

The Florida Bonneted Bat

By Libby Hopkins



The Florida Bonneted Bat or *Eumops Floridanus* as it's known by its scientific name, is Florida's largest bat and thought to be the rarest bat in the world.

Florida bonneted bat weighs between 34 and 47 grams and can be distinguished from other bats by its large size, tail that extends past the uropatagium (tail membrane) and ears that join at the base.

Female Florida bonneted bats will give birth to at least one pup per year, but evidence suggests that they may give birth multiple times each year.

The Florida bonneted bat was recognized as a distinct species in 2004, and listed as "Endangered" under the USFWS Endangered Species Act in 2013.

Until recently, it was classified as a subspecies of Wagner's bonneted bat (*Eumops glaucinus*). It is endemic to southern Florida in the United States. It occurs in several counties, including Charlotte, Collier, Lee, Miami-Dade, Monroe, Okeechobee, and Polk. Florida bonneted bats are more likely to be detected in agricultural areas, as well as areas that have a high mean annual rainfall.

This species has one of the smallest geographical distributions of any New World bat. It has been called "one of the most critically endangered mammal species in North America"

The earliest bonneted bat fossil was discovered in 1922 in Melbourne, Florida. The fossil consisted of a preserved jawbone that dated back to the Pleistocene; its similarity to genera *Eumops* and *Molossus* was noted, but it was initially placed into a new genus, *Molossides*, due to what appeared to be a unique dental formula. The fossil was reclassified into the genus *Eumops* in 1963 on the belief that the original fossil did not show a bat with a single lower incisor, but rather the fossil jaw was missing an incisor and the species actually had two lower incisors.

A live-bonneted bat was first recorded in Florida in 1936, from an individual collected from a high school in North Miami. At the time, it was identified as a *Eumops glaucinus* specimen, and it was hypothesized that a fruit steamer had introduced it accidentally from Cuba.

In the following years, there was evidence of a breeding population in Florida, which refuted ideas that they were only occasionally transported in from Cuba. In 1971, the bonneted bat was reclassified as a well-marked subspecies of *Eumops glaucinus*, identified as *Eumops glaucinus floridanus*. This classification was maintained until 2004, when morphological analyses showed that the bonneted bat was distinct from other subpopulations of *Eumops glaucinus* in its skull, body mass, and forearm length. The new classification elevated the bonneted bat to its own species, *Eumops floridanus*.

The bat roosts single or colonially and may form harems. Many observed roosts have a strong female bias, with one harem containing 20 adult females and only one adult male. Roosts usually have one dominant male that can be identified from an open gular gland, the largest body mass, and the greatest testes length. Harems are maintained throughout the year, which are in contrast to other bats of the eastern US where social groupings are seasonally variable.

The Florida bonneted bat was once believed to be common along Florida's eastern coast. Observations of it declined in the 1960s and 1970s, and in 1980, it was believed to be extinct. Threats to this species include the present and future degradation of its habitat, its small population size, restricted range and small number of colonies, low fecundity, and relative isolation.

Climate change and resulting sea-level rise is expected to result in further loss of its roosting and foraging habitat. Since its population is very small, predicted changes in weather however, will possibly affect the endangered species even more.