WOOD THRUSH - HYLOCICHLA MUSTELINA

Taxonomy: Kingdom: Animalia Phylum: Chordata Class: Aves Order: Passeriformes Family: Turdidae Genus: Hylocichla Species: H. mustelina

Habitat:

Biomes: Wood Thrushes breed throughout mature deciduous and mixed forests in eastern North America, most commonly those with American beech, sweet gum, red maple, black gum, eastern hemlock, flowering dogwood, American hornbeam, oaks, or pines. They nest somewhat less successfully in fragmented forests and even suburban parks where there are enough large trees for a territory. Ideal habitat includes trees over 50 feet tall, a moderate understory of saplings and shrubs, an open floor with moist soil and decaying leaf litter, and water nearby. Favored understory species include southern arrowwood, smooth blackhaw, spicebush, coast pepperbush, rhododendron, and blueberry. In their winter range, they are most abundant in the interior of mature, shady, broad-leaved and palm tropical forests in lowlands. As in their temperate range, they will also inhabit forest edges and the denser understory of second-growth forests.

Distribution:

In US: The wood thrush's breeding range extends from Manitoba, Ontario and Nova Scotia in southern Canada to northern Florida and from the Atlantic coast to the Missouri River and the eastern Great Plains. It migrates to southern Mexico through to Panama in Central America in the winter, mostly in the lowlands along the Atlantic and Pacific coasts. It generally arrives on the U.S. Gulf Coast during the first week of April.

In Other Countries: NONE

Holistic Description: The Wood Thrush's loud, flute-clear ee-oh-lay song rings through the deciduous forests of the eastern U.S. in summer. This reclusive bird's cinnamon brown upperparts are good camouflage as it scrabbles for leaf-litter invertebrates deep in the forest, though it pops upright frequently to peer about, revealing a boldly spotted white breast. Though still numerous, its rapidly declining numbers may be due in part to cowbird nest parasitism at the edges of fragmenting habitat and to acid rain's depletion of its invertebrate prey.

Species Richness: NO SUBSPECIES

Population Dynamic: CHECK THREATS

Evolution and Systematics:

Evolution: NONE

Systematics: Clinal decrease, from north to south, in extent of dorsal rufescence and in body size. The speciose family Turdidae (thrushes) occurs on every continent. It is characterized by (usually) having the juvenile plumage spotted, a single annual molt, and undivided (booted) tarsus (except lower portions) rather than scutellate horny covering over the tarsus.

Number of Species: NO SUBSPECIES

Number of Genera: NO SUBSPECIES

Physical Characteristics:

Size and Length: Length: 7.5-8.3 in (19-21 cm) Weight: 1.4-1.8 oz (40-50 g)

Wingspan: 11.8-13.4 in (30-34 cm)

Coloration: Wood Thrushes are warm reddish-brown above and white with bold black spots on their underparts. Juveniles show a somewhat muted version of the same pattern. All have a bold, white eyering.

General Body Features: The Wood Thrush's pot-bellied body, short tail, straight bill, big head, and upright posture give it the profile of a scaled-down American Robin.

Special Features of the Body: NONE

Special Features of the Head and Sensory Organs: Long, narrow mandible congruent with leaf-tossing and probing behavior.

Dentition: BEAK/LAMELLAE/GIZZARD

Special Features of the Limbs and Digits: Lengths and ratios of leg segments fit cursorial form but are modified for arboreal substrate. Leg segments longer than in all North American Catharus thrushes but, relative to body mass, are shorter than most.

Any Special Internal Anatomy: NONE

Sexual Dimorphisms: Sexes alike; adult cinnamon-brown on crown and nape, fading to olive-brown on back, wings, and tail. Most males have slightly longer wings and tail than females, but this feature has considerable overlap between sexes.

Differences Between Juvenile Stage and Adult: Juvenile plumage similar to adult but with ocherous tawny streaks and spots on back, neck, and wing coverts.

Behavior:

