Echinococcus oligarthrus (Diesing, 1863) Developing in a United States Zoo

Cross and Thomas (1966, J. Parasit. 52: 1215–1216) reported hydatid disease in nutria, Myocastor coypus (Molina), born in a U.S. zoo. They believed that the cysts probably represented Echinococcus granulosus (Batsch, 1786). The findings of Thatcher and Sousa (1966, Ann. Trop. Med. Parasit. 60: 405–416) concerning E. oligarthrus (Diesing, 1863) in Panamá made it desirable to re-examine the nutria specimens. Consequently, microscopic slides and fixed material from the nutria cysts were compared with Panamanian specimens of E. oligarthrus, and the results are reported herein.

The cysts are of a septate, or multilocular nature (Fig. 1) with an undulating, irregular laminated layer. The hooks are large (41 to 43 μ) and closely comparable to those from a Panamanian human hydatid that was considered to be E. oligarthrus by Thatcher and Sousa (loc. cit.) (Figs. 2–5). The hooks are slightly larger than those from the agouti reported as E. cruzi by Brumpt and Joyceux (1924, Ann. Parasit. 2: 226–231), but they have a similar shape (Figs. 4–7). Cameron (1926, J. Helmin. 4: 13–22) believed E. cruzi to be a synonym of E. oligarthrus as did also Finto de Almeida (1937, O. Campo. 550: 41–48). Sousa and Thatcher (to be published elsewhere) found natural hydatids in Panamanian agoutis, and they induced experimental hydatids of E. oligarthrus in agoutis and other rodents. Cysts from these sources also showed similar hook morphology. The cystic hooks from the nutria are larger and of a different shape than the hooks of adult E. granulosus (Figs. 2, 3; 8, 9).

Since the nutria hydatids were multilocular, with a thin laminated layer, and had hooks of larger size and different contour than those
known for *E. granulosus*, it is necessary to conclude that the infections in the nutria did not represent that species. The hooks from the nutria cysts are also larger and morphologically different from those reported for *E. multilocularis* Leuckart, 1863. In view of the close similarity between material from the nutria and known or suspected *E. oligarthrus* specimens, infections in the nutria probably represented the latter species. Since the nutria is a native South American rodent, it could be a natural host of *E. oligarthrus*. The nutria probably acquired the infection in a U. S. zoo by proximity to South American wild felids.

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**Figures 2-7.** *Echinococcus* hooks from hydatid cysts, all drawn to same scale. 2, 3. Large and small hooks from hepatic cyst in nutria from a U. S. zoo. 4, 5. Large and small hooks from human hepatic cyst from Panama. 6, 7. Large and small hooks from splenic cyst in agouti from Brazil. (Redrawn from Pinto and Lins de Almeida, 1937.) 8, 9. Large and small hooks from *E. granulosus* adult (original).

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