

# BROWN THRASHER - TOXOSTOMA RUFUM

**Taxonomy:** Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Mimidae Genus: Toxostoma  
Species: T. rufum

## **Habitat:**

**Biomes:** In eastern North America, Brown Thrashers nest in thickets, hedgerows, forest edges, and overgrown clearings in deciduous forest. Farther west, in the Great Plains, they breed in fencerows, shelterbelts, and woody draws. They're often found in woodlands with cottonwood, willow, dogwood, American plum, saltcedar, hawthorn, pitch pine, or scrub oak. On rare occasions they breed in backyards and gardens. Brown Thrashers winter in the southern part of their breeding range and also move into nonbreeding habitat throughout central Texas. They are the only thrasher east of the Rocky Mountains and central Texas.

## **Distribution:**

**In US:** The brown thrasher is a strong, but partial migrant, as the bird is a year-round resident in the southern portion of its range. The breeding range includes the United States and Canada east of the Rocky Mountains, but has been occasionally spotted West of the Rockies. The increase in trees throughout the Great Plains during the past century due to fire suppression and tree planting facilitated a westward range expansion of the brown thrasher as well as range expansions of many other species of birds.

**In Other Countries:** NONE

**Holistic Description:** It can be tricky to glimpse a Brown Thrasher in a tangled mass of shrubbery, and once you do you may wonder how such a boldly patterned, gangly bird could stay so hidden. Brown Thrashers wear a somewhat severe expression thanks to their heavy, slightly downcurved bill and staring yellow eyes, and they are the only thrasher species east of Texas. Brown Thrashers are exuberant singers, with one of the largest repertoires of any North American songbird.

**Species Richness:** 2 SUBSPECIES

**Population Dynamic:** CHECK THREATS

## **Evolution and Systematics:**

**Evolution:** Toxostoma bones from Quaternary found in a cave in s. New Mexico. Fossils recovered from an abandoned limestone quarry in Marion Co., FL, include 11 humeri and 2 carpometacarpi of the Brown Thrasher, among other late-Pleistocene remains.

**Systematics:** Breeding populations of the w. Great Plains are slightly larger and paler, when plumage is fresh, than are populations farther east. The family Mimidae, the thrashers and mockingbirds, is nearest to the Sturnidae, the starlings and mynas.

**Number of Species:** 2 SUBSPECIES

**Number of Genera:** 2 SUBSPECIES

## **Physical Characteristics:**

**Size and Length:** Length: 9.1-11.8 in (23-30 cm) Weight: 2.1-3.1 oz (61-89 g)

**Wingspan:** 11.4-12.6 in (29-32 cm)

**Coloration:** Brown Thrashers are foxy brown birds with heavy, dark streaking on their whitish underparts. The face is gray-brown and the wings show two black-and-white wingbars. They have bright-yellow eyes.

**General Body Features:** Brown Thrashers are fairly large, slender songbirds with long proportions—the legs are long and sturdy, and the bill is long and slightly downcurved. The tail is long, too, and often cocked upward in the manner of wrens.

**Special Features of the Body:** NONE

**Special Features of the Head and Sensory Organs:** Major structural modifications of skull and musculature of head and neck associated with digging method of foraging.

**Dentition:** BEAK/LAMELLAE/GIZZARD

**Special Features of the Limbs and Digits:** NONE

**Any Special Internal Anatomy:** NONE

**Sexual Dimorphisms:** Sexes alike in size and coloration.

**Differences Between Juvenile Stage and Adult:** Juveniles similar to adults except upperparts with indistinct buff spotting, wing-bars buff, and iris gray to grayish olive.

## **Behavior:**

**Diurnal, Nocturnal, or Crepuscular:** Diurnal

**Activity:** Brown Thrashers spend most of their time near or on the ground, walking, running, or hopping. When disturbed at the nest, they drop to the ground and dart into dense cover. They feed by sweeping their long bills through leaf litter to

uncover insects and other invertebrates. They are slow, short-distance fliers with a distinctive jerky, fluttering flight style. Brown Thrashers are monogamous during a breeding season, but it isn't known whether pairs stay together from year to year. They breed in such dense vegetation that little is known of their courtship; the few observations that exist suggest that a courting pair presents each other with twigs or dead leaves, after which the male may briefly chase the female before mating. They defend territories of variable size, and they are very aggressive toward intruding Brown Thrashers and toward potential nest predators, which include snakes (racers as well as garter, king, rat, bull, and milk snakes) and dogs. Sometimes Brown Thrashers strike predators with their bills hard enough to draw blood.

