

BLUE JAY - CYANOCITTA CRISTATA

There is a pronounced crest on the head, a crown of feathers, which may be raised or lowered according to the bird's mood. When excited or aggressive, the crest will be fully raised. When frightened, the crest bristles outwards, brushlike. When the bird is feeding among other jays or resting, the crest is flattened on the head. The blue jay is a noisy, bold, and aggressive passerine. It is a moderately slow flier (roughly 32–40 km/h (20–25 mph)) when unprovoked. It flies with body and tail held level, with slow wing beats. Due to its slow flying speeds, this species makes easy prey for hawks and owls when flying in open areas.

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Corvidae Genus: Cyanocitta Species: C. cristata

Habitat:

Biomes: Blue Jays are found in all kinds of forests but especially near oak trees; they're more abundant near forest edges than in deep forest. They're common in urban and suburban areas, especially where oaks or bird feeders are found.

Distribution:

In US: The blue jay occurs from southern Canada (including the southern areas of provinces from Alberta eastward to Quebec and throughout the Atlantic provinces) and throughout the eastern and central United States south to Florida and northeastern Texas. It resides through most of eastern and central United States, although western populations may be migratory. Resident populations are also found in Newfoundland, Canada, while breeding populations can be found across southern Canada.

In Other Countries: NONE

Holistic Description: This common, large songbird is familiar to many people, with its perky crest; blue, white, and black plumage; and noisy calls. Blue Jays are known for their intelligence and complex social systems with tight family bonds. Their fondness for acorns is credited with helping spread oak trees after the last glacial period.

Species Richness: 4 SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: Known from very late Pliocene of Florida, late Pleistocene of Virginia, Florida, and Tennessee.

Systematics: Wing length increases generally from Florida to north and northwest; birds along major river valleys are smaller, whereas those in mountain regions are larger than expected for a given latitude. Mass is greater in the north than in the south. Coloration varies clinically from pale in the far south.

Number of Species: 4 SUBSPECIES

Number of Genera: 4 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 9.8-11.8 in (25-30 cm) Weight: 2.5-3.5 oz (70-100 g)

Wingspan: 13.4-16.9 in (34-43 cm)

Coloration: White or light gray underneath, various shades of blue, black, and white above.

General Body Features: Large crested songbird with broad, rounded tail. Blue Jays are smaller than crows, larger than robins.

Special Features of the Body: They are warm-blooded vertebrate animals that have wings, feathers, a beak, no teeth, strong, hollow bones, a skeleton in which many bones are fused together or are absent, powerful flight muscles, and an extremely efficient, one-way breathing system.

Special Features of the Head and Sensory Organs: The beak is short, stout, and cone shaped. Meaning that it can crack nut and shells with its beak.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Thermal insulation, soft down feathers that grow close to the skin, keep birds from getting too cold or too hot.

Any Special Internal Anatomy: The Blue Jay is one of the few birds that will cache food, saving it to eat at another time. Blue Jays are known for being aggressive and noisy, which helps to drive other birds away from their territories.

Sexual Dimorphisms: Males and females are almost identical, but the male is slightly larger. MALES ARE 3% LARGER.

Differences Between Juvenile Stage and Adult: Juveniles similar to adults except blue areas slightly grayer, and black areas slightly browner.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: CHECK BOTTOM, LOTS OF INFORMATION

Locomotion: Walks short distances infrequently, usually only when substrate is free of impeding obstacles. Walking often interspersed with hops. Rapid hopping among branches of tree gives appearance of “bouncing” from perch to perch. When hopping in one direction along horizontal branch, usually “pivots” 90–120° in alternate directions with successive hops. Occasionally sidles short distances, especially during courtship, either by hopping or walking laterally along branch. Flight (1) level, with steady and shallow wing beats; (2) undulating, with a few wing-strokes followed by temporary wing folding, causing gradual loss of altitude (medialink); (3) quick, irregular maneuvers among tree branches or shrubs; (4) gliding with wings extended and tail fanned as bird approaches landing; (5) hovering with rapid wing beats as jay forages for objects on tree trunks, eaves of building, or from air; (6) controlled, fluttering, spiral fall with wings folded and head pointed downward when jay drops food object from above ground. Downs observed a juvenile swim about 7.5 m after it had fallen into a pond. The bird propelled itself by pushing the water with its wings and feet, and water often washed over its head. It climbed on land with difficulty, obviously exhausted.

