

BROWN CREEPER - CETHIA AMERICANA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Certhiidae Genus: Certhia
Species: C. americana

Habitat:

Biomes: The Brown Creeper prefers forests with many large live trees for foraging and large loose-barked (often dead or dying) trees for nesting. In the summer it tends to live in mature coniferous forests; the tree species vary greatly across its range, but can include redwood, Douglas-fir, ponderosa pine, spruce, eastern hemlock, white pine, and bald cypress. In the winter it uses a wider variety of wooded habitats from deciduous forests to suburbs to parks to orchards. In winter in north Texas and the Midwest, creepers are particularly common in oak-hickory forests and tree savannas. Brown Creepers breed up to about 4,500 feet elevation in eastern North America and all the way up to treeline (around 11,000 feet) in parts of the West.

Distribution:

In US: Their breeding habitat is mature forests, especially conifers, in Canada, Alaska and the northeastern and western United States. They are permanent residents through much of their range; many northern birds migrate farther south to the United States. Brown creeper has occurred as a vagrant to Bermuda and Central America's mountains in Guatemala, Honduras and the northern cordillera of El Salvador. As a migratory species with a northern range, this species is a conceivable vagrant to western Europe.

In Other Countries: NONE

Holistic Description: Brown Creepers are tiny woodland birds with an affinity for the biggest trees they can find. Look for these little, long-tailed scraps of brown and white spiraling up stout trunks and main branches, sometimes passing downward-facing nuthatches along the way. They probe into crevices and pick at loose bark with their slender, down-curved bills, and build their hammock-shaped nests behind peeling flakes of bark. Their piercing calls can make it much easier to find this hard-to-see but common species.

Species Richness: 15 SUBSPECIES

Population Dynamic: As with many of Washington's birds, the Cascades divide this species into two subspecies. The species has declined in much of North America but appears to be doing well in Washington, with a small (not significant) increase on the state's breeding bird survey since 1966.

Evolution and Systematics:

Evolution: Three neospecies of European Certhia familiaris from Pleistocene in England, Romania, and Ukraine.

Systematics: Variation in plumage coloration follows step clines and mensural characters are more smoothly clinal across the species' range, with evaluation of color differences complicated by polychromatism. Wing chord and tail length tend to be shorter in coastal, far western, and Middle American populations.

Number of Species: 15 SUBSPECIES

Number of Genera: 15 SUBSPECIES

Physical Characteristics:

Size and Length: Length: 4.7-5.5 in (12-14 cm) Weight: 0.2-0.3 oz (5-10 g)

Wingspan: 6.7-7.9 in (17-20 cm)

Coloration: Streaked brown and buff above, with their white underparts usually hidden against a tree trunk, Brown Creepers blend easily into bark. Their brownish heads show a broad, buffy stripe over the eye (supercilium).

General Body Features: Brown Creepers are tiny yet lanky songbirds. They have long, spine-tipped tails, slim bodies, and slender, decurved bills.

Special Features of the Body: CHECK LOCOMOTION

Special Features of the Head and Sensory Organs: CHECK LOCOMOTION

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Relatively short legs, long tail, and long toes and claws are adaptations to trunk foraging. Nearly always climbs upward. In morphological studies of Eurasian Treecreeper, long, curved claws, long toes, short legs, and long tail make it highly adapted to climbing in a head-up direction.

Any Special Internal Anatomy: CHECK LOCOMOTION

Sexual Dimorphisms: Average body mass for both sexes combined: 7.2–9.9 g. Very small tree-climbing passerine: total length—male, 12.0–13.5 cm; female, 11.7–13.2 cm. Sexes alike in plumage but, in the hand, bill possibly the only character useful in differentiating between the sexes: female bill averages 1–2 mm shorter than that of male.

Differences Between Juvenile Stage and Adult: Juveniles closely resemble adults but upperparts duller and with pale streaking and spotting, pale wing markings browner, and underparts spotted with dusky.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: The Brown Creeper spends most of its time spiraling up tree trunks in search of insects. It holds its short legs on either side of its body, with the long, curved claws hooking into the bark, and braces itself with its long, stiff tail. Both feet hop at the same time, making the bird's head duck after each hop. Because of its specialized anatomy, the Brown Creeper rarely climbs downward: once high in a tree, it flies down to begin a new ascent at the base of a nearby tree. During breeding season, males have intense singing competitions to establish and defend territories of 5–15 acres. Males fly in fast spirals when pursuing a potential mate. Creepers are probably monogamous, with partners staying together until several weeks after the chicks fledge. Both parents may feed the fledglings. Territories break down late in the breeding season, and in the winter creepers often roost communally and join flocks with other species to forage. Adults may be preyed upon by domestic cats and Northern Shrikes, among other predators. Nests are in danger from red squirrels, northern flying squirrels, golden-mantled ground squirrels, wood rats, and deer mice. When adults see or hear a predator, they freeze, silently pressed against the bark. Creepers have been seen chasing chipmunks and joining groups of nuthatches and kinglets to mob jays.

