

AMERICAN BITTERN - BOTAURUS LENTIGINOSUS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Pelecaniformes Family: Ardeidae Genus: Botaurus
Species: B. lentiginosus

Habitat:

Biomes: American Bitterns breed mainly in freshwater marshes with tall vegetation. You can find them in wetlands of many sizes and kinds, typically less densely vegetated and shallower than wetlands used by the Least Bittern. In winter they move to areas where water bodies don't freeze, especially near the coast, where they occasionally use brackish marshes. Managed wetlands such as wildlife refuges seem to be important for wintering American Bitterns. Wintering birds may also forage in dry grasslands and other terrestrial habitats.

Distribution:

In US: It has a Nearctic distribution, breeding in Canada and the northern and central parts of the United States, and wintering in the U.S. Gulf Coast states, all of Florida into the Everglades, the Caribbean islands and parts of Central America.

In Other Countries: ^^^^^

Holistic Description: You'll need sharp eyes to catch sight of an American Bittern. This streaky, brown and buff heron can materialize among the reeds, and disappear as quickly, especially when striking a concealment pose with neck stretched and bill pointed skyward. These stealthy carnivores stand motionless amid tall marsh vegetation, or patiently stalk fish, frogs, and insects. They are at their most noticeable in spring, when the marshes resound with their odd booming calls that sounds like the gulps of a thirsty giant.

Species Richness: NO SUBSPECIES

Population Dynamic:

Evolution and Systematics:

Evolution: No subspecies are accepted today; however, fossils found in the Ichetucknee River in Florida, and originally described as a new form of heron (*Palaeophox colombiana*; McCoy, 1963) were later recognized to be a smaller, prehistoric subspecies of the American bittern which lived during the Late Pleistocene (Olson, 1974) and would thus be called *B. l. columbianus*. Its closest living relative is the pinnated bittern (*Botaurus pinnatus*) from Central and South America.

Systematics: Plumage does not vary geographically. Slight smoothly clinal variation in body size and of brightness and reddish tones of plumage, each of which increases from east to west. **Monotypic.**

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 23.6-33.5 in (60-85 cm) Weight: 13.1-17.6 oz (370-500 g)

Wingspan: 36.2 in (92 cm)

Coloration: American Bitterns are mostly warm brown, buff, and white. They are strongly streaked, especially on the neck, and they can be very hard to see against marsh vegetation. In flight the dark outer wings contrast sharply with the brown of the rest of the bird.

General Body Features: American Bitterns are medium-sized herons with thick, compact bodies. They have shorter legs and thicker necks than typical herons and a slightly hunched posture. The dagger-like bill is long, straight, and sharply pointed. The wings are broad but the wingtips are somewhat pointed.

Special Features of the Body: American bittern stands motionless with their bill pointed towards the sky. Their plumage provides them a camouflage in the marshes.

Special Features of the Head and Sensory Organs: Extremely sharp bill for spearing fish. Long neck for plunging into water

Dentition: Beak/Lamellae/Gizzard

Special Features of the Limbs and Digits: Long toes for walking on mud and grasping clumps of vegetation.

Any Special Internal Anatomy: Dense marshes present a challenge when it comes to being heard, however. American Bitterns overcome this challenge by having a very low-frequency call, which is audible at great distances in dense marsh vegetation. Once you've heard a bittern's call, you'll never forget it. It is very deep, and has three syllables – "oong-ka-choonk" – which are preceded by clicks and gulps

Sexual Dimorphisms: Sexes similar, except male slightly larger.

Differences Between Juvenile Stage and Adult: Juveniles lack black neck patches. Plumage does not change much seasonally.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: American Bitterns are solitary foragers, standing motionless or walking slowly with outspread toes in search of food. They hunt during the day and especially at dawn and dusk. Possibly the most famous aspect of bittern behavior is the stance it assumes when it perceives a threat. It points its bill skyward, elongates its body, and even sways with the breeze, all to blend in with its reedy surroundings. This pose is so ingrained that bitterns sometimes adopt it even when they're out in the open. American Bitterns don't do much socializing apart from migrating in small groups, mating, and facing off over territories—which can be dramatic. Competing males hunker down and approach each other while displaying white plumes between their shoulders. This can escalate into an airborne chase, with the combatants spiraling upwards, trying to stab each other with their bills. A male about to copulate lowers and pumps his head, and fluffs the white feathers that usually lie concealed beneath his wings. Copulation lasts about 15 seconds. Males and females have little to do with each other apart from copulation, although a female may nest near a "booming" male as a way of distracting predators from her brood.

