

= Wood thrush =

The wood thrush (*Hylocichla mustelina*) is a North American passerine bird . It is closely related to other thrushes such as the American robin and is widely distributed across North America , wintering in Central America and southern Mexico . The wood thrush is the official bird of the District of Columbia .

The wood thrush is a medium @-@ sized thrush , with brown upper parts with mottled brown and white underparts . The male and female are similar in appearance . The song of the male is often cited as being the most beautiful in North America .

The wood thrush is an omnivore , and feeds preferentially on soil invertebrates and larvae , but will also eat fruits . In the summer , it feeds on insects continuously in order to meet daily metabolic needs . It is solitary , but sometimes forms mixed @-@ species flocks . The wood thrush defends a territory that ranges in size from 800 to 28 @,@ 000 m² (960 to 33 @,@ 490 sq yd) . The wood thrush is monogamous , and its breeding season begins in the spring ; about 50 % of all mated pairs are able to raise two broods , ranging in size from two to four chicks .

= = Taxonomy = =

The only member of the genus *Hylocichla* , the wood thrush was described by German naturalist Johann Friedrich Gmelin in 1789 . The generic name is a direct translation of its common name , derived from the Greek words *hyle* / ??? " woodland " and *cichle* / ????? " thrush " or " fieldfare " . The specific name comes from the Latin *mustela* " weasel " . It is closely related to the other typical American thrushes of the genus *Catharus* , and is sometimes merged into that genus . It has been considered close to the long @-@ distance migrant species of that genus , as opposed to the generally resident nightingale @-@ thrushes , but this appears to be erroneous . The wood thrush also appears to be fairly closely related to the large *Turdus* thrushes , such as the American robin .

= = Description = =

The adult wood thrush is 18 to 21 @.@ 5 cm (7 @.@ 1 to 8 @.@ 5 in) long , with a wingspan of 30 to 40 cm (12 to 16 in) and a body mass of 48 to 72 g (1 @.@ 7 to 2 @.@ 5 oz) . Among standard measurements , the wing chord is 9 @.@ 6 to 11 @.@ 6 cm (3 @.@ 8 to 4 @.@ 6 in) , the bill is 1 @.@ 6 to 2 cm (0 @.@ 63 to 0 @.@ 79 in) and the tarsus is 2 @.@ 8 to 3 @.@ 3 cm (1 @.@ 1 to 1 @.@ 3 in) . It is distinctly larger than the *Catharus* thrushes with which the species is often sympatric but slightly smaller than the common American robin . The longest known lifespan for a wood thrush in the wild is 8 years , 11 months . The crown , nape , and upper back are cinnamon @-@ brown , while the back wings , and tail are a slightly duller brown . The breast and belly are white with large dark brown spots on the breast , sides , and flanks . It has white eye rings and pink legs . Other brownish thrushes have finer spotting on the breast . The juvenile looks similar to adults , but has additional spots on the back , neck , and wing coverts . The male and female are similar in size and plumage .

= = = Vocalizations = = =

The wood thrush has been reported to have one of the most beautiful songs of North American birds . American naturalist Henry David Thoreau wrote :

Whenever a man hears it he is young , and Nature is in her spring ; wherever he hears it , it is a new world and a free country , and the gates of Heaven are not shut against him .

While the female is not known to sing , the male has a unique song that has three parts . The first subsong component is often inaudible unless the listener is close , and consists of two to six short , low @-@ pitched notes such as bup , bup , bup . The middle part is a loud phrase often written ee @-@ oh @-@ lay , and the third part is a ventriloquial , trill @-@ like phrase of non @-@ harmonic pairs of notes given rapidly and simultaneously .

The male is able to sing two notes at once , which gives its song an ethereal , flute @-@ like quality . Each individual bird has its own repertoire based on combinations of variations of the three parts . Songs are often repeated in order . The bup , bup , bup phrase is also sometimes used as a call , which is louder and at a greater frequency when the bird is agitated . The wood thrush also use a tut , tut to signal agitation . The nocturnal flight call is an emphatic buzzing heeh .

= = Distribution and habitat = =

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 . Fall migration usually begins in mid @-@ August and continues through mid @-@ September . Migration takes place at night , allowing them to find their direction from the stars and orient themselves by detecting the Earth 's magnetic field .

The wood thrush prefers deciduous and mixed forests for breeding . It prefers late @-@ successional , upland mesic forests with a moderately @-@ dense shrub layer . Robert I. Bertin (1977) found that this thrush favors areas with running water , moist ground , and high understorey cover . The breeding habitat generally includes trees taller than 16 m (52 ft) , a fairly open forest floor , moist soil , and leaf litter , with substrate moisture more important than either canopy cover or access to running water . The wood thrush can breed in habitat patches as small as 0 @.@ 4 hectares (0 @.@ 99 acres) , but it runs the risk of higher predation and nest parasitism . The wood thrush 's breeding range has expanded northward , displacing the veery and hermit thrush in some locations . In recent times , as a result of fragmentation of forests , it has been increasingly exposed to nest parasitism by brown @-@ headed cowbirds , as well as loss of habitat in the winter range .

