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Bats and Rabies in Alaska – 2006 Update

Introduction

In early July 2006, a graduate student studying bats in the northeastern part of Prince of Wales Island found a Keen's long-eared bat that was unable to fly. The bat was euthanized and submitted to the Alaska State Virology Laboratory (ASVL) by the Alaska Department of Fish and Game (ADF&G) on August 30, 2006. On August 31, ASVL reported that the bat had tested positive for rabies.

Bats in Alaska

Only six species of bats can be found in Alaska.¹ The geographic ranges of most species are limited to the southeastern part of the state; however, *Myotis lucifugus*, the little brown bat, has been sighted throughout much of the State south of the Arctic Circle.² Four other bat species can be found in the Alexander Archipelago (the Alaska panhandle) – the Keen's long-eared bat (*Myotis keenii*), long-legged myotis (*Myotis volans*), California bat (*Myotis californicus*) and silver-haired bat (*Lasiurus noctivagus*). There is one record of a big brown bat (*Eptesicus fuscus*) found in the interior of Alaska.

The distribution of bats appears to be latitude sensitive, limited by geographic barriers, roost availability, climate, length of night, and prey availability. Bats are only found in forested areas; no bats have been found in treeless regions of the Arctic tundra of western and northern Alaska or in the Aleutian Islands. Being nocturnal animals, bats sleep during the day and hunt and feed during the night. Alaska bats feed on insects such as moths, mosquitoes, beetles, mayflies, caddis flies and midges. The short duration of darkness during summer nights at high latitudes reduces foraging opportunities, thereby limiting the northern range of bats.

Bat rabies in Alaska

Since the 1970s, the Alaska State Virology Laboratory has evaluated over 150 bat brain specimens for rabies. Prior to 2006, there had only been one record of bat rabies documented in Alaska. In 1993, a little brown bat was found crawling and squeaking on the ground near Ketchikan in the Tongass Forest. Further testing at the Centers for Disease Control and Prevention (CDC) Rabies Laboratory in Atlanta confirmed infection with the silver-haired bat rabies virus variant. The Keen's bat from 2006 was infected with a red bat variant.

Discussion

Bat rabies is well documented in many of the lower 48 states and in several provinces in Canada, including British Columbia. Only two bats in 30 years have tested positive for rabies in Alaska, and both have been from Southeast. In general, migratory patterns of bats in Alaska are not well-documented. It is reasonable to assume that rabies circulates among bat populations in southeastern Alaska, although the possibility that either of the rabies-infected bats were imported cannot be excluded.

There are different variants of rabies virus that occur in different reservoir species. For example, in Alaska, where foxes of northern and western coastal areas are the reservoir, the fox strain is the virus variant seen among wildlife and sometimes, domestic dogs. Terrestrial animal rabies virus variants have not been seen in bats. However, there are many reports of bat variants being detected in terrestrial animals.^{3,4}

There have been no cases of bat variant rabies among non-bats in Alaska. Additionally, bats from other regions in Alaska, including the Kenai Peninsula and the Anchorage-Mat-Su Valley area, have all tested negative for rabies. However, any bat, regardless of location of origin, that is acting abnormally should be tested for rabies. Similarly, any animal that has bitten a human and is acting abnormally should be submitted for rabies testing.

The majority of human cases of rabies in the United States in the past 15 years have been caused by bat variants of the rabies virus.^{5,6} Anyone who may have been bitten or scratched by a bat should contact a health care provider *immediately* to be evaluated for postexposure rabies prophylaxis. If the bat is still available, it should be submitted to ASVL for rabies evaluation.

Recommendations

1. The general public should not handle bats. Persons in professions that regularly handle bats should consult their health care provider or the Section of Epidemiology for recommendations on receiving a preexposure rabies immunization series.
2. Bats that are seen on the ground or acting abnormally should be immediately reported to a local ADF&G office or the ADF&G Wildlife Veterinarian at 907-459-7257.
3. Health care providers should contact the Alaska Section of Epidemiology if they suspect a patient may have been exposed to rabies. Exposed persons will most often require postexposure rabies prophylaxis – **even those persons who have previously received a preexposure rabies immunization series.** Call 907-269-8000, Monday through Friday 8AM-5PM, or 800-478-0084, after-hours or on weekends.

References

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