

## **Eurytrema procyonis in a Raccoon (*Procyon lotor*) from New York State—A First Report**

Authors: Wade, Susan E., Anderson, Wayne I., and Kidder, Jeffrey D.

Source: Journal of Wildlife Diseases, 25(2) : 270-272

Published By: Wildlife Disease Association

URL: <https://doi.org/10.7589/0090-3558-25.2.270>

---

BioOne Complete ([complete.BioOne.org](https://complete.BioOne.org)) is a full-text database of 200 subscribed and open-access titles in the biological, ecological, and environmental sciences published by nonprofit societies, associations, museums, institutions, and presses.

Your use of this PDF, the BioOne Complete website, and all posted and associated content indicates your acceptance of BioOne's Terms of Use, available at [www.bioone.org/terms-of-use](https://www.bioone.org/terms-of-use).

Usage of BioOne Complete content is strictly limited to personal, educational, and non - commercial use. Commercial inquiries or rights and permissions requests should be directed to the individual publisher as copyright holder.

---

BioOne sees sustainable scholarly publishing as an inherently collaborative enterprise connecting authors, nonprofit publishers, academic institutions, research libraries, and research funders in the common goal of maximizing access to critical research.

## ***Eurytrema procyonis* in a Raccoon (*Procyon lotor*) from New York State—A First Report**

**Susan E. Wade,<sup>1</sup> Wayne I. Anderson,<sup>2</sup> and Jeffrey D. Kidder,<sup>3</sup>** <sup>1</sup> Department of Veterinary Microbiology, Immunology, and Parasitology; <sup>2</sup> Department of Pathology, New York State College of Veterinary Medicine, Cornell University, Ithaca, New York 14853, USA; <sup>3</sup> New York Cooperative Fish and Wildlife Research Unit, Department of Natural Resources, Cornell University, Ithaca, New York 14853, USA

**ABSTRACT:** The digenean, *Eurytrema procyonis*, found in the pancreatic ducts of the raccoon (*Procyon lotor*), is reported for the first time from a juvenile female raccoon captured in July 1987, in New York State (USA). The presence of >183 trematodes in the pancreatic ducts was an incidental finding at necropsy to an interstitial pneumonia which had caused emaciation, and for which the animal was euthanized. The pancreas, with the exception of the major pancreatic duct, was histologically normal. The duct, containing the parasites, was dilated and contained a diffuse subepithelial inflammatory infiltrate consisting primarily of eosinophils. Epithelial hyperplasia was present in tubulo-alveolar glands, and goblet cells were prominent.

**Key words:** *Eurytrema procyonis*, raccoon, *Procyon lotor*, pancreatic duct, case report.

*Eurytrema procyonis* was originally described from the pancreatic ducts of a raccoon (*Procyon lotor*) in Texas by Denton (1942). This digenean has been reported since from raccoons in Connecticut by Penner et al. (1954), in Georgia by Babero and Shepperson (1958) and Sawyer (1958), in Maryland by Herman et al. (1957), in North Carolina by Harkema and Miller (1964), in Tennessee by Bafundo et al. (1980) and Schaffer et al. (1981), in Texas by Chandler (1942), and in Virginia by Harkema and Miller (1964) and Schaffer et al. (1981).

This digenean has been reported also in a red fox from New York (Stunkard, 1947; Foley et al., 1987), a gray fox from Maryland (Herman et al., 1957), a red wolf-coyote hybrid from Texas (Custer and Pence, 1981), and in the domestic cat from several localities (Burrows and Lillis, 1960; Sheldon, 1966; Fox et al., 1981; Roudebush and Schmidt, 1982; Anderson et al., 1987).

This is the first report of *E. procyonis* in a raccoon from New York. A juvenile female raccoon captured in Ithaca, New York (42°50'N, 76°50'W) on 25 July 1987, was presented with a history of dyspnea of 7 days duration and was euthanized. At necropsy the animal was in poor body condition with little body fat. Ingesta was not present in the stomach or small intestine, and there was only a small amount of fecal material in the colon. An interstitial pneumonia with an eosinophilic and giant cell infiltrate was found histologically. The detection of *E. procyonis* in the pancreatic ducts was an incidental finding. Grossly, the pancreas appeared normal.

