

HUFFMANELA SP. EGGS (NEMATODA: TRICHOSOMOIDIDAE), AS A HUMAN SPURIOUS PARASITE IN A CHILD FROM BARCELONA (SPAIN)

J. Gállego, C. Riera and M. Portús

Laboratory of Parasitology, Department of Sanitary Microbiology and Parasitology, Faculty of Pharmacy, University of Barcelona, Avda. Diagonal, 08028 Barcelona, Spain

In 1986 Portús et al. (II Congr. SEIMC, Palma de Mallorca, Spain, May 26–28. Abstracts of Reports, p. 50) reported large numbers of trichuroid eggs identified as *Anatrichosoma* sp., in diarrhoeic stools from a twenty-month-old child.

After the description of the eggs of *Huffmanela schouteni* (Moravec and Campbell 1991: Folia Parasitol. 38: 29–32) the fecal sample, preserved in 70% alcohol, was reexamined. The eggs were studied microscopically in direct mountings, in sealed preparations, and drawings and photomicrographs were made of them with a Wild M2OEB microscope provided with a drawing device. The eggs had flattened polar plugs and a thin, transparent outer covering. Most of them had a fully developed larva, often with the contents altered. They were identified as belonging to the genus *Huffmanela* Moravec, 1987, but with morphological differences from all other congeners described to date, which suggested that they could belong to a hitherto undescribed species.

Description of eggs (measurements in mm, mean values in parentheses). Eggs light-brown, oval-elongate, with the shell two layered; the internal layer very thin and colourless and with a smooth external surface. Colourless and refringent polar plugs more wide than high (Table 1) and protruding only 0.004–0.006. Whole eggs, including the polar plugs, were covered with very thin and hyaline layer (0.001) with very finely punctate sculpture, particularly well noticeable in wide or collapsed eggs (Figs. 1–5).

Size, without external covering, 0.067–0.079 (0.074) x 0.034–0.043 (0.038). Larvae measured 0.008 in width and 0.220–0.240 in length. The general morphology of these trichuroid eggs with a well developed larva and a thin, transparent cover surrounding the shell and polar plugs justifies their inclusion in the genus *Huffmanela* Moravec, 1987, at present included in the family Trichosomoididae (Huffman and Moravec 1988: Folia Parasitol. 35: 227–234).

Four different species of this genus have been described (Moravec and Campbell 1991, op. cit.):

– *H. carcharhini* (MacCallum, 1925) (= *Capillaria spinosa* MacCallum, 1925), the type species of the genus, known only by its eggs provided with high polar plugs (0.012–0.018 mm) and found in skin and mucosa of the branchial arches of requiem sharks from the southern Atlantic coast of U.S.A.

– *H. banningi* Moravec, 1987, also known only by the eggs with low polar plugs (0.004–0.006 mm) and found in the muscles of flatfish of the genus *Cynoglossus* (*C. browni*) from the African Atlantic coast.

– *H. huffmani* Moravec, 1987, known by both eggs and adults from the swimbladder of freshwater centrarchid fish from the southern U.S.A.

– *H. schouteni* Moravec et Campbell, 1991, known only by the eggs with only superficially sculptured external envelope and found in serosal cover of intestine and also in the liver and abdominal cavity of flying fish in Curaçao.

