WHIP-POOR-WILL - ANTROSTOMUS VOCIFERUS

This bird is sometimes confused with the related chuck-will's-widow (Antrostomus carolinensis) which has a similar but lower-pitched and slower call.

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Caprimulgiformes Family: Caprimulgidae Genus: Antrostomus Species: A. vociferus

Habitat:

Biomes: Eastern Whip-poor-wills breed in dry deciduous or evergreen-deciduous forest with little or no underbrush, close to open areas. The forest types they use include pine-oak with juniper, pine plantations, pine flatwoods, northern hardwood forests, low-elevation white pine, oak, aspen, birch, and scrubby woodlands with pitch pine, scrub oak, and hickory. They seem to avoid large tracts of uninterrupted forest with dense canopy. Their migration habitat is similar to their breeding habitat. In winter, Eastern Whip-poor-wills prefer broadleaf tropical or subtropical forest near open areas.

Distribution:

In US: Eastern whip-poor-wills breed in deciduous or mixed woods across central and southeastern Canada and the eastern United States, and migrate to the southeastern United States and to eastern Mexico and Central America for the winter. These

In Other Countries: NONE

Holistic Description: Made famous in folk songs, poems, and literature for their endless chanting on summer nights, Eastern Whip-poor-wills are easy to hear but hard to see. Their brindled plumage blends perfectly with the gray-brown leaf litter of the open forests where they breed and roost. At dawn and dusk, and on moonlit nights, they sally out from perches to sweep up insects in their cavernous mouths. These common birds are on the decline in parts of their range as open forests are converted to suburbs or agriculture.

Species Richness: NO SUBSPECIES

Population Dynamic: In 2018, the eastern whip-poor-will was uplisted from least concern to near threatened on the IUCN Red List, on the basis that based on citizen science observations, populations of the eastern whip-poor-will had declined by over 60% between 1970 and 2014. This decline is likely due to decreased forest disturbance and early successional forest habitat, pesticides and intensified agriculture, both of which have led to heavy declines in the flying insect populations that the eastern whip-poor-will depends on, as well as habitat loss.

Evolution and Systematics:

Evolution: Fossils of caprimulgiform birds are known from the upper Eocene or lower Oligocene of France and neospecies of Caprimulgidae are known from Pleistocene and prehistoric sites.

Systematics: There is debate over whether the taxonomic order Caprimulgiformes, as traditionally recognized, is monophyletic. Regardless of the order’s eventual fate, the family Caprimulgidae, the nighthawks and nightjars, is monophyletic.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 8.7-10.2 in (22-26 cm) Weight: 1.5-2.3 oz (43-64 g)

Wingspan: 17.7-18.9 in (45-48 cm)

Coloration: Like all nightjars, Eastern Whip-poor-wills are patterned with a complicated mottling of gray and brown, which camouflages them nearly perfectly with leaf litter or tree bark. They have a blackish throat bordered at the bottom by a neat, white bib. Males have white corners to the tail; on females, these spots are dull buff.

General Body Features: Eastern Whip-poor-wills are medium-sized birds with a large, rounded head and a stout chest that tapers to a long tail and wings, giving them a distinctly front-heavy look.

Special Features of the Body: Their cryptic appearance blends perfectly into their habitat and they are very difficult to spot during the daytime, when they are usually hidden away sleeping. They are most easily detected at night when light from car headlights are reflected ruby-red from their eyes, as they are sitting on tracks or roads. However, their presence is most often made known by their loud calls given at dusk.

Special Features of the Head and Sensory Organs: The beak has evolved to be much wider than it is long, and it opens wide both - vertically as well as horizontally. The resulting big gaping mouth allows it to more easily scoop up insects in flight. Its large eyes are placed on each side of the head (laterally) - which significantly increases its visual field.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Their feet are weak and their legs short - and they usually hop about awkwardly on the ground.