Communication and Perception: The Blue Jay vocalization most often considered a song is the “whisper song,” a soft, quiet conglomeration of clicks, chucks, whirrs, whines, liquid notes, and elements of other calls; a singing bout may last longer than 2 minutes. Blue Jays make a large variety of calls. The most often heard is a loud jeer, Also makes clear whistled notes and gurgling sounds. Blue Jays frequently mimic hawks, especially Red-shouldered Hawks.

Home Range: During breeding season, aggressive interactions between pairs subtle and unpredictable. Does not maintain exclusive, multipurpose territories. Although encounters within a given set of resident breeding pairs seem to be spatially restricted, defense of consistent or extensive boundaries is nonexistent. “Territoriality” in Blue Jays may be better conceived as dominance contests that are repeated between neighbors, rather than as defense of discrete space.

Degree of Sociality: Basic social unit is the mated pair, accompanied by dependent offspring after fledging. Does not defend classical territories, and home ranges of mated pairs overlap greatly. Does not breed cooperatively. May be gregarious during nonbreeding season, but stability or cohesiveness of aggregations of Blue Jays is poorly understood and probably varies with season. “Flocks” of up to 30 jays at nut trees in fall likely result from jays independently foraging at a productive tree in a preferred phenological state, rather than from jays traveling and foraging in cohesive or stable flocks.

Level of Aggression: Most interactions consist of one pair flying toward and landing on branch near “intruding” pair. Members of pairs perch within 0.5 m of each other; pairs often perch 1–3 m apart. Both members of each pair give soft kuet calls during interaction. Usually intruding pair departs soon after “defending” pair lands in tree. Occasionally (presumably) neighboring males, less frequently both members of each pair, engage in “cock-fighting-like” contests, with both individuals leaping from branch, each apparently attempting to hover while seemingly attacking opponent with feet and perhaps beak. Sometimes such bouts continue until both birds flutter to ground, during which time birds may be interlocked, each bird grabbing the other's leg. **Males are dominant to and more aggressive than females throughout annual cycle. Females become more, and males become less, aggressive immediately before breeding season.**

Migration: Resident or short distance migrant.

Predators:

Predators: Cooper's Hawk, Northern Goshawk, Broad-winged Hawk, Red-tailed Hawk, Peregrine Falcon, Eastern Screech-Owl, Sharp-shinned Hawks, Gray Squirrel, Fox Squirrel, Eastern Coachwhip, Swallow-tailed Kite, American Crow, Fish Crow, Blue Jays, Squirrels, Rat Snakes, Racer, Raccoons, Opossums.

Anti-Predator Defenses: Mobs hawks, large snakes, raccoons, and especially large owls and domestic cats. Squirrels and humans approaching within several meters of an active nest are vigorously chased by both members of a breeding pair when present. Females leave nest to chase intruding squirrels. Squirrels farther from nest, and those encountered during the nonbreeding season, usually not harassed

Diet and Nutrition:

Adult Diet: Blue Jays glean insects and take nuts and seeds in trees, shrubs, and on the ground; they also eat grains. They also take dead and injured small vertebrates. Blue Jays sometimes raid nests for eggs and nestlings, and sometimes pick up dead or dying adult birds. Stomach contents over the year are about 22 percent insect. Acorns, nuts, fruits, and grains made up almost the entire remainder. Of 530 stomachs examined, traces of bird eggs and nestlings were found in only 6 stomachs, although a search was specially made for every possible trace of bird remains. Blue Jays hold food items in feet while pecking them open. They store food in caches to eat later.

Juvenile Diet: ^^^^^^

Special Adaptations for Getting Prey: Gleans seeds from the ground, and takes seeds and fruits from trees and shrubs. Often struggles to break green acorns from twigs, sometimes releasing nut and repositioning body before successfully plucking it. Retrieves cached acorns from the ground by digging with its beak. Occasionally predated wasp larvae. Gleans insects from

trees, shrubs, and ground; hawks insects from the air. In Florida, seems particularly fond of cicadas (Hemiptera) and dragonflies (Odonata).

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Long-term social monogamy. Unknown whether either sex uses a mixed reproductive strategy.