Locomotion: Hops head up along vertical tree trunks, with legs held on either side of its body. During hops, feet move in unison; head and anterior part of body are directed upward and toward tree trunk, so head ducks after each hop. Tail serves as a prop at all times except for a moment during each hop or when the bird is on a limb. Relatively short legs, long tail, and long toes and claws are adaptations to trunk foraging. Nearly always climbs upward. In morphological studies of Eurasian Treecreeper, long, curved claws, long toes, short legs, and long tail make it highly adapted to climbing in a head-up direction. Foreclaws apparently do not grasp the bark but rather hook onto bark irregularities. Long hind-claws serve to reduce forces between the feet and trunk when tail is not used for support, and to hook onto bark irregularities. Usually short-distance flights between tree trunks when foraging. Male will fly from perch to perch during territorial singing; will also fly in a series of fast spirals while pursuing its mate during courtship or another species (rare) during threat displays.

Communication and Perception: Only the male sings, and usually only on the breeding grounds, though sometimes during migration as well. His song is a jumble of high, thin notes that lasts up to 1.5 seconds. It's sometimes likened to singing the phrase trees, beautiful trees. Creepers may join single songs together two or three times in a row. Although the delicate song carries well through the woods the thin, high notes can be easily missed.

Home Range: Territory size during the breeding season in a Michigan hardwood forest ranged from 2.3 to 6.4 ha. May compete with other members of bark-foraging guild for food, particularly in winter.

Degree of Sociality: Territorial during the breeding season. Observed as solitary and in monospecific and heterospecific flocks in fall and winter.

Level of Aggression: Intraspecific encounters during the breeding season usually involve intense singing bouts, especially during territory establishment. Intraspecific aggressive interactions seen in flocks during fall and winter in Louisiana and Maryland, and in summer in Maine.

Migration: Resident to short-distance migrant. Over most of their breeding range, Brown Creepers do not migrate, although northern and high-altitude populations move south or downhill in winter. Banding records indicate that Brown Creepers from parts of Canada can move as far south as North Carolina and Arkansas in winter.

Predators:

Predators: Red Squirrel, Domestic Cat, Northern Shrike, Flying Squirrel, Ground Squirrel, Wood Rat, Deer mouse, Sharp Shinned Hawk, Cooper's Hawk, Owls.

Anti-Predator Defenses: Adults became silent and "froze" with bodies pressed tight against bark in response to presence or call of Sharp-shinned Hawk, landing of Green Heron in nest tree, and red squirrel jumping onto nest tree. An adult near a nest also froze in the presence of a nearby human. Adults chased Blue Jay (*Cyanocitta cristata*) during fledging of nestlings.

Diet and Nutrition:

Adult Diet: In the breeding season, Brown Creepers eat insects and their larvae (including stinkbugs, fruit flies, gnats, beetles, weevils, bark beetle parasitoids, butterflies, moths, lacewings, caddisflies, scale insects, leafhoppers, katydids, flat-bugs, plant lice, ants, and sawflies) along with spiders, spider eggs, and pseudoscorpions. They mainly patrol large, live trees with deeply furrowed bark, which harbors the highest densities of insects. They glean, probe, and peck at the trunk with their long, down-curved bills. Starting near the bottom of the trunk, they work their way up the tree to within several feet of the top, then fly to the bottom of another tree (or sometimes the same one) to begin again. In the winter they maintain the same diet of insects and other arthropods, but may also eat small amounts of seeds and other plant materials. Creepers may visit seed and suet feeders.

Juvenile Diet: Invertebrates. CHECK PARENTAL CARE.

Special Adaptations for Getting Prey: Mostly by gleaning, probing, or "peck-probing" on trunk surface with its long, decurved bill. Hawking, hover-gleaning, flaking, and pecking observed much less frequently.. Moves upward on trunk or spirals around trunk. Begins near the bottom of the trunk, works its way up the tree to within 1-3 m of the top, then flies to bottom of another tree (sometimes to same trunk) to begin the process again.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Probably monogamous; no records of polygyny. Occasional polygyny reported in the Eurasian Treecreeper.

Mating Season: April and July

Courtship: Wing-fluttering, rapid beating of wings held above the body, often occurred after a chase. This display was often followed by another chase. Courtship feeding often occurred after these displays and continued throughout the nesting cycle until eggs hatched, the male usually feeding the female. Female wing-flutters and gapes were similar to the begging of young birds; male lands above her, turns sideways, and places food item in female's throat.

Territoriality: HOME RANGE

Mating: NONE

Nest Placement: Both adults investigate several possible nest sites. They almost always choose a spot between the trunk and a loose piece of bark on a large, dead or dying tree—either deciduous or coniferous—in a dense tree stand. They occasionally nest in large live trees with peeling bark or in dead portions of live trees. Nests are between a couple of feet off the ground and 40 feet up.

