Avian Models for 3D Applications

by Ken Gilliland

Songbird ReMix

WOODPECKERS

Volume 2: Woodpeckers of Eurasia

Manual

Field Guide

Songbird ReMix

WOODPECKERS

Volume 2: Woodpeckers of Eurasia

Introduction

Woodpeckers are part of the family *Picidae*, that also includes the piculets, wrynecks, and sapsuckers. Members of this family are found worldwide, except for Australia, New Guinea, New Zealand, Madagascar, and the extreme polar regions. Most species live in forests or woodland habitats, although a few species are known that live in treeless areas, such as rocky hillsides and deserts.

Woodpeckers are chiefly known for their characteristic behavior. They mostly forage for insect prey on the trunks and branches of trees, and often communicate by drumming with their beak, producing a reverberatory sound that can be heard at some distance. Some species vary their diet with fruits, birds' eggs, small animals, tree sap, human scraps, and carrion. They mostly nest and roost in holes that they excavate in tree trunks, and their abandoned holes are of importance to other cavity-nesting birds. They sometimes come into conflict with humans when they make holes in buildings or feed on fruit crops, but perform a useful service by their removal of insect pests on trees, in which keeps forests healthy.

The family *Picidae* includes about 240 species arranged in 35 genera. Almost 20 species are threatened with extinction due to loss of habitat or habitat fragmentation. This set features 13 species from Eurasia (31 woodpeckers in all), including all three types of Spotted Woodpeckers (Great, Middle and Lesser), the beautiful Eurasian Green and the unusual Eurasian Wryneck.

These avian jackhammers are a perfect addition to your woodland, forested and desert scenes. Included are native DAZ Studio and Poser versions for heighten realism.

Overview and Use

The set is located within the **Animals : Songbird ReMix** folder. Here is where you will find a number of folders, such as **Bird Library**, **Manuals** and **Resources** . Let's look at what is contained in these folders:

- **Bird Library:** This folder holds the actual species and poses for the "premade" birds. Birds are placed into a "type" folder (such as "Birds of Prey (Order Falconiformes)" which for example would hold falcons, hawks and eagles). The birds for this set can be found in the following folder(s):
  - **Woodpeckers and Toucans (Order Piciformes)**
- **Manuals:** Contains a link to the online manual for the set.
- **Props:** Contains any props that might be included in the set

- **Resources:** Items in this folder are for creating and customizing your birds
  - **Bird Base Models:** This folder has the blank, untextured model(s) used in this set. These models are primarily for users who wish to experiment with poses or customize their own species of bird. When using physical renderers such as Iray and Superfly, SubD should be turned to at least "3".

Poser Use

Select **Figures** in the **Runtime** Folder and go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer *Firefly or Superfly*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**.

DAZ Studio Use

Go to the **Animals : Songbird ReMix** folder. Select the bird from the renderer (*3Delight or Iray*) folder you want and simply click it to load. Some birds in the Songbird ReMix series may load with attached parts (*Conformers*) such as tail or crest extensions. Some of these parts have specific morphs. You will need to click on the attached part to access those controls. Associated poses can be found in the same folder- **Bird Library : (Type) : Poses**. **Note:** Using the "Apply this Character to the currently selected Figure(s)" option **will not** properly apply the correct scaling to the bird selected. It is better to delete the existing character first and load the one you want to use.

Physical-based Rendering

Iray and **Superfly** requires more CPU and memory horsepower than the legacy renderers because of ray-trace bounces and higher resolution meshes needed for displacement. Poser's **Superfly** renderer will require that the "Min Transparent Bounces" be set to **at least 16** and that the "Max Transparent Bounces" be set to **at least 32** in render settings. Superfly renders may show artifacts in the head area. The higher the bounce settings, less chance those will be apparent. This is a known Poser issue and may be addressed in the future. Increasing the SubD may minimize this issue. A good work around solution for Superfly artifacts is to HIDE Fluff areas (Correction Controls).

Hiding Transparency Panes

In some camera angles and lighting situations, the area where a transparency pane connects to the main body may be obvious and undesirable. In the Correction Controls area of the model, you can hide individual sections on these transparency panes to avoid this issue.

Posing & Shaping Considerations

This volume has various species, so when using generic poses not every pose will work perfectly with every bird. You may find that some minor alteration on the stock poses may be warranted.