Mating Season: March to July

Courtship: Male often feeds female prior to nesting, although does not provide all her food until incubation. Mated individuals often “nudge”, pass twigs, and “kiss,” the latter presumably without exchanging food. Courtship parties in which several males display to and pursue one or a few females. They suggested the last male to continue the pursuit “wins” the female. However, these displays probably related to conflicts over breeding space rather than mates.

Territoriality: HOME RANGE

Mating: Female sidles up to male on branch in tree or shrub or on fallen branches or logs near ground. Female begins to crouch, with head tucked close to body and back horizontal. Tail of female begins quivering and rectrices are spread; this quivering moves anteriorly through body until wings begin lightly flicking and then quivering. Copulation lasts about 2–4 s. Male flaps wings during copulation, presumably to maintain balance. No postcopulatory displays observed. Other Blue Jays often present within a few meters of a copulating pair. These birds usually seem oblivious to the act, but on occasion copulation may be disrupted by an observing jay.

Nest Placement: Blue Jays build their nests in the crotch or thick outer branches of a deciduous or coniferous tree, usually 10-25 feet above the ground. Male and female both gather materials and build the nest, but on average male does more gathering and female more building. Twigs used in outer part of nest are usually taken from live trees, and birds often struggle to break them off. Birds may fly great distances to obtain rootlets from recently dug ditches, fresh graves in cemeteries, and newly fallen trees. Jays may abandon their nest after detecting a nearby predator.

Nest Description: Open cup of twigs, grass, and sometimes mud, lined with rootlets.

Egg-Laying: Clutch Size: 2-7 eggs Number of Broods: 1 brood Egg Length: 1.0-1.3 in (2.5-3.3 cm) Egg Width: 0.7-0.9 in (1.8-2.2 cm) Incubation Period: 17-18 days Nestling Period: 17-21 days Egg Description: Bluish or light brown with brownish spots.

Hatching and Incubation/Gestation: Naked and helpless, eyes closed, mouth lining red. ALTRICIAL

Development: Pink tinged with gray above; pink with yellowish overtones below. Naked; feather tracts may be detected, but dark spots indicating individual developing feathers not present. Eyes closed; eyeballs show through skin. Mass of fresh-hatched jays from New York around 5.5 g; body length averaged 51 mm. Able to raise head to rim of nest within 3 h.

Parental Care: Female broods for about first 8–12 d of nestling period. During this time she and nestlings are fed by mate. Male provides virtually all food for young nestlings and brooding female. Midway through nestling period, female begins to forage and provide food for young. Near end of nestling period, both parents often approach nest together to deliver food.

Lifespan: Around 7 years.

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: Blue Jay populations decreased by about 28% between 1966 and 2015, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 13 million, with 87% living in the U.S. and 13% living in Canada. The species rates an 8 out of 20 on the Continental Concern Score and is not on the 2016 State of North America's Birds' Watch List. The most frequent cause of death associated with humans comes from attacks by cats and dogs.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. Thousands of Blue Jays migrate in flocks along the Great Lakes and Atlantic coasts, but much about their migration remains a mystery. Some are present throughout winter in all parts of their range. Young jays may be more likely to migrate than adults, but many adults also migrate. Some individual jays migrate south one year, stay north the next winter, and then migrate south again the next year. No one has worked out why they migrate when they do.
2. Blue Jays are known to take and eat eggs and nestlings of other birds, but we don't know how common this is. In an extensive study of Blue Jay feeding habits, only 1% of jays had evidence of eggs or birds in their stomachs. Most of their diet was composed of insects and nuts.
3. The Blue Jay frequently mimics the calls of hawks, especially the Red-shouldered Hawk. These calls may provide information to other jays that a hawk is around, or may be used to deceive other species into believing a hawk is present.

4. Tool use has never been reported for wild Blue Jays, but captive Blue Jays used strips of newspaper to rake in food pellets from outside their cages.
5. Blue Jays lower their crests when they are feeding peacefully with family and flock members or tending to nestlings.
6. At feeders in Florida, Red-headed Woodpeckers, Florida Scrub-Jays, Common Grackles, and gray squirrels strongly dominate Blue Jays, often preventing them from obtaining food.
7. The pigment in Blue Jay feathers is melanin, which is brown. The blue color is caused by scattering light through modified cells on the surface of the feather barbs.
8. The black bridle across the face, nape, and throat varies extensively and may help Blue Jays recognize one another.
9. The oldest known wild, banded Blue Jay was at least 26 years, 11 months old when it was found dead after being caught in fishing gear. It had been banded in the Newfoundland/Labrador/St. Pierre et Miquelon area in 1989 and was found there in 2016.