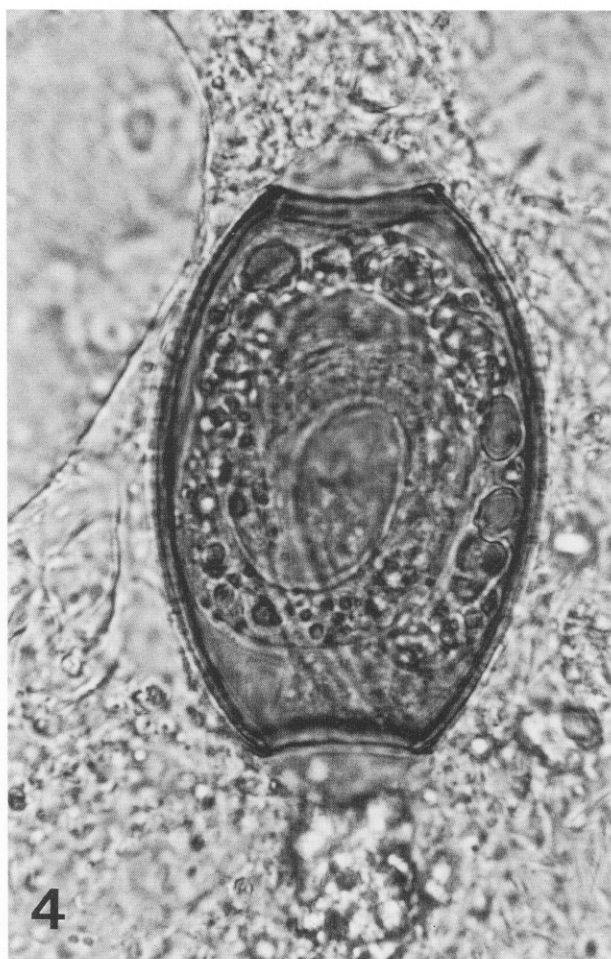
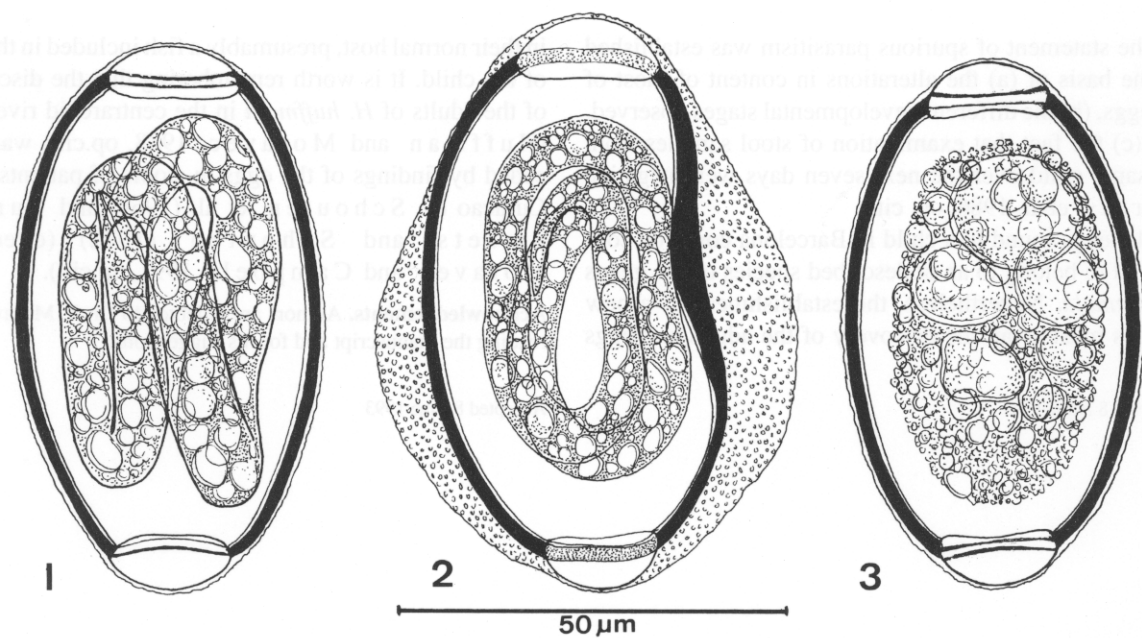
The eggs of *Huffmanela* sp. in the present material differ from those of *H. carcharhini*, *H. banningi* and *H. huffmani* by the outer covering, which is spinose in the latter species, and also by the size: long in *H. carcharhini* and *H. banningi* (>0.090 mm) while short in *H. huffmani* (< 0.065 mm). From *H. schouteni* the eggs of *Huffmanela* sp. differ by the shape, being wider (Table 1), and the flatness and width of polar plugs, 0.014–0.020 mm wide by 0.006–0.011 mm high in *Huffmanela* sp. versus 0.006–0.009 mm wide by 0.009–0.012 mm high in *H. schouteni*.

Table 1. Measurements of eggs of *Huffmanela* sp. compared with those of similar size, *H. huffmani* and *H. schouteni*.

Eggs	<i>H. huffmani</i> Moravec, 1987 ¹	<i>H. schouteni</i> Moravec et Campbell, 1991 ²	<i>Huffmanela</i> sp.
Envelope	spinose	not spinose	not spinose
Wall thickness	0.004 – 0.006	0.003 – 0.005	0.002 – 0.003
Length	0.054 – 0.060	0.069 – 0.075	0.067 – 0.075
Width	0.030 – 0.033	0.027 – 0.030	0.038
Polar plugs			
– length	0.009	0.009 – 0.012	0.007 – 0.008
– width	0.006 – 0.007	0.006 – 0.009	0.016 – 0.019
Embryo			
– length	---	0.210	> 0.220
– width	0.006	0.004 – 0.006	0.008

¹ Moravec 1987: Revision of capillariid nematodes (subfamily Capillariinae) parasitic in fishes. Studies CSAV No. 3, Academia, Prague, 141 pp.

² op. cit.



Figs. 1–3. *Huffmanella* sp. eggs, in different developmental stages. Note the outer covering membrane in Fig. 2. **Figs. 4, 5.** *Huffmanella* sp. eggs (x 90). Note the outer covering membrane in Fig. 5.

The statement of spurious parasitism was established on the basis of (a) the alterations in content of most of the eggs, (b) the different developmental stages observed, and (c) the fact that examination of stool samples from the same child over the next seven days were negative (Portús et al. 1986, op. cit.).

The eggs found in a child in Barcelona could be considered to belong to an undescribed species of the genus *Huffmanella*. Nevertheless, the establishment of a new species must await the discovery of the adults and eggs

in their normal host, presumably a fish included in the diet of the child. It is worth remembering that the discovery of the adults of *H. huffmanii* in the centrarchid river fish (Huffman and Moravec 1988, op.cit.) was preceded by findings of the eggs in stools of patients from Curaçao by Schouten et al. (1968) and Suriel-Smeets and Schouten (1972) (cited by Moravec and Campbell 1991, op.cit.).

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