Here are some of the most common alterations you may need to make:

- Birds will not be flat on the zero plane due to leg size and overall scale.
- Because of the numerous beak shapes, closing the beak may range from 0.5 to 1. Usually 0.8 is about right.
- **Raise Upper Beak** ***(in Action Controls):*** This morph is a "one size fits all" control. Because of the variety of beak shapes. It may not work with all birds.
- **Tongue poke-through** (especially when the beak is open). This can be easily solved by using the **Throat-Fuller1 & 2** morphs (*found in Creation Control/Head Shapes*).

Some poses may go askew when IK is turned on. By default, Poser's IK feature is turned off when loading a bird. To turn it on, select the "Figure" category from the main tool bar and "Use Inverse Kinematics" from the submenu.

By default, DAZ Studio's IK feature is turned on when loading a bird. This will cause the thigh and shin rotations change when the character is moved. The **CTRL K** keypress will turn IK on and off in DAZ Studio. IK doesn't work that well in Studio, so I suggest selecting the character in the **Scene tab** and simply deleting the two IK body parts to remove IK.

Where to find your birds

Type Folder	Bird Species
Woodpeckers and Toucans (Order Piciformes)	Black Woodpecker Eurasian Green Woodpecker Eurasian Wryneck Great Spotted Woodpecker Grey-headed Woodpecker Iberian Green Woodpecker Lesser Spotted Woodpecker Levaillant's Green Woodpecker Middle spotted Woodpecker Syrian Woodpecker Three-toed Woodpecker White-backed Woodpecker White-winged Woodpecker

Where to find your poses

Type Folder	For what species?
Woodpeckers and Toucans (Order Piciformes)	All Woodpeckers; the Black Woodpeckers uses the "long-necked" poses; all others use the "short-necked" poses

Songbird ReMix

WOODPECKERS

Volume 2: Woodpeckers of Eurasia

Black Woodpecker
Eurasian Wryneck
Lesser Spotted Woodpecker
Middle Spotted Woodpecker
Great Spotted Woodpecker
Syrian Woodpecker
Eurasian Green Woodpecker
Iberian Green Woodpecker
Levaillant's Green Woodpecker
Grey-headed Woodpecker
Three-toed Woodpecker
White-backed Woodpecker
White-winged Woodpecker

Common Name: Black Woodpecker
Scientific Name: *Dryocopus martius*

Size: 16.5–21.7 inches (45-55 cm)

Habitat: Eurasia; It is the sole representative of its genus in that region. It does not migrate.

It is found in all types of mature forest, so long as they are not extremely dense and damp. It can also be found at forest edges. Spruce and pine forests with larch, birch, aspen and alder are preferred in Scandinavia and Siberia while all habitat types in primeval Polish forests are attractive. In central Europe, it occurs in all types of not over-dense deciduous, mixed or coniferous forest, from riparian woodland to subalpine forests. In Japan, it occurs in open boreal mixed or coniferous forests, but rarely in lowlands. It requires decaying trees and stumps for foraging, and tall timber for nests and roosts. Outside breeding season also in open areas such as forest clear-cuts, even on outskirts of cities.

Status: Least Concern.
Global Population: 6,000,000 - 10,500,000 Mature individuals. Its range is expanding in Eurasia.

Diet: Mainly carpenter ants and their brood. It may switch from *Camponotus* in winter to *Lasius* in spring. Wood-boring beetles and bark beetles and their larvae are also taken, as well

as various other arthropods, and occasionally, snails. It has been reported to break into beehives. Fruits and berries eaten only rarely.

Breeding: A very large woodpecker. The male has a red central forehead to hindcrown, a few gray feather bases (sometimes showing through) but the rest of plumage black, head and upper parts (especially wing-coverts) are glossed dark blue-black. The primaries are tinged dark brown, the under parts are slightly duller and often tinged gray. In worn plumage the black is duller and distinctly gray-tinged below, and red on head is mixed with dark gray. The long bill is chisel-tipped, has a very broad-based, culmen slightly curved, and is pale ivory-white to pale horn. The culmen and tip are bluish to blackish. The iris whitish or yellowish-white, sometimes pale cream-gray. The legs are dark gray to blue-gray. The female has its forehead and fore-crown glossy black, with red only on the hind crown, the bill is shorter than male's. The juvenile is duller, more sooty-black, often with paler (dark gray) throat, the red on the head duller or paler with larger dark feather bases. The young male with less red than the adult male.

