

## Intestinal Myiasis Caused by *Eristalis tenax*

Myiasis is the infestation of live humans and other vertebrate animals with dipterous larvae which, at least for a certain period, feed on the host's dead or living tissue, liquid body substances, or ingested food (3). Clinically, myiasis may be classified as cutaneous, atrial, wound, intestinal, or urinary, depending on the location of the fly larvae.

Intestinal myiasis due to the larvae of the drone fly *Eristalis tenax* is reported sporadically from various countries and is briefly mentioned in major textbooks of tropical medicine and parasitology; to date no case has been reported in Spain. Here we report a case of intestinal myiasis due to *E. tenax*.

The patient, a 64-year-old female resident in the northwest of Spain, sought consultation for dizziness and nonspecific abdominal pain. She did not have any other abdominal or general symptoms, and her physical examination was normal. The complementary studies, including blood analysis, abdominal X-ray films, and abdominal ultrasonography, also were normal. She noticed the presence of some worms in her stools. She had always lived in a suburban habitat, and there was not suspicion of ingestion of dirty water or contaminated food.

Three specimens of these worms were brought to the microbiology laboratory for identification; since then, her symptoms have subsided. The examination of the worms showed some 2.5-cm-long, cylindrical larvae with a posterior tube. On the basis of the general morphology and the nature of the posterior retractile structure they were identified as the rat-tailed larvae of *E. tenax* (Fig. 1).

Myiasis-producing flies have been classified as specific, semispecific, and accidental (1). The category "specific" includes species with larvae which are obligate parasites of living tissues. The category "semispecific" contains species which (i) usually deposit their eggs or larvae in decaying flesh or vegetable matter and at times deposit them on morbid tissue and (ii) are facultative parasites. The category "accidental" comprises those that accidentally gain entrance into the living host through contaminated food material. There is no clear distinction between the categories "semispecific" and "accidental."

Intestinal myiasis in humans is probably an accidental myiasis related to ingestion of contaminated uncooked food or water containing fly larvae. Most larvae are destroyed by the digestive juice, but others are able to live in the intestinal tract and produce intestinal distress. Moreover, the larvae can also exceptionally reach the intestinal tube through the anus (rectal myiasis). In urban areas of developed countries cases of intestinal myiasis are rare (5); most have occurred in countries where nutritional and sanitary conditions are unsatisfactory.

Laboratory findings in cases of intestinal myiasis consist of the presence of numerous species of dipteran larvae in one or

more consecutive stool specimens. The microscopic examination of the stools is diagnostic.

*E. tenax* is the most-common species of Tubifera genera, belonging to the family Syrphidae included in the order Diptera, and has a worldwide distribution. Its larvae measure 2.5 to 3 cm, are cylindrical and slender, and have a retractile posterior respiratory tube surrounded by circllets of hair at the open end. The posterior retractile structure gives the larvae the name rat-tailed larvae. The adult worms often feed on contaminated dirty water and on organic material where they lay their eggs.

Intestinal infestation by *E. tenax* is infrequent and is secondary to the ingestion of contaminated food or drink. There are a few reports of intestinal infestation from India (4) and Africa (2), and the last such case in Europe was reported 36 years ago (6). Clinical presentation is variable, including asymptomatic cases, abdominal pain, nausea and vomiting, or anal pruritus. Our patient had nonspecific abdominal pain without any other suspicious symptoms or signs of infestation.

Although intestinal myiasis can be benign or even asymptomatic, as in the present case report, it can manifest with severe clinical symptoms, depending on the number and species of fly larvae and their location within the digestive tract.

We remark the low incidence of *E. tenax* intestinal infestation in Spain and in Europe in general, despite the reappearance of parasitic diseases in developed countries in recent years. Nevertheless, parasitologists, microbiologists, and physicians should give their attention to myiasis caused by fly larvae.

### REFERENCES

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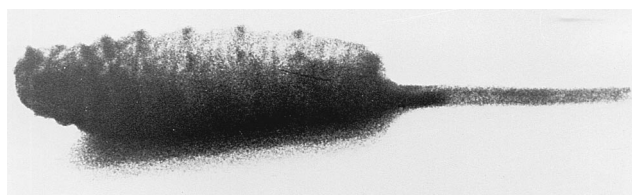


FIG. 1. Rat-tailed larva of *E. tenax*.