

AMERICAN GOLDFINCH - CARDUELIS TRISTIS

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Fringillidae Subfamily: Carduelinae Genus: Spinus Species: S. tristis

Habitat:

Biomes: Weedy fields, open floodplains, and other overgrown areas, particularly with sunflower, aster, and thistle plants for food and some shrubs and trees for nesting. Goldfinches are also common in suburbs, parks, and backyards.

Distribution:

In US: The summer breeding range stretches across North America from coast to coast. It is bounded on the north by Saskatchewan and stretches south across North America to North Carolina on the east coast, and northern California on the west coast. Its winter range includes southern Canada and stretches south through the United States to parts of Mexico. In winter, in the northern part of its range, the finch may move nearer to feeders if they are available. In southern ranges, during winter, they remain in areas similar to the fields and flood plains where they live during the summer months.

In Other Countries: ^^^^ [CHECK DISTRIBUTION MAPS]

Holistic Description: This handsome little finch, the state bird of New Jersey, Iowa, and Washington, is welcome and common at feeders, where it takes primarily sunflower and nyjer. Goldfinches often flock with Pine Siskins and Common Redpolls. Spring males are brilliant yellow and shiny black with a bit of white. Females and all winter birds are more dull but identifiable by their conical bill; pointed, notched tail; wingbars; and lack of streaking. During molts they look bizarrely patchy.

Species Richness: 4 SUBSPECIES

Population Dynamic: The American goldfinch is not threatened by human activity, and is widespread throughout its range. The clearing of forests by humans, though harmful to many species, has benefited the American goldfinch. Clearing of woodlands causes declines in numbers of neotropical migrants, while favoring short-distance migrants and permanent residents. This benefits the American goldfinch both as a short-distance migrant, and because the created open areas are the preferred environment of the bird, where weeds thrive which produce the primary food source of the American goldfinch.

Evolution and Systematics:

Evolution: Fossil record from the late Pleistocene in California. Mitochondrial cytochrome B sequencing suggests that members of Carduelis speciated earlier, however, during the Miocene and Pliocene Epochs (2–9 million years ago).

Systematics: Body size decreases clinically from the Atlantic coast to the Mississippi Valley, increases and peaks across the Rocky Mountains, and diminishes again toward the Pacific coast. Color saturation is darker toward either coast, such that the smaller body size corresponds to dark coloration. Overall tone is browner on the Pacific coast, where the darkest birds occur in north. Pale wing and tail markings are restricted in the East but prominent in West.

Number of Species: 4 SUBSPECIES

Number of Genera: 4 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 4.3-5.1 in (11-13 cm) Weight: 0.4-0.7 oz (11-20 g)

Wingspan: 7.5-8.7 in (19-22 cm)

Coloration: Adult males in spring and early summer are bright yellow with black forehead, black wings with white markings, and white patches both above and beneath the tail. Adult females are duller yellow beneath, olive above. Winter birds are drab, unstreaked brown, with blackish wings and two pale wingbars.

General Body Features: A small finch with a short, conical bill and a small, head, long wings, and short, notched tail.

Special Features of the Body: The American goldfinch is a granivore and adapted for the consumption of seedheads, with a conical beak to remove the seeds and agile feet to grip the stems of seedheads while feeding.

Special Features of the Head and Sensory Organs: NONE

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: NONE

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: The sexual dimorphism displayed in plumage coloration is especially pronounced after the spring molt, when the bright color of the male's summer plumage is needed to attract a mate. Once the spring molt is complete, the body of the male is a brilliant lemon yellow, a color produced by carotenoid pigments from plant materials in its diet, with a striking jet black cap and white rump that is visible during flight. The female is mostly brown, lighter on the underside with a yellow bib.