= = = Conservation status = = =

The wood thrush has become a symbol of the decline of Neotropical songbirds of eastern North America , having declined by approximately 50 % since 1966 . Along with many other species , this thrush faces threats both to its North American breeding grounds and Central American wintering grounds . Forest fragmentation in North American forests has resulted in both increased nest predation and increased cowbird parasitism , significantly reducing their reproductive success . A study by the Cornell Laboratory of Ornithology was the first large @-@ scale analysis that linked acid rain to this thrush 's decline . Continued destruction of primary forest in Central America eliminated preferred wood thrush wintering habitats , likely forcing the birds to choose secondary habitats where mortality rates are higher . In spite of this , the wood thrush is still considered to be of least concern .

= = = Vagrancy = = =

The wood thrush has been recorded twice as a vagrant in Europe , in Iceland at Kvísker in Öræfi East Skaftafellssýsla by Björnsson Hálfván on 23 October 1967 and on Wingletang Down , St Agnes , Isles of Scilly , England on 7 October 1987 .

= = Behavior = =

The wood thrush is primarily solitary , but occasionally forms mixed @-@ species flocks in the winter . Its breeding territory ranges from 800 to 8 @,@ 000 m² (960 to 9 @,@ 570 sq yd) in size , and are used for nesting , gathering nest materials , and foraging . Some wood thrushes also defend a feeding territory in the winter . Territorial interactions are usually settled without physical contact , but in high @-@ intensity encounters or nest defense , physical interactions with the feet or bill have been observed . Defense behaviors in response to nest predators include wing flicks , tail flicks , and

raising the crest , sometimes escalating to dives and strikes .

This species has also been observed displaying a behavior known as " anting . " Anting occurs when a bird picks up a single ant or group of ants and rubs them on its feathers . The purpose of this behavior is unknown , but it is thought that the birds may be able to acquire defensive secretions from the ants possibly used for some medicinal purposes , or that it simply supplements the birds ' own preen oil .

= = = Diet = = =

Soil invertebrates and larvae make up most of the wood thrush 's omnivorous diet , but it will also eat fruits in the late summer , fall , and late winter . It occasionally feeds on arboreal insects , snails , and small salamanders . The young are fed insects and some fruit . After breeding and before migration , the wood thrush will switch from insects to fruits with high lipid levels . In the summer , low fruit consumption and lipid reserves require the bird to feed on insects continuously in order to meet its metabolic needs .

The wood thrush forages mainly on the forest floor , flipping leaves over with their bills to reveal insects . It can be observed hopping around in leaf litter and on semi @-@ bare ground under the forest canopy . Fruits are swallowed whole .

= = = Predation = = =

Eggs and chicks are vulnerable to chipmunks , raccoons , blue jays , American crows , black rat snakes , brown @-@ headed cowbirds , common grackles , southern flying squirrels , gray squirrels , least weasels , white @-@ footed mice , domestic cats , great horned owls , and sharp @-@ shinned hawks . Adults are primarily taken by hawks and owls .

= = = Reproduction = = =

Wood thrushes are monogamous . Breeding pairs form in mid @-@ April to early @-@ May , and usually last throughout the breeding season . Most thrushes find a new mate each year , and mate guarding and extra @-@ pair copulations have not been observed in this species .

Some male wood thrushes arrive at the breeding grounds several days before the earliest females while other males arrive at the same time as the females , establishing territories ranging in size from 0 @.@ 08 to 0 @.@ 8 hectares (one @-@ fifth of an acre to two acres) . The female typically leads silent circular flights 1 ? 1 @.@ 8 m (3 @.@ 3 ? 5 @.@ 9 ft) from the ground , with the male chasing . Six or more flights generally take place in succession . The pairs will perch together and feed each other in between flights . The male begins to sing at dawn and dusk a few days after arriving at breeding grounds . Early in the breeding season , the male sings from high perches in the tallest trees , but as the season progresses , it sings somewhat shorter and less elaborate songs from lower perches . Each day 's singing begins and is most intense just before sunrise . The male may sing throughout the day but especially at dusk . The song season is usually over by the end of July .

Typically , the female chooses the nest site and builds the nest . However , there has been some indication that the male is able to influence the selection of the nest site by perching nearby and singing . Usually , though , the female chooses whether or not to accept or reject the nest site suggested by the male . The nest is usually sited in a dense patch of vegetation in a tree or shrub that provides concealment and shade . It is usually made of dead grasses , stems , and leaves , and lined with mud , and placed in a fork at a horizontal branch . The nest is not reused . Usually , two broods are attempted , although three to four separate nests may be built before a pair succeeds . Two to four pale blue eggs are laid at the rate of one per day . The eggs are incubated by the female only for 11 to 14 days , with the average being 13 days . Like all passerines , the chicks are altricial at hatching , mostly naked with closed eyes . The female broods the chicks during the first four days after hatching . Both parents feed the nestlings and remove fecal sacs from the nest . The

chicks fledge 12 ? 15 days after hatching , but the parents continue to feed them until they become independent and leave the parents ' territory at 21 ? 31 days old .

The young wood thrush is able to begin breeding the next summer . Most females lay their first eggs in mid @-@ May , but older females may begin laying sooner . Pairs usually attempt to rear a second brood no later than late July , with the last of the young fledging around mid @-@ August . About half of all wood thrush pairs successfully raise two broods .