Diurnal, Nocturnal, or Crepuscular: Diurnal

Activity: One of the first songsters to be heard in the morning and among the last in the evening, the male sings his haunting ee-oh-lay song from an exposed perch in the midstory or lower canopy. He uses the song, which carries through dense forest, to establish a territory that averages a few acres. Within days, a female initiates pairing by enticing him to chase her in silent circular flights 3–6 feet above the ground. Between flights, the prospective pair shares a perch. After pairing, the female helps defend the territory from intruders. Low-level threat gestures like breast puffing, crest raising, and wing and tail flicking are usually enough. Among the alarm calls they give is a distinctive, sharp machine-gun-like sound that can be heard from far off. Wood Thrushes forage by hopping through leaf litter on the forest floor, tossing leaves to expose insects or probing for litter-dwelling prey. While foraging, they frequently bob upright for a look around. Foraging is largely solitary, though they may form mixed flocks on their wintering grounds, where they sometimes cautiously feed at the periphery of an army ant swarm. Pairs are socially monogamous, though extra-pair copulations are common. New pairs form each year.
Locomotion: Moves on ground by series of low hops and through vegetation by short hops or flights. Lengths and ratios of leg segments fit cursorial form but are modified for arboreal substrate. Leg segments longer than in all North American Catharus thrushes but, relative to body mass, are shorter than most. Broader, shorter wings than Catharus spp. provide high power at low speeds and maneuverability, but some of latter offset by higher wing loading in Wood Thrush.
Communication and Perception: The Wood Thrush's easily recognized, flute-like ee-oh-lay is actually only the middle phrase of a three-part song. It learns the phrase from other Wood Thrushes and sings several variants with 2 to 10 loud, clear notes. Combining those with 1–3 variants of the low, soft notes of the introductory phrase and 6–12 variants of the final higher-pitched complex trill, a male can easily sing over 50 distinct songs. Individuals can be identified by the repeating order they sing their variants of the middle phrase in song after song.
Home Range: Reported territory sizes range between 0.08-4.0 ha. Males establish and defend the territories. Males, and occasionally females, respond agonistically to new conspecifics, models, and playbacks of songs and calls. Defended territories vary spatially and temporally during the breeding season; social pairs have been observed dispersing large distances.
Degree of Sociality: Breeding pairs or unmated, solitary birds in breeding season. Occasionally in mixed-species flocks in winter. Non-territorial individuals may aggregate, perhaps coincidentally, in small groups in tropical second-growth areas or at ant swarms.
Level of Aggression: Most male-male encounters settled without physical contact but may include coital mounting. Brief physical contact with bill or feet in high-intensity encounters between males or in nest defense. Low-intensity behaviors involve wing flicks, vertical tail flicks, and raised crest grading into spreading of breast feathers and raising of dorsal feathers at higher intensity. No specific appeasement display. Flight is usual way of reducing threat.
Migration: Long-distance migrant. Twice a year, Wood Thrushes cross the Gulf of Mexico in a single night’s flight. They spend the fall and winter in Central America. They return north in spring 2 to 6 times faster on a route that's generally somewhat farther west. Males arrive on breeding grounds several days before females. Migration takes place at night, allowing them to find their direction from the stars and orient themselves by detecting the Earth's magnetic field.
Predators:
Predators: Blue Jay, Black Rat Snake, Boa Constrictor, Black Bear, Brown-Headed Cowbird, Common Grackle, American Crow, Southern Flying Squirrel, Gray Squirrel, Least Weasel, White-footed mouse, Raccoon, Cat, Accipiters, Great Horned Owl, Pygmy Owl.
Anti-Predator Defenses: At sound or approach of blue jays, chipmunk, squirrels, or humans, adults at nests become alert, raise crown feathers, sit lower, or rise slightly in nest and freeze (females) or stand motionless on rim with bill pointed upward. Adults respond to threats to nests or fledglings with increasingly agitated calls and chases.
Diet and Nutrition:
Adult Diet: Wood Thrushes feed mostly on leaf-litter invertebrates and fruits from shrubs. Their summer diet is predominantly invertebrates, including adult beetles and flies, caterpillars, spiders, millipedes, woodlice, and ants. Insects, snails, and salamanders found in trees are occasional prey. Fruits like spicebush, fox grape, blueberry, holly, elderberry, jack-in-the-pulpit, Virginia creeper, pokeweed, dogwood, black cherry, and black gum make up most of the rest of their diet. Parents feed chicks soft invertebrates and pre-softened fruits. In late summer and fall, after breeding season, Wood Thrushes shift their diet toward fruits (particularly fatty fruits) in preparation for the demands of migration. Fruits remain important on migration and in winter, though Wood Thrushes remain omnivorous, eating a wide variety of insects as well.
Juvenile Diet: Food is soft-bodied invertebrates or fruits made softer by parents' mastication with bill or removal of hard body parts.
Special Adaptations for Getting Prey: Mostly probes and gleans; may use bill swipes or pick up single leaves to expose prey; occasionally hovers or hawks insects or fruit unreachable from ground. Typical foraging behavior on ground is several hops

and a pause to search. At army ant swarms, watches for prey from low perches; hops ahead or to side of swarm, avoiding competition from other birds.

Reproduction:

Mode of Reproduction: Monogamous

Mating System: Socially monogamous; extra-pair mating system. Social pairs and individual males and females have been observed foraying off-territory in a Pennsylvania population.

Mating Season: April to August

Courtship: No reports clearly distinguish pair formation from precopulatory behavior. Both probably include silent, roughly circular flights 1-2 m above ground led by female. Flights interspersed by perching together. Extensive male mate guarding both on- and off-territory has been documented via radiotracking in a Pennsylvania population. Female may initiate precopulatory flights by running at and pecking male during nest construction and egg-laying.

Territoriality: HOME RANGE

Mating: Only known observation of copulation is from UDW of a pair side by side on branch 3.5 m above ground in dawn light. Female fluttered wings and lifted tail; male crouched beside her briefly with bill open and pointed upward toward her before mounting. Flutter-to-mount sequence done 4 times in ca. 30 s before pair flew away.