Race khamensis

The male woodpecker digs a nest hole, usually in a live poplar or pine tree. The female finishes the nest with softer plant materials where it lays four or more eggs.

Cool Facts: Unlike other woodpecker species, the Black Woodpecker does not have a dipping, bounding flight.

- *D. m. martius.* The nominate species is found in Europe from Spain, France and Scandinavia (northward to the Arctic Circle) southward to the Balkans and northern Turkey, and eastward in broad belt across Asian taiga (south to the Altai Mountains in northern Mongolia) to Kamchatka, Sakhalin and Japan (Hokkaido, extreme northern Honshu), northeastern China and Korea; also Caucasus and northern Iran.
- *D. m. khamensis.* It is found in south-central China (Qinghai and eastern Tibet to northwestern Yunnan). Race *khamensis* differs from the nominate in being blacker and having more glossy plumage.

Common Name: Eurasian Wryneck
Scientific Name: *Jynx torquilla*

Size: 6.26 inches (16-17 cm)

Habitat: Eurasia and Africa; the breeding range of Wryneck lies entirely within the Palearctic region, from France and Iberia eastwards to Japan, between latitudes 35 and 64 degrees. In continental Europe it breeds regularly from sub-arctic Fenno-Scandia (Lapland) to the Mediterranean and Black Sea. In the British Isles most wrynecks are seen at coastal observatories. As a breeding species it is more common away from the European coastline, in particular the Atlantic and North Sea coasts of France and the Low Countries, seemingly preferring a drier inland, continental climate. However, wrynecks do

breed on the Atlantic coasts of Norway and northern Spain, so perhaps other factors besides climate, such as habitat land use, are involved. It is unclear which race breeds in Greece, though it is possible that both races *torquilla* and *tschusii* do. The latter race is also thought to winter there. Some Wrynecks also winter in southern Spain and southern Italy. The bulk of the population however winters in Africa.

They are seen in open forests, clearings, woodlands with low undergrowth, wooded pastures, and unimproved meadow-lands with scattered trees, so long as they are dry and sunlit. They avoid damp vegetation and higher mountain areas. In non-breeding season, they are found in open dry woodlands, bushy grasslands and gardens. In southern Asia, they are typically found in scrub, thickets, in the canopy of forests and in cultivated areas. Over-winterers in southern Europe prefer coastal wetlands and maquis. Migrants can also be found in treeless open habitats, including the desert.

Status: Least Concern. **Global Population:** 5,000,000 - 15,000,000 mature individuals. The population has suffered a long term reduction in numbers and range since the mid 19th century in west and central Europe owing to increased rain during the breeding season caused by climatic changes, agricultural improvement, loss of orchards and unimproved meadows, replacement of hardwoods with conifer plantations and widespread over-use of pesticides and herbicides. In Europe, trends since 1980 show that populations are still undergoing a moderate decline. The Eurasian Wryneck is red-listed (Endangered) in Britain by RSPB.

Diet: Mostly ants, along with larvae and pupae. Other insects include small beetles, aphids, Lepidoptera, dipteran flies, bugs, spiders, woodlice and occasionally mollusks, frog tadpoles and bird eggs. Plant matter (such as berries) is rarely eaten.

They forage mainly on the ground and occasionally in trees.It procures prey from crevices or from the surface using its bill to open anthills. It hops on ground and along horizontal or sloping branches.

Breeding: The sexes are almost identical in plumage and visually rarely separable in the field. Adult males are warmer and richer in color than females with more rufous and yellowish tones on the under-parts. Both sexes have their foreheads to hind necks pale gray, speckled darker, finely barred with black and rufous, with tiny white feather tips (white spots and black bars usually more distinct on crown). There is a narrow creamy stripe from nostril to below eye, a thin creamy supercilium, a broad rufous-mottled black band from the eye through the upper ear-coverts and irregularly down the neck side. There is a buff to cinnamon-buff stripe from the bill base to the lower ear-coverts and neck side, which is usually a finely barred dark. The upper parts are pale gray, finely dark-speckled and with narrow dark shaft streaks. The feathers are sometimes with black, rufous and whitish marks at tips. The central mantle is black, edged rufous, this pattern is often continuing as irregular band up to the crown center. The outer scapulars are black, large pale buffish spot at the tip. The wing-coverts and tertials are brownish-buff, speckled gray and rufous-buff, with thin black shaft streaks, black subterminal bars and creamy tips. The primaries and secondaries are dark brown with rufous-buff spot-bars. The tail with usually 4–5 (variable) irregular, thin black bars often bordered by gray and buff bands. The chin is whitish, the throat and upper breast buff or cinnamon-buff, all narrowly vermiculated black, often with an incomplete dark malar stripe. The rest of under parts are whitish with a