The presence of the digeneans was first determined by a routine fecal examination which revealed many ova. Greater than 183 specimens were removed from the pancreatic ducts at necropsy. Histologically, cross sections of several digeneans were present within a markedly dilated major pancreatic duct (Fig. 1). The ductal lamina propria contained a moderate diffuse inflammatory infiltrate consisting primarily of eosinophils, with lesser numbers of macrophages and lymphocytes. There was mild multifocal epithelial hyperplasia within tubulo-alveolar glands. Goblet cells were prominent. Multiple discrete mucous retention cysts were present. In one section, glandular epithelium was present within the ventral sucker of a digenean (Fig. 1). The remainder of the pancreas was histologically normal.

Unlike the reports of Penner et al. (1954) and Herman et al. (1957) which indicated that grossly the pancreas was enlarged and yellow-pink in color, the pancreas in this

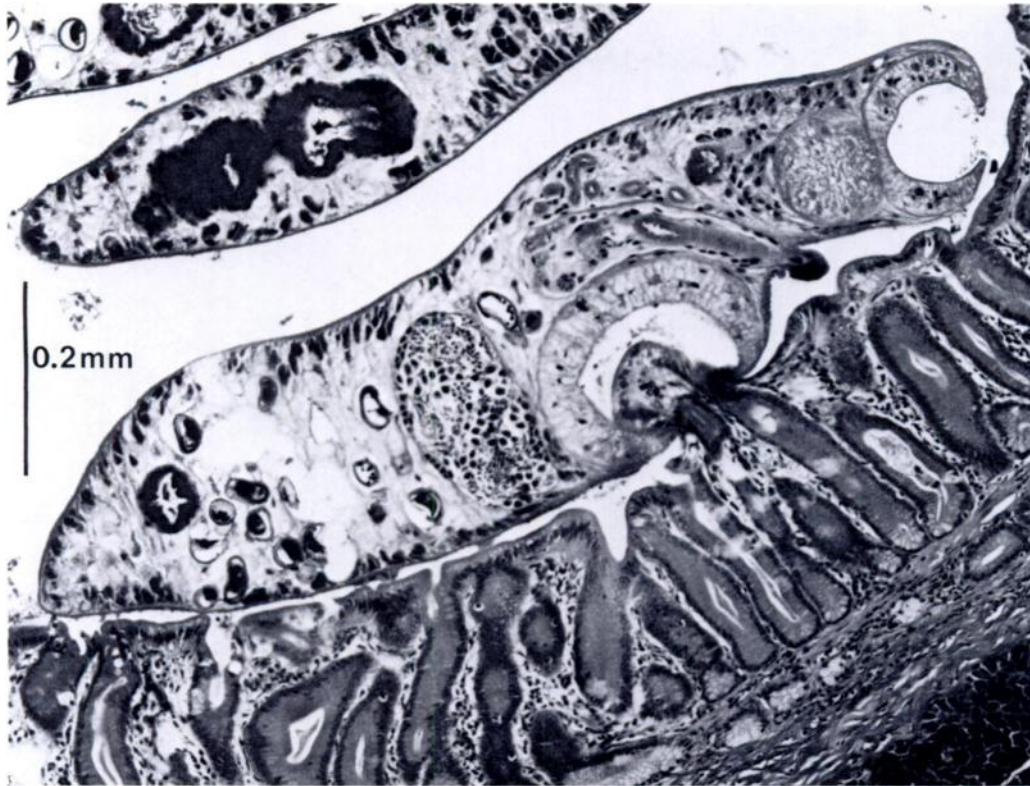


FIGURE 1. Pancreatic duct of a raccoon containing sections of *Eurytrema procyonis*. Note cellular infiltrate in lamina propria and epithelial hyperplasia. H&E.

raccoon appeared normal. The pancreatic ducts containing *E. procyonis* were dilated as in the above reports, but also contained a cellular infiltrate which has not been reported previously in raccoons.