**Locomotion:** Spends most of time on ground, walking or running, sometimes making series of hops; tail held low. May run fast to catch insect prey or uses series of long, high hops when in tall grass. Frequently climbs through shrubs and small trees, sometimes by simple jumps. Usually slow and heavy, flying low for short distances; often ending in a glide and a swoop, either up into a bush or tree or down to ground. Flight often quick and jerky, with occasional downward flick of tail.

**Communication and Perception:** Brown Thrashers, like catbirds and mockingbirds, are mimics with extremely varied repertoires consisting of more than 1,100 song types. The male sings a loud, long series of doubled phrases with no definite beginning or end, described by some people as "plant a seed, plant a seed, bury it, bury it, cover it up, cover it up, let it grow, let it grow, pull it up, pull it up, eat it, eat it." While mockingbirds tend to repeat phrases three or more times, Brown Thrashers typically sing phrases only twice before moving on. They include somewhat crude imitations of other species in their songs, including Chuck-will's-widow, Northern Flicker, White-eyed Vireo, Tufted Titmouse, Wood Thrush, and Northern Cardinal.

**Home Range:** In Kentucky, breeding-territory size varied from 0.5 to >1.0 ha even within limited area, probably depending on habitat quality; in some cases, pairs nested within 15 m of each other.

**Degree of Sociality:** Territorial and found only solitarily, in pairs, or with offspring during breeding season. Maintains wintering territories and is usually solitary.

**Level of Aggression:** NONE

**Migration:** Short-distance, partial migrant. In the winter, Brown Thrashers move out of the northern part of their breeding range and into the southeastern region, where resident thrashers also stay year round. Some northern birds move southwest into central Texas, outside of the normal breeding range. They migrate at night, either individually or in small groups.

#### **Predators:**

**Predators:** Peregrine Falcon, Racer, Rat Snake, King Snake, Milk Snake, Bull Snake, Northern Flicker, and Blue Jay.

**Anti-Predator Defenses:** Species very aggressive toward potential nest predators; chases and uses its bill to strike intruders, sometimes hitting hard enough to draw blood. Known to attack black rat snakes, bull snakes, lined snakes, humans, and dogs. Adults presented with a caged or model snake near their nest engaged in a variety of defensive behaviors, including broken-wing displays, raising and fluttering wings while spreading rectrices, flapping wings against surrounding vegetation, vocalizing near predator, and striking snake with wings and bills, usually directing attack toward snake's head.

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

**Adult Diet:** Brown Thrashers eat mostly insects and other arthropods along with some fruits, seeds, and nuts. They typically feed on the ground, sweeping their bills through the leaf litter and soil with quick, sideways motions. They also forage in clusters of dead leaves on trees, eat fruit right off of berry bushes, glean seeds from weed stems, and sometimes catch insects in the air. The animal portion of their diet includes many kinds of beetles, along with grubs, wire-worms, army worms, cutworms, tent caterpillars, gypsy-moth caterpillars, leafhoppers, treehoppers, cicadas, grasshoppers, crickets, wasps, bees, harvestmen, sowbugs, lizards, snakes, and tree frogs. The fruit portion of their diet includes blueberry, huckleberry, holly, elderberries, pokeberries, hackberries, Virginia creeper, sour gum, bayberry, sumac, raspberry, currant, grape, cherry, and strawberry.

**Juvenile Diet:** Young fed arthropods or earthworms (Oligochaeta) almost entirely, but the type of prey varies.

**Special Adaptations for Getting Prey:** Sweeps litter and soil with rapid, side-to-side motions of bill, scattering leaves and picking out food items. Interspersed with bill sweeps are occasional pecking and probing of substrate. Long-billed Thrashers typically sweep and probe leaf litter more rapidly than do Brown Thrashers. Bill often thrust into ground with repeated sharp blows to extract insects and worms. Picks fruit off trees and shrubs, seeds off weed stems, occasionally fly-catches from elevated perch.

#### **Reproduction:**

**Mode of Reproduction:** Monogamous

**Mating System:** Socially monogamous within a season.

**Mating Season:** The breeding months begin in February and March, while May and June see the commencement of breeding in the northern portion of their breeding range.

**Courtship:** No elaborate courtship displays, however, copulations usually restricted to shrubs or dense vegetation and thus not easily observed. Erwin documented one instance of copulation where the female carried a stick toward the male while quivering wings in a typical begging response. This display was accompanied by soft chirps which grew louder the closer she moved toward the male. The male responded by picking up a few dead leaves, hopping toward the female and then engaging in coitus.