variable cream or buff, narrow dark bars on the breast, arrowhead marks on the lower under parts (extent of markings variable, belly often plain). The under wing is barred gray and white and the coverts buff with black bars. The bill is dark horn-brown, often tinged green. The iris is brown to red-brown and the legs brownish to gray-green, occasionally tinged yellow or pink. The juvenile is like the adult, but duller, darker, more barred (less streaked) above, more clearly barred below, fewer but more pronounced tail bars and the outer primary is much longer.

Breeding occurs in May and June. They are territorial with the home range large and starting at the start of breeding season, but shrinking considerably after pairing. The male sings on exposed perch or from prospective nest-hole. On meeting, partners display by head-swinging with ruffled head feathers. Courtship feeding may extend into the incubation period. Nest-site are selected by both sexes, in natural cavity, in old hole of another woodpecker, or in artificial nestbox, at height of 1–15 m.

A clutch 7–12 eggs is laid and incubation is performed by both adults for about 11–12 days. The nestlings are fed by both parents and they respond to intruders with characteristically with snake-like head movements and hissing. The young fledge after 20–22 days and are independent 1–2 weeks later.

Cool Facts: Wynecks (Jynx torquilla) are in woodpecker family though they do not have the characteristically long bills like woodpeckers do. These birds get their common name from their ability to turn their heads almost 180 degrees. When disturbed at the nest, they use this snake-like head twisting and hissing as a threat display. This odd behavior led to their association with witchcraft, hence to put a "jinx" on someone.

This species is a long distance migrant, and can cover a distance of 600 km (360 miles) in 8 days.

There are four subspecies:

- *J. t. torquilla.* The nominate species is found throughout most of Eurasia except parts of the south. It winters on the Iberian Peninsula, Balearic Island, Africa and southern Asia.
- *J. t. tschusii.* It is found in Corsica, Sardinia, Italy and the eastern Adriatic coast. It winters in southern Italy and Africa. Race *tschusii* is darker than the nominate, the dark patch on the upper parts is more prominent and the markings below are heavier. Its shorter wings are more rounded.
- *J. t. mauretanica.* It is found in northwestern Africa. This subspecies is similar but slightly smaller and paler below.
- *J. t. himalayana.* It is found in the northwestern Himalayas (northern Pakistan eastward to Himachal Pradesh). It winters to the south at lower altitudes. Race *himalayana* is much more strongly barred below, including the belly.

Common Name: Lesser Spotted Woodpecker
Scientific Name: *Dryobates minor*

Size: 5.5-6.3 inches (14-16 cm); **Wingspan:** 00 inches (00 cm)

Habitat: Eurasia; its range is the Palearctic region of Eurasia.

It is found in the temperate and boreal deciduous woodlands in lowlands of its range. It prefers open forest with softwood deciduous trees in the vicinity of lakes or rivers. It can also be found at forest edges, in parks, orchards and gardens. It requires good number of thin snags. It is restricted to cork-oak forests in Northern Africa.

Status: Least Concern. **Global population:** 39,300,000 mature individuals with a decreasing population trend. It is fairly common to scarce in most of its range. It appears to have declined in many parts of Europe, largely as a result of loss of deciduous habitats, especially riverine forest and old orchards, which were previously used extensively. It is however spreading in parts of Spain, using poplar plantations. This woodpecker responds negatively to forest fragmentation and admixture of conifers. In 2017, the UK population of lesser spotted woodpeckers was reported to have almost halved since 2009, to around 2,000. The British Ornithology Trust blamed modern habits of removing dead trees quickly from parks and woodland, depriving the birds of the decaying wood which is their favored nesting habitat.

Diet: Small insects comprise the main bulk of its diet. In summer, mostly caterpillars , aphids, ants, beetles, and other surface-dwelling arthropods, including flies and spiders; even small snails are taken. In winter, wood-boring

larvae and those living under the bark become important food sources. Ants are more important in the southern parts of its range. This woodpecker eats very little vegetable matter, but occasionally takes fruit and berries, and seeds at feeders.

