

# ROSE-BREASTED GROSBEAK - PHEUCTICUS LUDOVICIANUS

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Cardinalidae Genus: Pheucticus Species: P. ludovicianus

## **Habitat:**

**Biomes:** Rose-breasted Grosbeaks breed in moist deciduous forests, deciduous-coniferous forests, thickets, and semi-open habitats across the northeastern United States, ranging into southeastern and central Canada. They gravitate toward second-growth woods, suburban areas, parks, gardens, and orchards, as well as shrubby forest edges next to streams, ponds, marshes, roads, or pastures. During migration, grosbeaks stop in a wide variety of habitats including primary and secondary forest, wet and dry forest, shrub thickets, pine woods, shrubby dune ridges, scrub, urban areas, and wetlands. They spend the winter in forests and semi-open habitats in Central and South America, often in middle elevations and highlands (up to about 11,000 feet in Colombia).

## **Distribution:**

**In US:** The rose-breasted grosbeak's breeding habitat is open deciduous woods across most of Canada and the northeastern United States. In particular, the northern birds migrate south through the United States east of the Rocky Mountains, to winter from central-southern Mexico through Central America and the Caribbean to Peru and Venezuela.

**In Other Countries:** ^^^^^

**Holistic Description:** Bursting with black, white, and rose-red, male Rose-breasted Grosbeaks are like an exclamation mark at your bird feeder or in your binoculars. Females and immature are streaked brown and white with a bold face pattern and enormous bill. Look for these birds in forest edges and woodlands. Listen, too, for their distinctive voices. They sound like American Robins, but listen for an extra sweetness, as if the bird had operatic training; they also make a sharp chink like the squeak of a sneaker.

**Species Richness:** NO SUBSPECIES

**Population Dynamic:** Fires are necessary to maintain many kinds of grassland. Fire suppression in the late-20th century allowed forests to spread on the Great Plains into areas where recurring fires would otherwise have maintained grassland. This allowed hybridization with the black-headed grosbeak subspecies P. melanocephalus papago. Range expansions also seem to have occurred elsewhere, for example in northern Ohio, where it bred rarely if at all in the 1900s (decade), but it is by no means an uncommon breeder today.

## **Evolution and Systematics:**

**Evolution:** NONE

**Systematics:** Little geographic variation. Northern and eastern breeding individuals that migrate longer distances have on average slightly longer wings than those from midcentral states. No subspecies recognized.

**Number of Species:** NO SUBSPECIES

**Number of Genera:** NO SUBSPECIES

## **Physical Characteristics:**

**Size and Length:** Length: 7.1-8.3 in (18-21 cm) Weight: 1.4-1.7 oz (39-49 g)

**Wingspan:** 11.4-13.0 in (29-33 cm)

**Coloration:** Adult males are black-and-white birds with a brilliant red chevron extending from the black throat down the middle of the breast. Females and immature are brown and heavily streaked, with a bold whitish stripe over the eye. Males flash pink-red under the wings; females flash yellowish. Both sexes show white patches in the wings and tail.

**General Body Features:** Rose-breasted Grosbeaks are stocky, medium-sized songbirds with very large triangular bills. They are broad-chested, with a short neck and a medium-length, squared tail.

**Special Features of the Body:** The female birds are drab and dull colored, an adaptation that allows them to hide amidst the woods and branches while incubating eggs in the nest.

**Special Features of the Head and Sensory Organs:** NONE

**Dentition:** BEAK/LAMELLAE/GIZZARD

**Special Features of the Limbs and Digits:** In the male birds, the white ramp and markings on the lateral sides of the body enhance their aggressive looks, especially when they spread their wings to ward off intruders and predators.

**Any Special Internal Anatomy:** NONE

**Sexual Dimorphisms:** Very little sexual dimorphism in size is seen; females were found to be marginally smaller in standard measurements, but in some seasons were marginally heavier than males when banded in Pennsylvania. At all ages and in both sexes, the beak is dusky horn-colored, and the feet and eyes are dark. The adult male in breeding plumage has a black head, wings, back, and tail, and a bright rose-red patch on its breast; the wings have two white patches and rose-red linings. The

adult female has dark grey-brown upperparts – darker on wings and tail –, a white supercilium, a buff stripe along the top of the head, and black-streaked white underparts, which except in the center of the belly have a buff tinge.

Differences Between Juvenile Stage and Adult: Upperparts including sides of head are olive-brown; feathers with cinnamon and whitish edgings. Wings and tail darker; base of primaries white; rectrices faintly buff-tipped. Greater- and median coverts edged with buff/cinnamon forming 2 cinnamon wing-bars. Broad supercilium and central crown-stripe white with a buffy tinge. Underparts white to buffy, usually a few olive-brown streaks on sides of the chin and throat.

