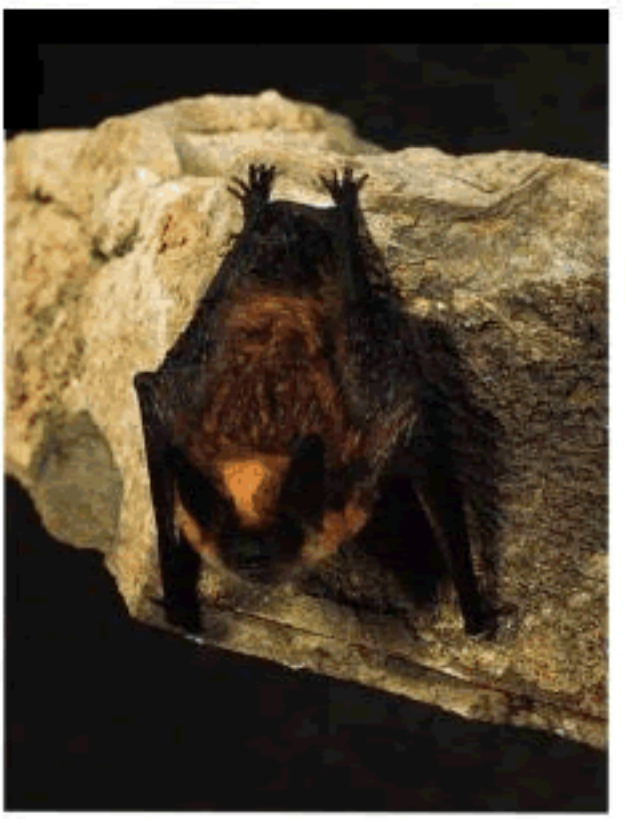
Fringed myotis | *Myotis thysanodes*

The distribution of the fringed myotis encompasses most of western North America from British Columbia to southern Mexico. Over much of its range, *M. thysanodes* occupies middle elevations through a variety of desert, grassland, and woodland habitats. Coastal populations occur in low-elevation woodlands and some records indicate forays into high-elevation forests.

The fringed myotis belongs to the long-eared myotis group, all of which tend to be high-elevation forest bats. *Myotis thysanodes* has the shortest ears and occupies the lowest elevations in this group. Its wings are short and broad, indicating maneuverable, low-speed flight. The wing membranes are thick and very resistant to punctures, which further suggests a foraging strategy of flying within the vegetation canopy and gleaning insects from plant surfaces. Physiological studies indicate that *M. thysanodes* has a great deal of control over body temperature regulation and can fly at low ambient and body temperatures.

The fringed myotis forms maternity colonies in caves, mine tunnels, and buildings. These are occupied solely by females and their young. Males appear to roost alone. Females enter the maternity colony in late April and leave by late September. Fat deposition prior to the autumn exodus suggests that the

Myotis thysanodes



colony moves to a hibernaculum. Presumably these hibernation sites are at lower elevations; individuals probably hibernate for short periods interspersed with some nights of activity. Within a roost, individuals select sites in the open, rather than crevices. Clusters of individuals tend to shift sites within the roost periodically in response to temperature changes or disturbance. Human disturbance can cause abandonment of the roost site.

The summer colony of fringed myotis exits the roost at sunset and returns at dawn. During lactation, two to ten adults are always present in the roost to care for the young. Although a variety of insect species are eaten, small beetles are selected

more than 70 percent of the time. These insects appear to be gleaned from vegetation surfaces, a highly specialized foraging behavior.

Copulation begins in late April. Pregnancy lasts between 50 and 60 days, and a single young is born between late June and early July. The neonate is huge in proportion to the mother, at 22 percent of her body mass and 54 percent of her total length. Females deposit newborns in a separate roost site and only visit them to nurse or to assist young in distress. Juveniles grow rapidly and are capable of flight at 16.5 days of age. Body measurements of young are indistinguishable from those of adults by 21 days of age. Banding studies indicate life spans of up to 11 years.

Fringed myotis live in a wide range of habitats and elevations. Common co-existing bats include the southwestern myotis, California myotis, western small-footed myotis, long-eared myotis, little brown bat, cave myotis, long-legged myotis, Yuma myotis, western red bat, hoary bat, silver-haired bat, western pipistrelle, big brown bat, spotted bat, Townsend's big-eared bat, Allen's big-eared bat, pallid bat, Brazilian free-tailed bat, and big free-tailed bat. *M. J. O'Farrell*

Size
Females have longer heads, bodies, and forearms than males.
Total length: 80–99 (89) mm
Length of tail: 35–45 (39) mm
Length of forearm: 40.3–45.3 (42.8) mm
Weight: 6.0–11.8 (8.8) g

Identification
This species can be distinguished by its large ears (16–20 mm) and the well-developed fringe of hairs on the posterior edge of the tail membrane.

Status
Common

Subspecies
Myotis thysanodes aztecus, Oaxaca, Mexico
Myotis thysanodes pahasapensis, Black Hills, South Dakota
Myotis thysanodes thysanodes, central Mexico to British Columbia, and through most of the western United States including Washington, Oregon, Idaho, California, Nevada, Utah, Wyoming, Colorado, Arizona, New Mexico, and west Texas

References
Mammalian Species 137; Paradiso and Greenhall, 1967; Reduker et al., 1983