# **Trends in Parasitology | Parasite of the Month**

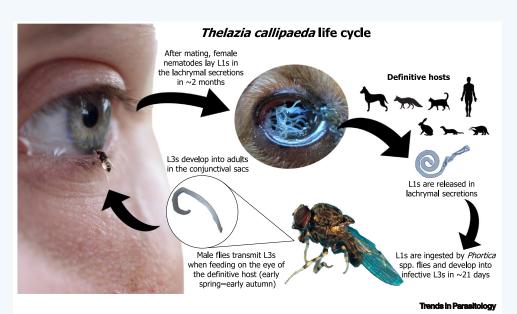
# Thelazia callipaeda

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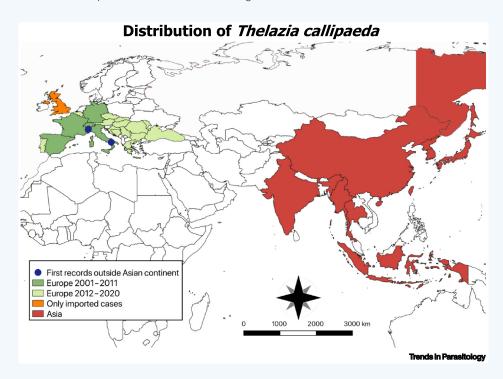
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Thelazia callipaeda is a nematode living on the surface of the eyes of domestic and wild carnivores and lagomorphs, being transmitted by zoophilic drosophilids belonging to the genus *Phortica*. It also infects humans, mainly children and the elderly in poor economic settings. For a long time it has been referred to as the oriental eyeworm for its distribution in many areas of southeast Asia (i.e., from China to Indonesia) and India. Since the early 1990s it has also been reported in Europe, arising in some spots in Italy. In the last 30 years this parasite has been detected throughout Europe in almost all countries as well as in the Balkans. *T. callipaeda* may cause from mild clinical signs (e.g., lachrymation, conjunctivitis, and keratitis) to corneal ulcers and even blindness, depending on the parasite burden and individual susceptibility. Control strategies are focussed on topical or systemic anthelmintic treatments, whereas the use of repellents seems to be ineffective against the vectors.



#### **KEY FACTS::**

The *Phortica variegata* male fly is the vector of *T. callipaeda* in Europe, whereas *Phortica okadai* is the vector in China.

T. callipaeda first-stage larvae (L1s) are ingested while the flies feed on the lachrymal secretions of infected animals.

Inside the fly, L1s develop within ~21 days to L2s and L3s, the infective stage.

The parasites are transmitted when male flies harbouring L3s feed on the eye of a suitable host.

P. variegata may overwinter and transmit T. callipaeda in early spring until summer, and adult nematodes can survive in the definitive host during winter.

Experimental infections have demonstrated that *T. callipaeda* may develop in *P. variegata* flies from the USA, suggesting the potential occurrence of its infection in that country.

### DISEASE FACTS::

T. callipaeda adults may cause variable clinical signs, including inflammation, lachrymation, and a foreign-body sensation.

In heavy infections, other clinical signs may occur, such as photophobia, oedema, corneal ulceration, conjunctivitis, and even blindness.

The use of anthelmintic drugs is useful for curing a pre-existing infection and even for preventing new infections.

### TAXONOMY AND CLASSIFICATION:

PHYLUM: Nematoda CLASS: Secernentea ORDER: Spirurida FAMILY: Thelazidae GENUS: Thelazia

SPECIES: T. callipaeda (Railliet and

Henry 1910)





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#### Resources

www.cvbd.org/en/triatomine-and-fly-borne-diseases/thelaziosis/ www.cdc.gov/dpdx/thelaziasis/index.html www.troccap.com/

#### Literature

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