CAPILLARIA GARFIAI GALLEGRO ET MAS-COMA, 1975
(NEMATODA: TRICHURIDAE) IN A WILD BOAR IN CATALONIA, SPAIN

D. FERRER & J. CASTELLA

Unitat de Parasitologia i Malalties Parasitàries, Facultat de Veterinària,
Universitat Autònoma de Barcelona, 08193 Bellaterra, Barcelona, Spain

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ABSTRACT: In a parasitological study carried out in November 1994 the parasitic nematode Capillaria garfiai (Trichuridae: Capillariinae) was found lying in the lingual epithelium of a wild boar in Catalonia, northeast of Spain. The histological examination carried out showed no microscopical pathological changes in the parasitized tissue.

KEY WORDS: Nematoda, Trichuridae, Capillaria garfiai, wild boar, tongue, Spain.

In November 1994 a one-year-old female wild boar was knocked dead by a car in a woodland area close to Barcelona, northeast of Spain (41° 25' N, 2° 3' E). It was submitted for necropsy to the School of Veterinary Medicine in Bellaterra. Along with other studies, the following organs from the digestive and respiratory tracts were collected and evaluated for the detection of parasites: tongue, oesophagus, stomach, small and large intestines, trachea, and lungs. The tongue was fixed in 10% buffered formalin in pieces 2 cm in width. Afterwards, they were embedded in paraffin. The tissue blocks were then sectioned with a rotary microtome at 5 μm and stained with hematoxylin and eosin. Moreover, faeces were collected from the rectum and a coprological examination was carried out. Eggs were detected by means of a sucrose flotation technique (specific gravity of 1.2).

Several nematodes appeared in the lingual epithelium, lying in its basal layer (Fig. 1). They were cut transver-
sely and averaged 75.7 μm in diameter (range 70 to 80 μm, n = 5). The nematodes were invariably found in the dorsal epithelium of the tongue, very close to its lateral margins. They were never shown in the ventral surface epithelium. Neither gross nor microscopical pathological changes were observed in the parasitized tissue. There was apparently no inflammatory cellular response in the connective tissue beneath the epithelium. Beside the adult nematodes there were also eggs, showing different shapes depending on the plane of cut. Those which were longitudinally cut showed the typical shape of capillarid eggs, with two protruding polar plugs, unsegmented contents, barrel-shaped, and averaging 60.7/29.0 μm (range 60.0-65.0/27.5-30.0 μm, n=5) (Fig. 2). The eggs are thought to be shed and swallowed when they get to the top epithelial layer of the tongue.

Although some authors have reported the presence of *C. garfiai* eggs in faeces of infected wild boars (LOWENSTEIN & KUTZER, 1989 and 1993), in this case the coprological examination yielded a negative result for capillarid eggs. The only nematode eggs detected were those of *Metastrongyulus* sp.

After consulting previo works describing similar findings in wild boar lingual tissue, it was concluded that they were *Capillaria garfiai*, a parasitic nematode of wild boars which was first described by GALLEGO & MAS-COMA (1975), also in Catalonia, Spain. A few years after the first description, GALLEGO, ROCAMORA & MAS-COMA (1977) made a second and more comprehensive study in which they offered a more accurate morphological description. They reported a prevalence of 82% in a survey of 45 wild boars from different Spanish sources. They were not able, however, to detect this parasite in free-grazing domestic pigs.

LOWENSTEIN & KUTZER (1989) reported *C. garfiai* in Austria for the first time. They found a prevalence of 69% (77 positives out of 112 animals studied). Their histopathological examination yielded few pathological changes in the lingual tissue. They reported a scarce to moderate inflammatory infiltration of mononuclear cells such as lymphocytes, plasma cells and sporadic macrophages in the sub-epithelial connective tissue and hyperkeratosis, as well as the presence of adult capillarid nematodes and their eggs. They concluded that *C. garfiai* is of little pathogenic significance. In another study carried out by LOWENSTEIN & KUTZER (1993), an infestation prevalence of between 66.6 and 90.9% was reported. They also showed evidence for the heteroxenous nature of *C. garfiai* lifecycle. They signaled several earthworm species as intermediate hosts for this nematode. Moreover, they were able to infect domestic pigs which had been artificially fed with these intermediate hosts.

Fig. 2.— Sectioned tongue showing the dorsal lingual epithelium of wild boar; at higher magnification, an adult worm (arrowhead) and several eggs can be seen embedded in the epithelium. The typical capillarid egg shape can be best observed in those longitudinally cut (arrow). Scale bar=25 μm.
Further studies are needed in order to evaluate the epidemiology of *Capillaria garfiae* in the thriving wild boar population in Spain, the actual range of intermediate hosts, and to determine the role of free-grazing pigs in the biology of this parasite.

**REFERENCES**