#### **Behavior:**

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: Males sing to establish territories and attract females. When a female approaches, the male rebuffs her for a day or two before accepting her as a mate. Once mated, Rose-breasted Grosbeaks appear to be monogamous. A breeding pair will tolerate migrant males in their territory if the intruder is silent. Otherwise, territorial males ward off male intruders by spreading their tails, flicking their wings, raising their crown feathers, and often chasing the intruder away. Males respond strongly to recordings of Rose-breasted Grosbeak songs and Black-headed Grosbeak songs, but they attack mounted specimens of their own species 5 times more often than they attack specimens of the other species. Females drive off other females that approach their mate. Both male and female Rose-breasted Grosbeaks share incubation, brooding, and feeding duties at the nest. Nest predators include Blue Jays and Common Grackles—which breeding grosbeaks will mob noisily and aggressively near the nest—along with red and gray squirrels. Adult grosbeaks are hunted by predators such as Cooper's Hawks and Sharp-shinned Hawks. During migration and winter Rose-breasted Grosbeaks are found individually, in pairs, or in loose flocks, sometimes with other species.

Locomotion: When on ground or along branch, hopping gait; does not walk. Flight strong, with wing beats in bursts, which result in periodic accelerations and undulations.

Communication and Perception: Both males and females sing a rich, sweetly whistled song. The pattern is similar to an American Robin's song, composed of many notes that alternately rise and fall. Most people describe the grosbeak's song as sweeter and more melodious than a robin's. The song can last 6 seconds and consist of 20 notes or syllables. Rose-breasted Grosbeaks are one of few bird species reported to sing while sitting on the nest. The female sings when nest-building, incubating, and brooding. The male often sings quietly from the nest and loudly from other high perches.

Home Range: Song is most important display in establishing and maintaining a territory. Migrant males, stopping in already established and defended territories, are tolerated if they remain silent; occasionally utter low, incomplete fragments of song.

Degree of Sociality: Breeding pairs intolerant of conspecifics. Unmated birds solitary during breeding season. More gregarious during migration and on wintering grounds, where they are observed singly, in pairs or in loose, conspecific flocks. 0.34 to 1.3 ha. During territorial chases, males typically 30-80 cm apart.

Level of Aggression: Agonistic behavior generally similar to that of other passerines, with differences in detail. When startled, Rose-breasted Grosbeak freezes, sometimes flattens plumage and crouches on perch; position held for  $\geq 5$  s. Tail-spreading, wing-flicking, and raising of crown feathers characterize physical interactions, often leading to attack by male. Attack by female infrequent. Most often, attack followed methodical hopping approach rather than an in-flight attack. Attacks rarely physical; most encounters involve chasing and fleeing.

Migration: Long-distance migrant. Rose-breasted Grosbeaks fly from North American breeding grounds to Central and northern South America. Most of them fly across the Gulf of Mexico in a single night, although some migrate over land around the Gulf. Grosbeaks that winter in Panama and northern South America tend to be from eastern parts of the breeding range, while those wintering in Mexico and Central America tend to be from western parts.

#### **Predators:**

Predators: Natural predators of eggs and nestlings include blue jays, common grackles, raccoons, gray and red squirrels. Confirmed predators of adults include both Cooper's and sharp-shinned hawks as well as northern harriers, eastern screech-owls and short-eared owls.

Anti-Predator Defenses: Blue Jays within a territory and Common Grackles near a nest were mobbed by calling adults; both sexes mobbed grackles. Aggressive response by both sexes to researchers at nest, including noisy alarm calls, raised crest, and physical attacks.

#### **Diet and Nutrition:**

Adult Diet: During the breeding season Rose-breasted Grosbeaks eat a lot of insects, as well as wild fruit and seeds. They mostly feed on berries during fall migration, and on their wintering grounds they have a varied diet of invertebrates and plant material. Grosbeaks usually glean their food from dense foliage and branches. They also snag food while hovering, and sometimes fly out to hawk for insects in midair. The animal portion of their diet includes beetles, bees, ants, sawflies, bugs, butterflies, and moths. Their vegetarian fare includes elderberries, blackberries, raspberries, mulberries, juneberries, and

seeds of smartweed, pigweed, foxtail, milkweed, plus sunflower seeds, garden peas, oats, wheat, tree flowers, tree buds, and cultivated fruit.

*Juvenile Diet:* Diet of nestlings approximately three-quarters animal matter. Most common food item was insect larvae; seeds and other insects made up much smaller proportion of diet. Insects often crushed before being fed to nestlings.

*Special Adaptations for Getting Prey:* Feeding bird gleans from foliage; also while hovering in flight, from branches and tree trunks; occasionally hawks for insects. Sexes differ in use of foraging substrates and maneuvers: female more frequently leaf-gleans or gleans while hovering and sometimes forages on ground; male more frequently gleans from twigs, branches, and trunks.

### **Reproduction:**

*Mode of Reproduction:* Monogamous

*Mating System:* Apparently monogamous; no polygamy reported, but genetic tests not conducted. Ratio of males to females during spring migration in New Hampshire in sample of 68 adults and immature was 1.34:1.