Locomotion: Typically walks on ground in a slow, deliberate fashion. Feet lifted slowly, toes outspread. Head withdrawn when walking in open, outstretched when under cover. May run quickly with wings folded when in pursuit of prey or disturbed. Sometimes grasps with feet clumps of emergent vegetation or woody stems while moving through dense vegetation, but weight often breaks vegetation. Hurried, ungraceful, stiff. Beats wings rapidly and shallowly when taking off, more slowly and deeply when aloft. Neck usually retracted, but extended on short flights or while calling in flight.

Communication and Perception: To communicate with each other through dense vegetation American Bitterns use low-frequency calls, which carry farther than higher-pitched sounds. During breeding season the males make a bizarre, resonant three-syllable pump-er-lunk call with a liquid quality; females may respond with a similar but quieter sound. The male's call is preceded by clacking and gulping. To accomplish the pump-er-lunk sound, the male inflates his esophagus by way of almost violent body contortions—opening and closing his bill as if lunging for flying insects—and then uses the stored air to unleash his call. Repeated up to 10 times in succession, the call probably serves as both a territorial signal and an advertisement for mates.

Home Range: NONE

Degree of Sociality: Largely asocial, as far as known. Minimal pair bonds between sexes, and foraging entirely solitary. May migrate in small groups. Little information on interactions with members of other species. Assumes bittern stance when alarmed by larger animals such as humans or larger herons; points bill skyward, stretches body vertically, compresses body feathers, and sways with breeze.

Level of Aggression: Ground encounters between territorial males often involve an elaborate defensive display. Males approach each other in a defensive crouch while showing white plumes between shoulders. Aerial chases often ensue, which may involve 2 or 3 males flying in tight, ascending spirals, trying to stab each other.

Migration: Resident to medium-distance migrant. Migratory in northern areas where winter temperatures are below freezing, but may reside year-round in milder, southern parts of the range.

Predators:

Predators: Red Fox

Anti-Predator Defenses: NONE

Diet and Nutrition:

Adult Diet: American Bitterns eat insects, crustaceans, fish, amphibians, reptiles, and small mammals. Their most common insect prey include water striders, giant water bugs, water beetles, water scorpions, grasshoppers, and especially dragonflies, which the birds sometimes manage to capture in midair. Frequently consumed fish include eels, catfish, pickerel, sunfish, suckers, perch, killifish, and sticklebacks. Rayfish, crabs, frogs, tadpoles, salamanders, garter snakes, water snakes, and meadow voles round out the diet. American Bitterns usually forage in dim light, at shorelines and the fringes of vegetated areas. A foraging bird may sway its neck, perhaps to see past glare from the surface of shallow water, or to warm up its muscles for a quick strike. A characteristic strategy is to stand stock-still with bill held horizontal, gradually aiming the bill downward with nearly imperceptible movements—until, with a sudden darting motion, the bittern seizes the prey in its bill, bites or shakes it to death, and swallows it head first. Indigestible parts of prey animals are regurgitated as pellets.

Juvenile Diet: ^^^^^

Special Adaptations for Getting Prey: Prey grabbed by bill, killed by biting or shaking, and swallowed head-first. Foraging birds may remove dangerous dorsal and pectoral spines of fish prior to swallowing. A solitary feeder, this species relies on stealth more than pursuit to capture prey. Its coloration, particularly ventral stripes, provides camouflage in dense, vertical marsh vegetation, complements its inactive feeding repertoire, and permits solitary foraging.

Reproduction:

Mode of Reproduction: Monogamous and possibly polygynous.

Mating System: Monogamous and possibly polygynous. Brewster's observation of 3 nests in the territory of 1 male, and the proximity of some nests, suggests polygyny, which is common in the Eurasian Bittern.