#### LITERATURE CITED

- ANDERSON, W. I., M. E. GEORGI, AND B. D. CAR. 1987. Pancreatic atrophy and fibrosis associated with *Eurytrema procyonis* in a domestic cat. *The Veterinary Record* 120: 235-236.
- BABERO, B. B., AND J. R. SHEPPERSON. 1958. Some helminths of raccoons in Georgia. *The Journal of Parasitology* 44: 519.
- BAFUNDO, K. W., W. E. WILHELM, AND M. L. KENNEDY. 1980. Geographic variation in helminth parasites from the digestive tract of Tennessee raccoons, *Procyon lotor*. *The Journal of Parasitology* 66: 134-139.
- BURROWS, R. B., AND W. G. LILLIS. 1960. *Eurytrema procyonis* Denton, 1942 (Trematoda: Dicrocoeliidae), from the domestic cat. *The Journal of Parasitology* 46: 810-812.
- CHANDLER, A. C. 1942. The helminths of raccoons in east Texas. *The Journal of Parasitology* 28: 255-268.
- CUSTER, J. W., AND D. B. PENCE. 1981. Ecological analyses of helminth populations of wild canids from the gulf coastal prairies of Texas and Louisiana. *The Journal of Parasitology* 67: 289-307.
- DENTON, J. F. 1942. *Eurytrema procyonis*, n. sp. (Trematoda: Dicrocoeliidae), from the raccoon, *Procyon lotor*. *Proceedings of the Helminthological Society of Washington* 9: 29-30.
- FOLEY, G. L., W. I. ANDERSON, AND M. E. GEORGI. 1987. *Eurytrema procyonis* in a New York fox. *Cornell Veterinarian* 77: 168-171.
- FOX, J. N., J. G. MOSLEY, G. A. VOGLER, J. L. AUSTIN, AND H. A. REBER. 1981. Pancreatic function in domestic cats with pancreatic fluke infection. *Journal of the American Veterinary Medical Association* 178: 58-60.
- HARKEMA, R., AND G. C. MILLER. 1964. Helminth parasites of the raccoon, *Procyon lotor* in the southeastern United States. *The Journal of Parasitology* 50: 60-66.
- HERMAN, C. M., P. M. BAUMAN, AND R. T. HABERMANN. 1957. The prevalence of *Eurytrema procyonis* Denton (Trematoda: Dicrocoeliidae)

- in some mammals from Maryland. *The Journal of Parasitology* 43: 113-114.
- PENNER, L. R., C. F. HELMBOLDT, AND A. L. GRISWOLD. 1954. *Eurytrema procyonis* in a raccoon from Connecticut. *Proceedings of the Helminthological Society of Washington* 21: 34-35.
- ROUDEBUSH, P., AND D. A. SCHMIDT. 1982. Fenbendazole for treatment of pancreatic fluke infection in a cat. *Journal of the American Veterinary Medical Association* 180: 545-546.
- SAWYER, T. K. 1958. *Metagonimoides oregonensis* Price, 1931 from a Georgia raccoon with a note on *Sellacotyle mustelae* Wallace, 1935. *The Journal of Parasitology* 44: 63.
- SCHAFFER, G. D., W. R. DAVIDSON, V. F. NETTLES, AND E. A. ROLLER, III. 1981. Helminth parasites of translocated raccoons (*Procyon lotor*) in the southeastern United States. *Journal of Wildlife Diseases* 17: 217-227.
- SHELDON, W. G. 1966. Pancreatic flukes (*Eurytrema procyonis*) in domestic cats. *Journal of the American Veterinary Medical Association* 148: 251-253.
- STUNKARD, H. W. 1947. A dicrocoeliid trematode, *Eurytrema vulpis* n. sp. provis., from the pancreatic ducts of the red fox. *The Journal of Parasitology* 33: 459-466.

*Received for publication 25 July 1988.*