Any Special Internal Anatomy: A reflective membrane behind the retina (tapetum) enhances its vision at night by augmenting the light-gathering ability of its eyes. They also have forward-facing whiskers that may either help them funnel food into the mouth or protect the eyes.
Sexual Dimorphisms: Males have a white patch below the throat and white tips on the outer tail feathers; in the female, these parts are light brown. In flight, both male and female have brown wings heavily spotted tawny with blackish spots across scapulars. Male has very broad white tips on outer 3 rectrices. Female has narrower buffy tips. Breeding-season data suggest females heavier than males.
Differences Between Juvenile Stage and Adult: Juveniles cryptic, difficult to detect on ground.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Nocturnal
Activity: Eastern Whip-poor-wills are nocturnal birds with loud, distinctive voices. At night they fly slowly and silently, often wheeling around 180 degrees in between wing flaps. When nesting or roosting, whip-poor-wills spend the day sitting motionless, becoming active only at dusk. They can fly nearly vertically when chasing insects. They usually forage in the semidarkness of early morning and early evening, but on moonlit nights they chase moths and beetles all night long. Whip-poor-wills appear to time their nesting so that chicks will hatch about 10 days before the full moon, when the parents have more time (and moonlight) to catch food for them. They regurgitate insects for their nestlings, which may move from the nest site within days of hatching if a predator comes to call. At about eight days old, the young molt into highly camouflaged plumage and the female leaves them in the care of the male, often starting a new clutch of two eggs nearby within the territory. The male establishes and maintains his territory by calling along the perimeter and by chasing off intruders while making aggressive calls and hisses, with raised wings and mouth open. Males and females feign injury to lead predators away from the nest. Whip-poor-wills are generally solitary, forming loose flocks during migration.
Locomotion: Legs are relatively short; individuals walk with a waddling motion as they approach nest, after landing next to it. Flies slowly and noiselessly through or over canopy or near ground. Usually flaps wings several times, then glides, often wheeling around 180° when doing so. Can take nearly vertical flights in pursuit of a flying insect and then glide back to perch on a tree branch.
Communication and Perception: Although Eastern Whip-poor-wills are not technically songbirds, their whip-poor-will call functions as a song, since males consistently repeat this call from conspicuous perches during the breeding season. It commonly appears in regional songs and literature. A typical call accents the first and last syllable (with a tremulous middle syllable), and immediately starts in on the next call, creating a circular rhythm. Males and females both give a short, sharp quirt to contact their mates or express agitation when a predator is near the nest. They also make growls to ward off territorial intruders and hisses to ward off predators.
Home Range: Males establish territories at beginning of breeding season by actively driving off rivals; apparently maintained by active calling from regular stations on territory periphery. Overwintering territories in Florida were defended and average 1.8 ha in size, though territorial response to song playback is weak and actual size may be underestimated. Overwintering territories appear to be more widely spaced than breeding territories. A favored foraging tree may be more actively defended.
Degree of Sociality: Generally solitary and not known to roost together. However, during migration, loose flocks of up to 30 individuals have been flushed from cedar thickets.
Level of Aggression: Little information. Territorial bird will give chase to intruders. No known physical contacts in these skirmishes. When threatened or when intruder comes into a favored foraging tree on the overwintering grounds, individuals give Quirt Calls of higher intensity and at more frequent intervals, grading into frequent bouts of Growling and Hissing, often punctuated with wing-clapping. Territorial owner often fluffs up feathers, raises wings, and opens mouth in these encounters.
Migration: Medium-distance migrant. Eastern Whip-poor-wills migrate to Mexico and Central America for the winter, apparently traveling mostly over land to get there. In spring they arrive in breeding grounds between late March and mid-May. Since they are less vocal in autumn we know less about their southward migration routes and timing, but they seem to leave between early September and late November. They may form loose flocks when they migrate.

Predators:

Predators: Striped skunks, raccoons, coyotes, red foxes, and snakes prey on young and eggs. Dogs and cats are major threats. Blue Jays and Great Crested Flycatcher reported to prey upon unattended eggs.
Anti-Predator Defenses: Adults usually try to lead intruder away from nest by flopping down on ground several meters away from the nest in full view and feigning injury (Broken-Wing display); tail is widely spread and 1 wing droops lower than the other as individual hops away. When vegetation obscures predator's view, bird displays on a perch 2–4 m above ground.

Diet and Nutrition:

Adult Diet: Eastern Whip-poor-wills feed exclusively on insects, including moths, scarab beetles, click beetles, long-horned grasshoppers, stoneflies, ground beetles, carrion beetles, tiger moths, ants, bees, wasps, fireflies, long-horned beetles, measuringworm moths, owlet moths, weevils, and scavenger beetles. They start foraging 30 minutes after sunset and continue until it gets too dark to see their prey. At first light they resume feeding, stopping about 40 minutes before sunrise. When the moon is bright enough, they may hunt all night long. During cold, rainy weather they will not try to forage. Whip-poor-wills perch in trees (or sometimes on the ground) and make short sallies to snag insects up to 15 feet off the ground, or they may stay out on longer insect-catching flights. Their enormous mouths allow them to swallow insects up to two inches long. They sometimes search rotten logs and leaves for ants, caterpillars, beetles, worms, and other insects.
Juvenile Diet: ^^^^^^^
Special Adaptations for Getting Prey: Forages at dusk and dawn and during moonlit periods of night. Usually forages by sallying after insects from perches in trees, sometimes from the ground. May do more hawking (foraging during extended flights) than observed because of large distances traveled during foraging. May use vision to detect prey, by silhouetting or backlighting against sky.