Notable Species:

1. *Cyanocitta cristata bromia*: Northern blue jay -Canada and northern United States. The largest subspecies, with fairly dull plumage. Blue is rather pale.
2. *Cyanocitta cristata cristata*: Coastal blue jay - Coastal USA from North Carolina to Texas, except southern Florida. Mid-sized and vivid blue.
3. *Cyanocitta cristata cyanotephra*: Interior blue jay - Inland USA, intergrading with *C. c. bromia* to the north. Mid-sized, quite dark blue on mantle contrasting cleanly with very white underside.
4. *Cyanocitta cristata semplei*: Florida blue jay - Southern Florida. The smallest subspecies, much like *C. c. bromia* in color.

Random Behavioral Information: This common, large songbird is familiar to many people, with its perky crest; blue, white, gray, and black plumage; and noisy calls. Blue Jays are known for their intelligence and complex social systems, and have tight family bonds. They often mate for life, remaining with their social mate throughout the year. Only the female incubates; her mate provides all her food during incubation. For the first 8–12 days after the nestlings hatch, the female broods them and the male provides food for his mate and the nestlings. Female shares food gathering after this time, but male continues to provide more food than female. Some individual nestlings begin to wander as far as 15 feet from the nest 1-3 days before the brood fledges. Even when these birds beg loudly, parents may not feed them until they return to the nest; this is the stage at which many people find an “abandoned baby jay.” If it can be restored to or near the nest, the parents will resume feeding it. The brood usually leaves the nest together usually when they are 17-21 days old. When young jays leave the nest before then, it may be because of disturbance. The jays are usually farther than 75 feet from the nest by the end of the second day out of the nest. Young remain with and are fed by their parents for at least a month, and sometimes two months. There is apparently a lot of individual variation in how quickly young become independent. Blue Jays communicate with one another both vocally and with “body language,” using their crest. When incubating, feeding nestlings, or associating with mate, family, or flock mates, the crest is held down; the lower the crest, the lower the bird’s aggression level. The higher the crest, the higher the bird’s aggression level; when a Blue Jay squawks, the crest is virtually always held up. Blue Jays have a wide variety of vocalizations, with an immense “vocabulary.” Blue Jays are also excellent mimics. Captive Blue Jays sometimes learn to imitate human speech and meowing cats. In the wild, they often mimic Red-shouldered and Red-tailed hawks, and sometimes other species. Blue Jays are disliked by many people for their aggressive ways, but they are far less aggressive than many other species. In one Florida study, Red-bellied Woodpeckers, Red-headed Woodpeckers, Florida Scrub-Jays, Common Grackles, and gray squirrels strongly dominates Blue Jays at feeders, often preventing them from obtaining food, and Northern Bobwhites, Mourning Doves, White-winged Doves, Northern Mockingbirds, and Northern Cardinals occasionally dominated them as well. Sometimes Blue Jays mimic hawks when approaching feeders. This may deceive other birds into scattering, allowing the Blue Jay to take over the feeder, but most birds quickly return after the jay starts feeding. Blue Jays carry food in their throat and upper esophagus—an area often called a “gular pouch.” They may store 2-3 acorns in the pouch, another one in their mouth, and one more in the tip of the bill. In this way they can carry off 5 acorns at a time to store for later feeding. Six birds with radio transmitters each cached 3,000-5,000 acorns one autumn. Their fondness for acorns and their accuracy in selecting and burying acorns that have not been infested with weevils are credited with spreading oak trees after the last glacial period. Despite being common, conspicuous birds that have been studied by many researchers, much about Blue Jays remains a mystery. This is the only New World jay that migrates north and south, and large flocks are observed flying over many hawkwatch spots, along shorelines, and at other migration overlooks, but their migration is very poorly understood. Some individuals remain year-round throughout their entire range, and at least some individuals depart during spring throughout their entire range except peninsular Florida. Migrating flocks can include adults

and young birds, and recent analyses of movements of banded jays indicate that there is no age difference between jays that migrate and jays that remain resident. The proportion of jays that migrate is probably less than 20 percent.