Differences Between Juvenile Stage and Adult: The immature American goldfinch has a dull brown back, and the underside is pale yellow. The shoulders and tail are dull black with buff-colored, rather than white, markings on wings and rump. This coloration is the same in both genders.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: American Goldfinches are active, acrobatic finches that balance on the seedheads of thistles, dandelions, and other plants to pluck seeds. They have a bouncy flight during which they frequently make their po-ta-to-chip calls. Although males sing exuberantly during spring, pairs do not nest until mid-summer, when thistles and other weeds have gone to seed.

Goldfinches do not join other songbirds mobbing predators.

Locomotion: Mobile and agile. Main locomotory flight follows typical undulating finch pattern, in which a few rapid wing beats provide ascent followed by brief descent on closed wings. Ground locomotion restricted to hopping, but ground contact apparently avoided whenever possible.

Communication and Perception: Males sing a long and variable series of twitters and warbles that can be several seconds long. The notes and phrases are variable and repeated in a seemingly random order. Birds continue to learn song patterns throughout life.

Home Range: Although gregarious at all times of year, individual distance is maintained through agonistic displays. In flocks, individuals jockey for position, and threats and aggressive calls are common. In captive birds, position in social hierarchy appears to reflect relative aggressiveness of each bird. Such hierarchies appear to lack stability and are subject to change, particularly with change in sexual dominance with season.

Degree of Sociality: Gregarious at all times of year. Flocking is characteristic of nonbreeding season and communal feeding by small groups common during nesting season.

Level of Aggression: Degree of aggressiveness assessed from increasing intensity of displays in which axis of body is moved from an upright, Head-up Display, to a crouched, horizontal Head-forward and Carpals-raised Display. At its most intense, display accompanied by open bill, harsh Threat Calls, wing fluttering and tail flicking. If no submission or appeasement, displaying birds often fly vertically upwards for a few meters, face to face, separated by a few centimeters, heads extended towards each other, bill open, giving harsh Threat Calls, and with rapid wing fluttering. Vertical flights most common during breeding season and culminate when birds either fly off in different directions or enter into rapid Moth Flights.

Migration: Short distance migrant.

Predators:

Predators: The American goldfinch does not act aggressively toward predators within its territory; its only reaction is alarm calling. Predators include snakes, weasels, squirrels, and blue jays, which may destroy eggs or kill young, and hawks and cats, which pose a threat to both young and adults.

Anti-Predator Defenses: At nest, other than agitation and alarm calling, no attempt to defend. When flushed, and varying with habitat, many females use apparent distraction display, fluttering toward ground with tail spread. Continue display on ground with slow hopping away from nest, wings fluttering and tail spread.

Diet and Nutrition:

Adult Diet: Goldfinches eat seeds almost exclusively. Main types include seeds from composite plants (in the family Asteraceae: sunflowers, thistle, asters, etc.), grasses, and trees such as alder, birch, western red cedar, and elm. At feeders prefers nyjer and sunflower.

Juvenile Diet: ^^^^^^

Special Adaptations for Getting Prey: Daytime feeder. Feet are used in feeding to hold swaying food plants and in manipulation of seeds. Seeds are held lengthwise in bill (long axis parallel to cutting edges of mandibles), manipulated by tongue, cracked open by pressure from the 2 mandibles, and rapidly hulled. Husk is dropped and seed swallowed. Frequently, feeding is followed by bill wiping.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Mostly socially monogamous. Classical, sequential polyandry is characteristic of 15% of breeding females as strategy for producing second broods; polyandrous females are those with previous breeding experience.

Mating Season: Late June to Early September

Courtship: On nesting areas, early male displays consist of song, combined with Butterfly Flights. As pair bond strengthens, head-head aggressive displays and Moth Flights common. Courtship feeding, in which male passes food to female in crouching posture with fluttering wings and faint begging calls, becomes common. Close presence of male during nest-building and egg-laying suggests mate-guarding.