Mating Season: February to April

Courtship: NONE

Territoriality: HOME RANGE

Mating: Intersexual interactions probably limited to copulation, although courtship feeding may occur, as reported for the Eurasian Bittern. Nesting near conspicuous, "booming" male, however, might distract predators from females. Copulation not confined to nest as in other ardeids, but does occur on nesting territory. Before copulation, male holds head low, exhibits "retching" movements, and fluffs white feathers usually concealed beneath wing. Male trails female, places foot on her back, mounts, and spreads wings over female, and nibbles at her neck; copulation lasts about 15 s

Nesting: American Bitterns usually build their nests among thick stands of cattails, bulrushes, and sedges that grow out of shallow water. Less commonly, they nest on dry ground, in grassland areas dense with tall herbaceous plants. Limited research suggests that the females choose the nest sites. The female American Bittern gathers materials, builds the nest, incubates eggs, broods, and feeds chicks with no apparent assistance from the male. She builds a mound or platform about 3.5 to 8 inches above the water's surface, using dead, dry reeds, sedges, cattails, or other vegetation, and lines the nest with fine grasses. The nest's outside diameter ranges from about 10 to 15 inches.

Egg-Laying: Clutch Size: 2-7 eggs Incubation Period: 24-28 days Nestling Period: 7-14 days Egg Description: Beige-brown to olive; unmarked.

Hatching and Incubation/Gestation: Helpless, covered with yellow-green down; pinkish-tan black-tipped bill; pink mouth, light olive eyes. Altricial and nidicolous at hatching, covered with yellowish olive down at hatching. Bill flesh colored and black-tipped, mouth pink, and eyes light olive.

Development: NONE

Parental Care: Brooding and feeding apparently by female only. Chicks given regurgitated, partly digested fish, frogs, snakes, crayfish, and mice. Diet of young Eurasian Bitterns principally tadpoles. Nest often fouled by food debris and excrement.

Lifespan: Around 8 years.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: American Bitterns are fairly common, but their numbers are declining in some regions of the U.S. and Canada, according according to the North American Breeding Bird Survey. The survey estimates a decline in U.S. populations by about 43% between 1966 and 2015. The species rates a 12 out of 20 on the Continental Concern Score, and is not on the 2016 State of the Birds Watch List. These reclusive birds are difficult to survey accurately; regions of the Northeast and Upper Midwest have declined significantly, although estimates of decline for the continent as a whole are small. Nevertheless, they are designated as high concern by Waterbird Conservation of the Americas. With its entire life cycle dependent on wetlands, the bittern's fate is inextricably linked to that of its frequently degraded or developed habitat. More than half the original wetlands in the lower 48 states have already been destroyed, and inland freshwater wetlands—the American Bittern's most important nesting and wintering grounds—are among the most threatened. Coupled declines of the bittern and its habitat were recorded in Massachusetts as early as the 1890s. The American Bittern was listed in 1982 and 1987 as a Nongame Species of Management Concern by the U.S. Fish and Wildlife Service, with listed causes including habitat loss, human disturbance, and exposure to pesticides and pollutants. Marshland invasion by exotic plant species may affect habitat suitability, as can siltation, overgrowth of plants, and oxygen depletion due to contamination with nutrients, and other forms of pollution that affect the birds or their prey.

Conservation Efforts: ^^^^^^

Extra Facts:

1. American Bitterns are heard more often than seen. Their booming, clacking, gulping calls have earned them some colorful nicknames, including "stake-driver," "thunder-pumper," "water-belcher," and "mire-drum."
2. When field scientists want to trap American Bitterns for study, they take advantage of the males' aggressive territoriality. Knowing that the birds will respond to other males' calls from as far as 1,600 feet away, or to the image of another male, the researchers use recorded calls and mirrors to draw the birds in.
3. The American Bittern's yellow eyes can focus downward, giving the bird's face a comically startled, cross-eyed appearance. This visual orientation presumably enhances the bird's ability to spot and capture prey. The eyes turn orange during breeding season.

4. The oldest recorded American Bittern was over 8 years 4 months old, when it was found in Ontario where it had been banded as an adult 8 years previously.