It usually forages alone, but may join mixed flocks, especially tits (*Paridae*), outside of its breeding season. It forages quietly in the upper stratum or in dense vegetation. It prefers to seek food from (vertical) twigs of 1–3 cm in diameter in the canopy, and is rarely found on tree trunks . It descends to lower levels, mainly to visit bushes and plant stalks. Foraging techniques include gleaning, hammering, pecking series to dislodge large pieces of bark, and probing. It also makes aerial sallies for insects, and visits sap holes made by other woodpecker species.

Breeding: The male has buff-tinged white forehead and lores, a crimson-red crown (usually some pale feather bases showing) bordered by narrow black lines, black nape and hind neck. The rest of its head, including chin and throat are white or whitish, with a black malar stripe expanding on neck side and extending irregularly down to the upper breast sides. It has black upper parts, broad white bars on the lower mantle and lower scapulars to the upper rump. The wing-coverts are with broad white spots or bars near the tips. The black flight-feathers are broadly barred white and the upper tail is black with the outer feathers being white with 2 or 3 dark bars near their tips. The white under parts have a slight buff tinge. The breast sides and flanks have thin black streaks and the under tail-coverts are usually spotted black. The short bill is chisel-tipped and is dark gray to blackish with a paler base on its lower mandible. The iris is red-brown or brownish and the legs are green-gray.

The female lacks the red on head and has a white or buffish-white forecrown with black crown sides and a black hindcrown. The juvenile is duller than the adult with black areas tinged brown, a pale forehead patch obscured by darker tips. It has heavier but duller and less defined streaks below. The male juvenile has a gray-mottled pinkish to red forecrown while the female has a pale forecrown obscured by dark tips and usually a few reddish tips.

Breeding season occurs from April to mid-May (June in the northern parts of its range). It is mostly monogamous with pair-bonding extending over several years (10% of females polyandrous, 3% of males polygynous). Courtship starts in February with displays of wing and tail-spreading, characteristic flutter-aerial displays, and gliding flight with wings held well above back. The nest hole is excavated by both sexes, with the male often taking greater share of the work. A clutch of 5–6 eggs is laid and incubation is performed by both sexes with the male often doing more. Eggs hatch after 10–12 days and chicks are fed by both parents. The fledging period lasts 18–21 days and juveniles are cared for by both parents for a 1–2 weeks more.

Cool Facts: It is the smallest woodpecker in Europe. There are 13 recognized subspecies:

- *D. m. comminutus.* First reported by Hartert in 1907. It is found in England and Wales. Race *comminutus* resembles *buturlini*, but is slightly smaller, with much fainter streaks below.
- *D. m. minor.* First reported by Linnaeus in 1758. The nominate subspecies is found in Scandinavia and northeast Poland to the Ural Mountains
- *D. m. kamtschatkensis.* First reported by Malherbe in 1860. It is found from the Ural Mountains to the Sea of Okhotsk and northern Mongolia. It is the largest, long-winged and has a proportionately longer bill than the nominate. It is much more white above, and has an almost unmarked white outer tail, with few or no streaks below.
- *D. m. immaculatus.* First reported by Stejneger in 1884. It is found in the Anadyr Basin and Kamchatka Peninsula (east Siberia)
- *D. m. amurensis.* First reported by Buturlin in 1908. It is found in northeast China, Siberia, Korea and Hokkaido (Japan). It is very like nominate, but has narrower white bars above and is slightly grayer and usually more streaked below.
- *D. m. hortorum.* First reported by CL Brehm in 1831. It is found in central Europe. Race *hortorum* has slightly less white on the back than the nominate and the outer rectrices are more barred. It has a buff or light brown face and under parts and the throat is sometimes tinged pink. The flanks are more heavily streaked.
- *D. m. buturlini.* First reported by Hartert in 1912. It is found in southern Europe. It is darker than *hortorum*, more heavily streaked below.
- *D. m. danfordi.* First reported by Hargitt in 1883. It is found in Greece and Turkey. It is similarly dark below like *ledouci*, sometimes brown-tinged, and has a black band from hindcrown around the rear ear-coverts.
- *D. m. colchicus.* First reported by Buturlin in 1908. It is found in Caucasus and Transcaucasia. Race *colchicus* is like *danfordi*, but has more white above, the black band behind ear-coverts is sometimes broken.
- *D. m. quadrifasciatus.* First reported by Radde in 1884. It is found in the Lenkoran region of southeastern Transcaucasia (southeast Azerbaijan). It is small, short-billed, has less white above and sometimes a hint of a black band joining malar stripe with the nape. The outer rectrices are heavily barred black, the pale areas are buff-brown, and the flanks are heavily dark-streaked and sometimes barred.
- *D. m. hyrcanus.* First reported by Zarudny & Bilkevitch in 1913. It is found in north Iran.
- *D. m. morgani.* First reported by Zarudny & Loudon in 1904. It is found in northeastern Iraq, northwestern Iran and the Zagros Mountains. Race *morgani* is distinctive, it has very long and narrow bill, a broad black band behind ear-coverts, a buff face, deep buffish-brown upper breast (and sometimes chin and throat) contrasting with the white rest of the under parts with very sharp black streaks on the breast and flanks.
- *D. m. ledouci.* First reported by Malherbe in 1855. It is found in northwest Africa (NE Algeria, NW Tunisia). It is dark like *comminutus*, but the pale areas of the head to breast are somewhat darker buff-brown. There is often heavier streaking below and it may show some black behind the ear-coverts, and usually has an all-black bill.