Nest Description: The female takes a week or two to build the nest, while the male helps by bringing nesting material (he often sings nearby). She builds the frame of the nest by layering twigs and strips of bark. She uses insect cocoons and spider egg cases to stick those materials to each other and to the inner surface of the tree bark. The nest cup, up to 2.5 inches deep and 6 inches across, consists of wood fibers, spider egg cases, hair, feathers, grass, pieces of leaves, lichens, and mosses. Some of the materials may be used twice, once to build the base and later taken from the base to build the nest cup.

Egg-Laying: Clutch Size: 5-6 eggs Number of Broods: 1 brood Egg Length: 0.6-0.6 in (1.5-1.6 cm) Egg Width: 0.5 in (1.2 cm) Incubation Period: 13-17 days Nestling Period: 14-20 days Egg Description: Smooth and white, speckled with pink or reddish-brown.

Hatching and Incubation/Gestation: Eyes closed and bodies almost completely naked except for long, dark-gray down on the head.

Development: Altricial, eyes closed, and almost entirely naked except for long, dark-gray down on head arranged in rows above both eyes and across the occipital region.

Parental Care: Young fed by both adults from just after hatching through to fledging. Tyler thought adults regurgitated to very young nestlings, but no evidence of regurgitation in central Arizona. Diet entirely invertebrates (ants, beetles, moths, spiders, and mayflies). Food usually gathered near nest, but adults may go as far as 150 m to find food.

Lifespan: Up to 5 years and 5 months.

Conservation:

Official Federal Status: Least Concern

Special Statutes in Individual States: NONE

Threats: Brown Creeper populations were stable or slightly increased between 1966 and 2015, according to the North American Breeding Bird Survey. Partners in Flight estimates the global breeding population an 9.3 million, with 65% spending part of the year in the U.S., 43% in Canada, and 8% in Mexico. They rate an 8 out of 20 on the Continental Concern Score and are not on the 2016 State of North America's Birds' Watch List. Timber harvesting in the West, including both clearcutting and selective cutting, has removed many of the large, live trees in which creepers forage, and salvage-logging has removed many of the dead and dying ones they nest in. Forests are also becoming more and more fragmented, posing another threat to creepers. Populations may have increased in New England in recent decades, possibly because forests have regrown and many large trees have been killed by gypsy moths and Dutch elm disease, creating nesting habitat. Spraying of DDT to combat Dutch elm disease in the 1950s may have harmed Brown Creeper populations.

Conservation Efforts: ^^^^^^^

Extra Facts:

1. In Arizona, Brown Creeper nests often have two openings, one which serves as an entrance and the other as an exit. Entrances face downward and exits upward.
2. Sometimes creepers build nests in unusual places, such as behind window shutters, in or under roofs, inside fenceposts, or inside concrete blocks. One brought up a family in a specially constructed box made of pieces of Douglas-fir bark.

3. Wildlife managers sometimes use the Brown Creeper as an indicator species to help gauge the effects of logging on wildlife habitat.
4. Brown Creepers burn an estimated 4–10 calories (technically, kilocalories) per day, a tiny fraction of a human's daily intake of about 2,000 kilocalories. By eating a single spider, a creeper gains enough energy to climb nearly 200 feet vertically.
5. The naturalist W.M. Tyler, writing in 1948, captured this species' energy and fragility in a memorable description, "The Brown Creeper, as he hitches along the bole of a tree, looks like a fragment of detached bark that is defying the law of gravitation by moving upward over the trunk, and as he flies off to another tree he resembles a little dry leaf blown about by the wind."
6. The Brown Creeper builds a hammock-like nest behind a loosened flap of bark on a dead or dying tree. It wasn't until 1879 that naturalists discovered this unique nesting strategy.
7. The oldest Brown Creeper on record was at least 5 years, 5 months old and was recaptured and rereleased during banding operations in Illinois.

Notable Species:

1. Northern Group
 - a. Brown Creeper (*C.a. alascensis*)
 - b. Brown Creeper (*C.a. americana*)
 - c. Brown Creeper (*C.a. leucosticta*)
 - d. Brown Creeper (*C.a. montana*)
 - e. Brown Creeper (*C.a. nigrescens*)
 - f. Brown Creeper (*C.a. occidentalis*)
 - g. Brown Creeper (*C.a. phillipsi*)
 - h. Brown Creeper (*C.a. stewarti*)
 - i. Brown Creeper (*C.a. zelotes*)
2. Southern Group
 - a. Brown Creeper (*C.a. alticola*)
 - b. Brown Creeper (*C.a. guerrerensis*)
 - c. Brown Creeper (*C.a. jaliscensis*)
 - d. Guatemalan Brown Creeper (*C.a. pernigra*)
 - e. Honduran Brown Creeper (*C.a. extima*)
 - f. Mexican Brown Creeper (*C.a. albescens*)