Territoriality: HOME RANGE

Mating: Male usually approaches cautiously and, depending on location, may sidle towards female or mount directly. Male mounts crouching female, flexes legs and rapidly flutters wings while twisting tail beneath elevated tail of female to bring vents into contact. Contact is limited to a few seconds; several copulations usually occur in brief time span. Copulation occurs immediately preceding, and during, the egg laying period. Most copulations with mate, but cuckoldry is known.

Nest Placement: Male and female move around together to choose a suitable nest site. The female builds the nest, usually in a shrub or sapling in a fairly open setting rather than in forest interior. The nest is often built high in a shrub, where two or three vertical branches join; usually shaded by clusters of leaves or needles from above, but often open and visible from below.

Nest Description: The nest is an open cup of rootlets and plant fibers lined with plant down, often woven so tightly that it can hold water. The female lashes the foundation to supporting branches using spider silk, and makes a downy lining often using the fluffy “pappus” material taken from the same types of seed-heads that goldfinches so commonly feed on. It takes the female about 6 days to build the nest. The finished nest is about 3 inches across on the outside and 2-4.5 inches high.

Egg-Laying: Clutch Size: 2-7 eggs Number of Broods: 1-2 broods Egg Length: 0.6-0.7 in (1.62-1.69 cm) Egg Width: 0.5-0.5 in (1.22-1.28 cm) Incubation Period: 12-14 days Nestling Period: 11-17 days Egg Description: Pale bluish white, sometimes with small faint brown spots around large end.

Hatching and Incubation/Gestation: Helpless, with wisps of grayish down.

Development: Young altricial. Chicks essentially naked, with few wisps of pale grayish natal down on crown and body. Body reddish with faint dark lines tracing incipient feather tracts. Mouth pinkish red with gape flanges pale yellow.

Parental Care: Male continues to feed female on nest; female, in turn, feeds chicks. Around day 4, female begins to leave nest for lengthening periods, both parents now feed chicks directly but male gradually assumes chief responsibility. Female's role in early days post-hatching is critical to nest success.

Lifespan: The American goldfinch does not act aggressively toward predators within its territory; its only reaction is alarm calling. Predators include snakes, weasels, squirrels, and blue jays, which may destroy eggs or kill young, and hawks and cats, which pose a threat to both young and adults.

Conservation:

Official Federal Status: Least Concern

Special Statuses in Individual States: NONE

Threats: American Goldfinch are numerous, though populations experienced a small decline between 1966 and 2014, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 42 million, with 91% spending some part of the year in the U.S., 33% in Canada, and 6% wintering in Mexico. They rate a 6 out of 20 on the Continental Concern Score and are not on the 2014 State of the Birds Watch List.

Conservation Efforts: ^^^^^^

Extra Facts:

1. American Goldfinches are the only finch that molts its body feathers twice a year, once in late winter and again in late summer. The brightening yellow of male goldfinches each spring is one welcome mark of approaching warm months.
2. American Goldfinches breed later than most North American birds. They wait to nest until June or July when milkweed, thistle, and other plants have produced their fibrous seeds, which goldfinches incorporate into their nests and also feed their young.
3. Goldfinches are among the strictest vegetarians in the bird world, selecting an entirely vegetable diet and only inadvertently swallowing an occasional insect.
4. When Brown-headed Cowbirds lay eggs in an American Goldfinch nest, the cowbird egg may hatch but the nestling seldom survives longer than three days. The cowbird chick simply can't survive on the all-seed diet that goldfinches feed their young.
5. Goldfinches move south in winter following a pattern that seems to coincide with regions where the minimum January temperature is no colder than 0 degrees Fahrenheit on average.
6. Paired-up goldfinches make virtually identical flight calls; goldfinches may be able to distinguish members of various pairs by these calls.
7. The oldest known American Goldfinch was 10 years 9 months old when it was recaptured and rereleased during a banding operation in Maryland.

Notable Species:

1. S. t. Tristis
2. S. t. Pallidus

3. S. t. Salicamans
4. S. t. Jewetti