**Territoriality:** NONE/HOME RANGE

**Mating:** NONE

**Nest Placement:** The male and female both help select the nest site, usually low in a tree or thorny shrub. They use forsythia, privet, gooseberry, sumac, Osage-orange, multiflora rose, eastern redcedar, elm, and honey locust. Occasionally they nest right on the ground.

**Nest Description:** Males and females collaborate on the nest, a bulky cup made of twigs, dead leaves, thin bark, grass stems, and well-cleaned rootlets. The inside of the cup is a couple of inches deep and 3.5 inches across. If they start early in the season, the pair will spend up to a week building a nest, whereas later in the season they may complete one in just a few days.

**Egg-Laying:** Clutch Size: 2-6 eggs Number of Broods: 1-2 broods Egg Length: 1.0-1.1 in (2.6-2.7 cm) Egg Width: 0.8-0.8 in (1.9-2 cm) Incubation Period: 10-14 days Nestling Period: 9-13 days Egg Description: Glossy pale blue, pale greenish blue, or white, with many red-brown speckles.

**Hatching and Incubation/Gestation:** Eyes closed; pink skin with scattered tufts of gray-white down.

**Development:** Altricial and downy. Eyes closed. Average hatching mass of 16 nestlings from 7 nests in ne. Kansas 4.8 g. Hatchlings have scattered tufts of grayish-white down on head, back, wings, and thighs, with skin dark pinkish-flesh color; mouth creamy yellow, orange toward throat, and whitish gape flanges.

**Parental Care:** Both parents brood nestlings and feed young.

**Lifespan:** 10-12 young

#### **Conservation:**

**Official Federal Status:** Least Concern

**Special Statuses in Individual States:** NONE

**Threats:** Brown Thrashers are fairly common birds but their numbers have been declining for the last several decades. According to the North American Breeding Bird Survey, between 1966 and 2015 populations declined by 41%. Partners in Flight estimates the global breeding population at 4.9 million, with 100% spending some part of the year in the U.S., and 8% breeding in Canada. They rate an 11 out of 20 on the Continental Concern Score and are not on the 2016 State of North America's Birds' Watch List, although they are a U.S.-Canada Stewardship species. Brown Thrashers probably increased their range during the nineteenth and twentieth centuries, as humans cleared forests for agriculture, suppressed fires in the Great Plains, and put out bird feeders. However, their shrubby habitat is now declining throughout the eastern U.S. as fields and forests regrow or are cleared altogether. Competition with Northern Mockingbirds may be affecting their numbers in northern parts of their range. Brown Thrashers often die in collisions with television towers (during migration) or with cars (since they often occur in roadside habitat). They can become unintended casualties of pesticides that people use to control insects, including organophosphates used in pecan plantations, dieldrin used on fields, and heptachlor used to combat Japanese beetles.

**Conservation Efforts:** ^^^^^^^

#### **Extra Facts:**

1. An aggressive defender of its nest, the Brown Thrasher is known to strike people and dogs hard enough to draw blood.
2. Brown Thrashers are accomplished songsters that may sing more than 1,100 different song types and include imitations of other birds, including Chuck-will's-widows, Wood Thrushes, and Northern Flickers.
3. At least one early naturalist thought the Brown Thrasher's song was underappreciated, writing "Much of the [acclaim] which has fallen to the Mockingbird is really due to the unperceived efforts of the Brown Thrasher. It is the opinion of many ornithologists that the song... is richer, fuller, and definitely more melodious than that of polyglottis" (the Northern Mockingbird).
4. Both males and females help incubate the eggs and feed the young. Nestlings sometimes leave the nest fully feathered within nine days of hatching—earlier than either of their smaller relatives, the Northern Mockingbird and Gray Catbird. Shrubby habitats are popular hideouts for nest predators, which may explain why the thrashers fledge so quickly for birds of their size.
5. Brown Thrashers are the largest common host of parasitic Brown-headed Cowbirds. The thrashers do put up some resistance, often rejecting cowbird eggs that are laid in their nests.

6. The Brown Thrasher is considered a short-distance migrant, but two individuals have been recorded in Europe: one in England and another in Germany.
7. The oldest Brown Thrasher on record was at least 12 years, 10 months old, and was found in North Carolina.

**Notable Species:**

1. T. r. Rufum - Breeds east of the Great Plains from w. Ontario and e. Minnesota south to e. Oklahoma and se. Texas.
2. T. r. Longicauda - Breeds in the w. Great Plains from e. Alberta east to ne. North Dakota south to nw. Texas and central Oklahoma; winters in s. Oklahoma south to s. Texas and east along the Gulf Coast to nw. Florida.