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Rabies in Translocated Raccoons

VICTOR F. NETTLES, DVM, PHD, JOHN H. SHADDOCK, BS, R. KEITH SIKES, DVM, MPH, AND CARLOS R. REYES, MS

Abstract: Two raccoons imported from Florida by a North Carolina hunting club were diagnosed as having rabies by fluorescent antibody testing of brain tissue. Although dead on arrival in North Carolina, they could have infected other raccoons in the same shipment which had already been released into the wild. Raccoon rabies has become increasingly important in recent years, but this is the first documented report of rabies presence in hunter-purchased interstate shipments. (*Am. J. Public Health* 69:601-602, 1979.)

Introduction

Private hunting clubs in mountainous regions of the southeastern United States are importing and releasing each year thousands of wild raccoons (*Procyon lotor*), purchased from commercial animal dealers in distant states. For example, over 2,300 translocated raccoons were known to have been released in the 15 eastern counties of Kentucky during 1975-1976.[1]

Importers of these animals usually are required to obtain a permit from their state wildlife agency and, in many instances, a health certificate issued by an accredited veterinarian must accompany each shipment. The threat of rabies introduction has been the primary concern because many raccoons are shipped from Florida, a state with enzootic raccoon rabies.[2,3] Documentation of rabid animals in hunter-purchased shipments, however, has not occurred. This report records the incidence of rabies infections in a selected sample of raccoons translocated for hunting purposes.

Methods

From October 1976, to April 1978, 165 commercial-source raccoons were obtained for an in-depth health study. Of these animals, 100 from Hillsborough County and three from Orange County, Florida were confiscated by the Tennessee Wildlife Resources Agency because their importation by raccoon hunters was illegal. Thirty-one raccoons were purchased in three lots from a commercial dealer in Brownwood, Texas and 11 were bought from a dealer in Williamsburg, Virginia. The remaining 20 were raccoons dead on arrival from Florida at Haywood County, North Carolina raccoon club after delivery from a dealer in Avon Park, Florida. Brain tissue from all aforementioned animals was examined by the fluorescent rabies antibody test.[4] A portion of brain from each raccoon was preserved by freezing, and rabies-positive animals were retested by a second laboratory.

Results and Discussion

Two of the 165 raccoons were positive for rabies; both had been shipped from Avon Park, Florida to Haywood County, North Carolina. The positive cases had been transported in separate lots of 137 and 86 raccoons, respectively; those animals not dead on arrival had been released into the wild. Interstate health certificates accompanied both of these groups of animals.

Address reprint requests to Dr. Victor F. Nettles, Southeastern Cooperative Wildlife Disease Study, Department of Parasitology, College of Veterinary Medicine, University of Georgia, Athens, GA 30602. Mr. Shaddock is with the Lawrenceville, GA Facility, Bureau of Laboratories, CDC; Dr. Sikes is with the Georgia Department of Human Resources; Mr. Reyes is with the Tennessee Department of Public Health. This paper, submitted to the Journal June 30, 1978, was revised and accepted for publication October 25, 1978.

The raccoons for this study came from eight shipments; consequently, 25 per cent ($^2/_8$) of the lots examined contained a rabid animal. This figure is alarming since shipping and husbandry practices associated with raccoon translocation may potentiate rabies transmission. For example, North Carolina wildlife officials found that the Avon Park, Florida raccoons were transported in cages containing about eight animals each. The driver of the shipment had indicated to the wildlife officials that raccoons were held together in a large pen prior to delivery. Under such circumstances, an unknown number of the more than 200 raccoons released could have been incubating rabies. Furthermore, since the raccoons were released for pursuit and capture by dogs, there was considerable potential for canine exposure. Persons handling raccoons prior to release have been scratched or bitten. In fact, a wildlife technician in North Carolina was scratched during the release of the Avon Park raccoons and had to undergo post-exposure rabies immunization.

Raccoon rabies is highly prevalent in a four-state region of the deep South, viz., southwest Alabama, Florida, Georgia, and South Carolina.[5] From January through June 1977, the aforementioned states accounted for 94 per cent of rabies diagnoses in raccoons nationwide.[6] Other states have a low prevalence of rabies in this species, although scattered cases have occurred throughout the midwest and in central Texas. In the past two decades, raccoon rabies has been increasing gradually, and during the first 6 months of 1978, approximately 34 per cent of the raccoons tested in the enzootic states were positive.[7] These statistics augment our assertion that the results of this study were not spurious, but were to be expected.

This report confirms the apprehensions of many people that rabies-infected raccoons are involved in translocation. It also shows the ineffectiveness of present health certification as applied to this problem. The conservation agencies of several southeastern states already have embargoes on raccoons from Florida, but many wildlife officials suspect that clandestine importation still occurs. In each state, three agencies have a vested interest in rabies control. These include the state departments of agriculture, public health, and wildlife. Although jurisdictions may vary from state to state, increased inter-agency cooperation in areas of public education and law enforcement should be encouraged to minimize risks associated with this undesirable practice.

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