Reproduction:
Mode of Reproduction: Monogamous
Mating System: Thought to be monogamous, based on a 6-yr study of a marked population.
Mating Season: May to August
Courtship: Female may solicit attention of male perched above her by strutting on ground with wings and tail outspread and head lowered. Female may rock side to side as she walks, circling first in one direction then the other, producing a guttural chuckle (soft popping sound) as she moves. Male may respond by approaching the female on ground (or along a tree branch or downed log), raising and lowering his body in a “sort of undulating” manner. Male may circle female and she, in turn, moves her body up and down and/or quivers her wings. If she flies away, male may or may not follow. In circling female, male may sidle up to her and touch her bill with his. When she moves away sideways in response to his sidling movement, he follows. Male may approach female using Tail-Flashing display in which bird hovers in place with tail fanned maximally and showing all of white on rectrices.
Territoriality: HOME RANGE
Mating: Copulation may occur on a branch or on the ground. Pre- and postcopulatory behavior has not been observed.
Nesting: The female Eastern Whip-poor-will lays her eggs directly on the leaf litter of the forest floor, usually on the north or northeast side of a small herb, shrub, or seedling that will shade the nest from the hot afternoon sun. Whip-poor-wills occasionally nest on bare ground, sand, or decayed wood. It’s not known whether males or females choose the site. Whip-poor-wills build no nest, though the weight of the incubating adult may eventually create a slight hollow in the leaf litter. Despite the absence of nest material, the eggs, nestlings, and adults are all so well camouflaged that they are extremely difficult to see.
Egg-Laying: Clutch Size: 2 eggs Number of Broods: 1-2 broods Egg Length: 1.1-1.3 in (2.7-3.2 cm) Egg Width: 0.8-0.9 in (2-2.2 cm) Incubation Period: 19-21 days Nestling Period: 3-8 days Egg Description: Cream-colored or grayish white, marbled with lavender-gray, yellowish-brown, or pale brown.
Hatching and Incubation/Gestation: Well developed and covered with orange-tan down, but with eyes closed.
Development: Chicks are semiprecocial. Length of hatchlings is approximately 54 mm, eyes closed and covered with dark, bluish-gray lids; bill horn colored with a tiny ivory-colored egg tooth near tip; feet are light flesh color; down is orange-buff, darkest along middle of crown, fading to uniform yellowish tan in several days.
Parental Care: Both parents brood, beginning right after hatching. Chicks can move themselves easily during nestling stage and can separate rapidly. When parents exchange places, arriving bird regurgitates insects to both young, putting its bill inside that of chick's. No observations of even older young taking food from a parent's bill.
Lifespan: Up to 15 years.

Conservation:
Official Federal Status: Near Threatened
Special Statuses in Individual States: NONE
Threats: Eastern Whip-poor-wills are still fairly common birds, but their numbers declined by almost 3% per year between 1966 and 2015, resulting in a cumulative decline of 75% during that time, according to the North American Breeding Bird Survey. In some areas, parts of their range seem to have become unoccupied. Partners in Flight estimates a global breeding population of 2 million with 95% living part of the year in the U.S., 5% breeding in Canada, and 43% wintering in Mexico. The species rates a 14 out of 20 on the Continental Concern Score. Eastern Whip-poor-will is on the 2016 State of North America's Birds' Watch List, which includes bird species that are most at risk of extinction without significant conservation

actions to reverse declines and reduce threats. It is also a U.S.-Canada Stewardship species. The main problem Whip-poor-wills face is the loss of open-understory forests. This can come from conversion to crops, pasture, urbanization, or fire suppression leading to dense understories. Some habitat may be being created as abandoned farmland reverts to forest. Because Whip-poor-wills often fly over roads or sit on roadways while foraging, they are also vulnerable to collisions with cars. Precise numbers for this nocturnal species are difficult to obtain through daytime surveys - people can contribute data via the Nightjar Survey Network.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. Eastern Whip-poor-wills lay their eggs in phase with the lunar cycle, so that they hatch on average 10 days before a full moon. When the moon is near full, the adults can forage the entire night and capture large quantities of insects to feed to their nestlings.
2. Eastern Whip-poor-will chicks move around as nestlings, making it difficult for predators to rob the nest. The parent may help by shoving a nestling aside with its foot, sometimes sending the young bird tumbling head over heels.
3. The male Eastern Whip-poor-will often will investigate intruders near the nest by hovering in place with his body nearly vertical and his tail spread wide, showing off the broad white tips of the tail feathers.
4. Eastern and Mexican Whip-poor-wills used to be considered one species, simply called the Whip-poor-will. But in 2011 they were split into two species based on differences in mitochondrial and nuclear DNA. Eastern Whip-poor-wills give faster, higher-pitched whip-poor-will calls and have more colorful eggs than their western counterparts.
5. The Eastern Whip-poor-will may locate insects by seeing the bugs' silhouettes against the sky. Its eyes have a reflective structure behind the retina that is probably an adaptation to low light conditions.
6. The oldest recorded Eastern Whip-poor-will was at least 4 years old when it was found in Maryland in 1959. It had been banded in the same state.

Notable Species: NONE