*Mating Season:* March to Early-June

*Courtship:* Two types of courtship display by males recorded prior to egg-laying: Rapid Warble Flight consists of straight or circling slow flight with tail spread and small-amplitude wing movements, accompanied by Rapid Warble song. Wings-out Fluff given by male, often near nest, when female is within 3-4 m. Wings drooped and held out to sides, tail strongly depressed and fully spread, showing white rump and tips of outer rectrices. Carpals are flicked, showing red underwing coverts, and primaries splayed and closed rapidly, displaying white primary-bar. Accompanied by Rapid Warble song and weaving motion of head and body and hops or steps either in place or along perch. Female then typically chases male with open bill; male responds by hopping away and holding head far back, often with nape touching back feathers, fully displaying red breast feathers. Male will return to female if she doesn't follow closely.

*Territoriality:* HOME RANGE

*Mating:* NONE

*Nest Placement:* The male may help the female choose a nest site, which is usually in a vertical fork or crotch of a sapling. Nesting plants include maple, red-berried elder, balsam fir, eastern hemlock, and spruce, and may be in wet or dry areas. They are usually in forest openings, overgrown field edges, old pastures, shrubby roads, railroad rights-of-way, gardens, parks, or residential areas. The male and female each may test the nest site's suitability by settling into it and turning around several times.

*Nest Description:* The male and female build the nest together in 4-9 days, working from dawn to dusk. They construct a loose, open cup of coarse sticks, twigs, grasses, weed stems, decayed leaves, or straw, and line it with fine twigs, rootlets, or hair. Sometimes the nest is so flimsy that you can see the outline of the eggs through it. The birds' habit of using forked twigs may help hold the nest together despite its thin construction. The finished nest measures about 3.5-9 inches across and 1.5-5 inches high on the outside, while the inner cup is about 3-6 inches across and 1-3.5 inches deep.

*Egg-Laying:* Clutch Size: 1-5 eggs Number of Broods: 1-2 broods Egg Length: 0.8-1.1 in (2-2.7 cm) Egg Width: 0.6-0.8 in (1.6-1.9 cm) Incubation Period: 11-14 days Nestling Period: 9-12 days Egg Description: Pale green to blue, with reddish brown or purplish speckles.

*Hatching and Incubation/Gestation:* Helpless, with sparse white down and closed eyes.

*Development:* Altricial, eyes closed, sparse white down on capital, dorsal, crural, femoral, and alular tracts. Average body mass 4.5 g, length 5 cm.

*Parental Care:* During the day, brooding shared about equally between male and female.

*Lifespan:* Its average maximum lifespan in the wild is 7.3 years.

### **Conservation:**

*Official Federal Status:* Least Concern

*Special Statuses in Individual States:* NONE

*Threats:* Rose-breasted Grosbeaks are common forest birds but their populations experienced a slow decline from 1966 to 2015, resulting in a cumulative loss of about 35% during that time, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 4.1 million, with 46% spending some part of the year in the U.S., 21% in Mexico, and 54% breeding in Canada. The species rates an 11 out of 20 on the Continental Concern Score. Rose-breasted Grosbeak is not on the 2016 State of North America's Birds' Watch List. These birds nest in saplings, so their numbers could be dropping as forests start to mature over the eastern United States. Because they look and sound pretty, Rose-breasted Grosbeaks are commonly trapped for sale as cage birds in their wintering range, and this has an unknown impact on their population.

*Conservation Efforts:* ^^^^^^

**Extra Facts:**

1. In parts of the Great Plains, the Rose-breasted Grosbeak hybridizes with its close relative, the Black-headed Grosbeak. Hybrids can look like either parent species or be intermediate in pattern, with various combinations of pink, orange, and black. The two grosbeak species are most likely to hybridize in areas where both species are scarce.
2. Researchers used mounted specimens of male Rose-breasted Grosbeaks to explore aggressive behavior. Live male birds attacked the white rump and flanks of the models, suggesting that the white markings are more important than the red chest in stimulating aggression.
3. Rose-breasted Grosbeaks build such flimsy nests that eggs are often visible from below through the nest bottom.
4. The male Rose-breasted Grosbeak takes a turn incubating the eggs for several hours during the day, while the female incubates the rest of the day and all night long. Both sexes sing quietly to each other when they exchange places. The male sometimes sings his normal song at full volume from inside the nest.
5. This bird's sweet, robin-like song has inspired many a bird watcher to pay tribute to it. A couple of early twentieth-century naturalists said it is "so entrancingly beautiful that words cannot describe it," and "it has been compared with the finest efforts of the robin and... the Scarlet Tanager, but it is far superior to either." Present-day bird watchers have variously suggested it sings like a robin that has had opera training, is drunk, refined, in a hurry, or unusually happy.
6. Two males share the record for the oldest Rose-breasted Grosbeak. Both birds were at least 12 years, 11 months old when recaptured and released during banding operations. One was banded in 1972 in Vermont and found in the same state in 1984. The other was banded in Maryland in 1976, and recaptured in 1987 in the same state.

**Notable Species:** NONE