

# Enfermedades Infecciosas y Microbiología Clínica

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Diagnosis at first sight

Larvae in a traveller's faeces. Not always what it seems



Larvas en las heces de un viajero. No siempre es lo que parece

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## Case report

A 54-year-old Spanish woman sought medical advice at the outpatient clinic of our institution for diarrhoea and abdominal pain that began on her return from Cambodia and Laos ten days earlier. On examination, she had neither fever nor skin lesions. Laboratory tests showed haemoglobin, hepatic enzymes and a leucocyte count within normal range. No eosinophilia was detected. The patient was diagnosed of traveller's diarrhoea. No antibiotic treatment was prescribed given the absence of fever. She was asked to bring three stool samples for microbiological studies over the following days.

## Diagnosis and follow-up

The first stool sample revealed larvae of 350 µm in length after concentration in sodium acetate–acetic acid–formalin fixative (SAF) (Fig. 1). No culture for *Strongyloides stercoralis* was performed due to lack of further fresh sample. In the other two stool samples, larvae were not detected either after concentration or after culture of the stool on blood agar plates. No eggs were observed in any of the samples. No bacterial enteropathogens were detected.

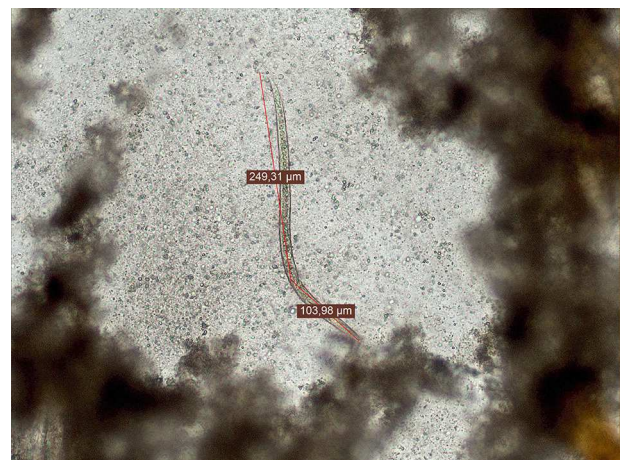
The larvae had tapered ends with long buccal cavities (Fig. 2). No genital primordium was seen. Eggs were not observed. As faeces were properly fixed when collected, hookworms and *Trichostrongylus* were ruled out because their larvae would not have developed. As none of the features matched *S. stercoralis*, spurious passage of free-living or plant nematodes was suspected.<sup>1</sup> Final confirmation of spurious passage of a free-living or plant nematode came from the Centers for Disease Control and Prevention (CDC, Atlanta, USA). At follow-up twelve days later, the patient was completely asymptomatic. The cause of the diarrhoea remained undetermined.

## Discussion

Microscopic observation is the basis of parasitological diagnosis. However, many artefacts resembling parasite structures and even non-human parasites may be confused as aetiological agents of human parasitoses.<sup>2</sup>

In faeces the presence of larvae may not always be clinically meaningful. Larvae of non-human or free-living nematodes may go through the alimentary canal without causing infection. Occasionally spurious nematode infections have been described in humans due to accidental intake of eggs, insects or other animals that could behave as intermediate hosts.<sup>1,2</sup> Some larvae may even survive the acidic gastrointestinal passage as in the case of free living nematodes such as *Turbatrix acetii* (also known as the vinegar eel) and some plant nematodes such as *Heterodera*.<sup>1</sup>

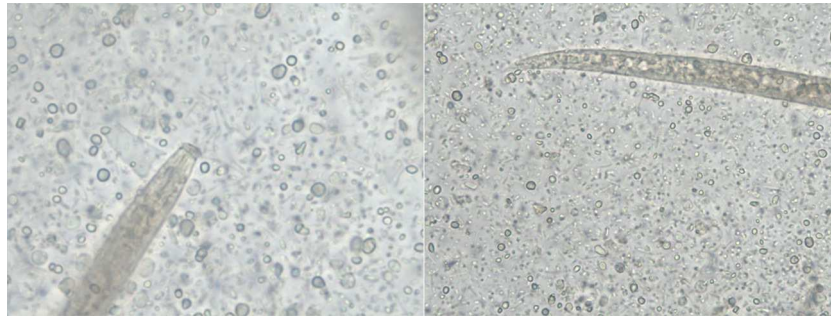
When some features of larvae do not match those expected, spurious passage should be taken into consideration, especially when the patient becomes asymptomatic without treatment as in the present case. As in spurious passages parasites will not be



**Fig. 1.** Microscopic observation of a larva in a stool sample concentrated in SAF fixative (100×). The total length of the larva is shown. Note the absence of genital primordium.

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**Fig. 2.** A larva in a stool sample concentrated in SAF fixative at high magnification (400×). The following structures are shown: the tapered end with a long buccal cavity (left), and the tail (right).

maintained in time, further stool samples should be negative to confirm this suspicion.

### Acknowledgement

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### References

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2. Gonçalves AQ, Ascaso C, Santos I, Serra PT, Julião GR, Orlandi PP. *Calodium hepaticum*: household clustering transmission and the finding of a source of human spurious infection in a community of the Amazon region. *PLoS Negl Trop Dis*. 2012, <http://dx.doi.org/10.1371/journal.pntd.0001943>.