Nest Placement: The nest is usually in the lower branches of a sapling or shrub, where a fork provides good support and twigs or foliage provide shade and cover. The male may call attention to a spot by calling or by placing nest materials nearby, but the final decision is the female's.

Nest Description: The female begins nest building by laying down a platform of dead grass, leaves, stems, and sometimes paper or plastic. She weaves walls 2–6 inches high using the same materials, ending up with a cup that’s 4–6 inches across. She stamps the floor tight and uses the weight of her body to mold a 3-inch inner cup. Then she lines the cup with mud which she smoothes with her breast. She finally adds a covering of rootlets to bed the eggs. The process takes 3–6 days. A pair often raises two broods of youngsters per season, but may need 3 or 4 attempts to do so. A second nest after a successful first is often within 300 feet, but an unsuccessful nest may provoke a wider search for a new site.

Egg-Laying: Clutch Size: 3-4 eggs Number of Broods: 1-2 broods Egg Length: 0.9-1.1 in (2.3-2.8 cm) Egg Width: 0.7-0.8 in (1.7-2.1 cm) Incubation Period: 12-15 days Nestling Period: 12-15 days Egg Description: Turquoise-green with no marking.

Hatching and Incubation/Gestation: Helpless, eyes closed, with only wisps of gray down.

Development: Helpless young pinkish, mostly naked; wisps of gray natal down; eyes closed. Mouth lining yellow. Egg tooth a small, whitish dot on tip of upper mandible; still present at fledging. ALTRICIAL.

Parental Care: Both parents carry food in bill and feed directly; perhaps some regurgitation. Feedings from presunrise to postsunset. Weak calls by parents and nestlings may be associated with food delivery and begging, respectively. Adults remove items not swallowed and try to feed other nestlings; consume surplus or hard parts themselves.

Lifespan: The longest known lifespan for a wood thrush in the wild is 8 years, 11 months.

Conservation:

Official Federal Status: Near Threatened

Special Statuses in Individual States: NONE

Threats: Wood Thrush are still common throughout the deciduous forests of eastern North America, but populations declined by almost 2 percent per year between 1966 and 2015 resulting in a cumulative decline of 62% percent, according to the North American Breeding Bird Survey. Partners in Flight estimates a global breeding population of 11 million with 94% spending part of the year in the U.S., 39% in Mexico, and 6% breeding in Canada. Wood Thrush is a U.S.-Canada Stewardship species, and rates a 14 out of 20 on the Continental Concern Score. It is listed as a Tri-National Concern species and is on the 2016 State of North America's Birds' Watch List, which includes bird species that are most at risk of extinction without significant conservation actions to reverse declines and reduce threats. The Wood Thrush is one of the most prominent examples of declining forest songbirds in North America. Some of the steepest declines have been in Atlantic Coast and New England states where Wood Thrushes are most common. Some areas of the Midwest have seen increases. One partial reason for declines is thought to be habitat fragmentation in both breeding and wintering grounds. Fragmented habitats may offer poorer food or expose nests to predators such as raccoons, jays, crows, and domestic or feral cats, and to the Brown-headed Cowbird, which is a nest parasite. However, in some studies habitat fragmentation has not hampered nest success. Wood Thrushes are also susceptible to the effects of acid rain, which can leach calcium from the soil, in turn robbing the birds of vital, calcium-rich invertebrate prey. In Central America, the loss of lowland tropical forests shrinks their winter habitat.

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

Extra Facts:

1. A songbird like the Wood Thrush requires 10 to 15 times as much calcium to lay a clutch of eggs as a similar size mammal needs to nurture its young. That makes calcium-rich food supplements like snail shells crucial to successful breeding. These are rare in soils subject to acid rain, which may help explain patterns of population decline in the Wood Thrush.
2. Wood Thrushes are vulnerable to nest parasitism by Brown-headed Cowbirds, which lay their eggs in other birds' nests. Some species refuse to raise these eggs, but Wood Thrushes accept them as their own. In some Midwest forest edge habitats, virtually every Wood Thrush nest contains at least one cowbird egg.
3. The Wood Thrush is a consummate songster and it can sing "internal duets" with itself. In the final trilling phrase of its three-part song, it sings pairs of notes simultaneously, one in each branch of its y-shaped syrinx, or voicebox. The two parts harmonize with each other to produce a haunting, ventriloquial sound.
4. In many songbird species, males square off by "song matching": they answer a neighbor's song with the same song, perhaps seeing which male can perform it best. Wood Thrush males are different. They almost always answer a rival's song with a different one.
5. The male Wood Thrush does more feeding of the chicks than the female, freeing her up to start a second brood. After that next brood fledges, the pair divides them up and feeds them at separate sites in the territory.
6. Though pairs raise broods together, fooling around (or "extra-pair copulation") is common. At some sites, as many as 40 percent of a female's young are not fathered by its mate.
7. The Wood Thrush's scientific name Hylocichla mustelina translates roughly as "weasel-colored woodland thrush."
8. The oldest known Wood Thrush was a male and at least 10 years, 2 months old when he was recaptured and rereleased during banding operations in Connecticut in 2010. He had been banded in the same state in 2002.

Notable Species: NONE