have been reported as competent definitive hosts, including domestic dogs, coyotes, gray foxes, red foxes, jackals, bush dogs, and Andean fox, among others.

Two genotypes currently circulate in the world: one in Southern Europe and another in Asia, Africa, and the Americas. The origin of *S. lupi* likely traces back to *Spirocerca vulpis* from European foxes.

An increase in the number of cases occurring each year has been reported in Costa Rica, Israel, and Hungary.

DISEASE FACTS:
Clinical manifestations of spirocercosis include regurgitation, vomiting, cachexia, esophageal nodules, thoracic vertebral spondylitis, periostitis, sialorrhea, dyspnea, aortic aneurysms, pyothorax, and hemothorax resulting in death.

Early inflammatory esophageal nodules containing adult worms are typical of the infection.

Esophageal nodules can progress to fibro-, osteo-, or chondrosarcomas that may metastasize to other organs.

It is estimated that one in every four infected dogs may develop malignant nodules. Death of an infected animal may be associated with thromboembolism originating in an aortic aneurysm, hemothorax, or cancer complication.

Aberrant migrations of the worm can occur in the central nervous system, subcutaneous tissues, urinary tract, and thoracic and gastrointestinal organs.

TAXONOMY AND CLASSIFICATION:
PHYLUM: Nematoda
CLASS: Secernentea
ORDER: Spirurida
FAMILY: Spirocercidae
GENUS: *Spirocerca*
SPECIES: *S. lupi*

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Declaration of interests

The authors declare no competing interests.

Resources

www.troccap.com/canine-guidelines

Literature

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