Common Name: Middle Spotted Woodpecker
Scientific Name: *Dendrocoptes medius*

Size: 7.9-8.7 inches (20-22 cm)

Habitat: Europe; It is endemic to the European Palearctic, from northern Spain and France east to Poland and Ukraine, and south to central Italy, the Balkan Peninsula, Lithuania, Latvia, Turkey, the Caucasus, and Iran. This species used to breed in Sweden but became extirpated in the 1980s. However, it has been seen again in Sweden in its breeding habitat in recent years, suggesting a recolonization. Due to its sedentary nature it has never been recorded in Great Britain.

It prefers deciduous forest regions, especially areas with old oak, hornbeam and elm, and a patchwork of clearings, pasture and dense woodland.

Status: Least Concern. **Global population:** 600,000-1,399,999 mature individuals with an increasing population trend. Declines have mostly been driven by forest management, especially fragmentation of oak forests, elimination of old and decaying trees and the replacement of indigenous deciduous forest with coniferous. The effects of atmospheric pollution may pose a risk. Climatic changes and adverse weather also influence populations on a local scale

Diet: insects as well as their larvae, which it finds by picking them from branches and twigs rather than hacking them from beneath the bark. It will also feed on tree sap.

It is rarely heard drumming, and never for territorial purposes, which it asserts by song; a slow, nasal "*gvayk gvayk gvayk gvayk gvayk*". Calls include a fast "*kik kekekekek"*.

Breeding: The male has buffish-white forehead, a crimson-red crown and nape (feathers long, narrow) with a narrow black hindneck. The rest of the head and neck are white, with the ear-coverts streaked or mottled grayish and a faint buff or pale gray malar stripe and a large black patch on side of neck which curves up in narrow stripe behind ear-coverts (occasionally almost to nape) and down on to sides of the upper breast. It has a dull black mantle and inner scapulars to the upper tail-coverts, mainly white outer scapulars and inner wing-coverts with some black at base. The black flight-feathers with large white spots forming 4–6 broken bars. the upper tail black with the outer 2 rectrices with white tips and outer webs (the latter with 2–3 dark bars). It is white below wit the breast and flanks strongly tinged a yellow-buff, becoming pinkish on upper belly and lower flanks, darker pink vent and under tail-coverts. There are long black streaks on the sides of the breast and flanks usually well defined. Its medium-length bill is pointed, gray or darker, with the paler base of lower mandible. The iris is red-brown or red and the legs are gray.

The female is like the male, some almost identical, but often red of crown paler, becoming browner to golden at rear, pale areas of head are more buff. The juvenile is duller than the adult, especially on the head (crown feathers are shorter, less narrow), has brownish tips in the pale areas of the body, some brown in white wing patch. It is grayer below, and the pink area is paler and smaller, streaking more diffuse and usually a hint of thin bars on the flanks. The eyes are often gray-brown. The juvenile male has a gray-mottled red crown becoming blackish with red tips on the nape while the female is with smaller area of duller red and the hind crown is almost mostly black.

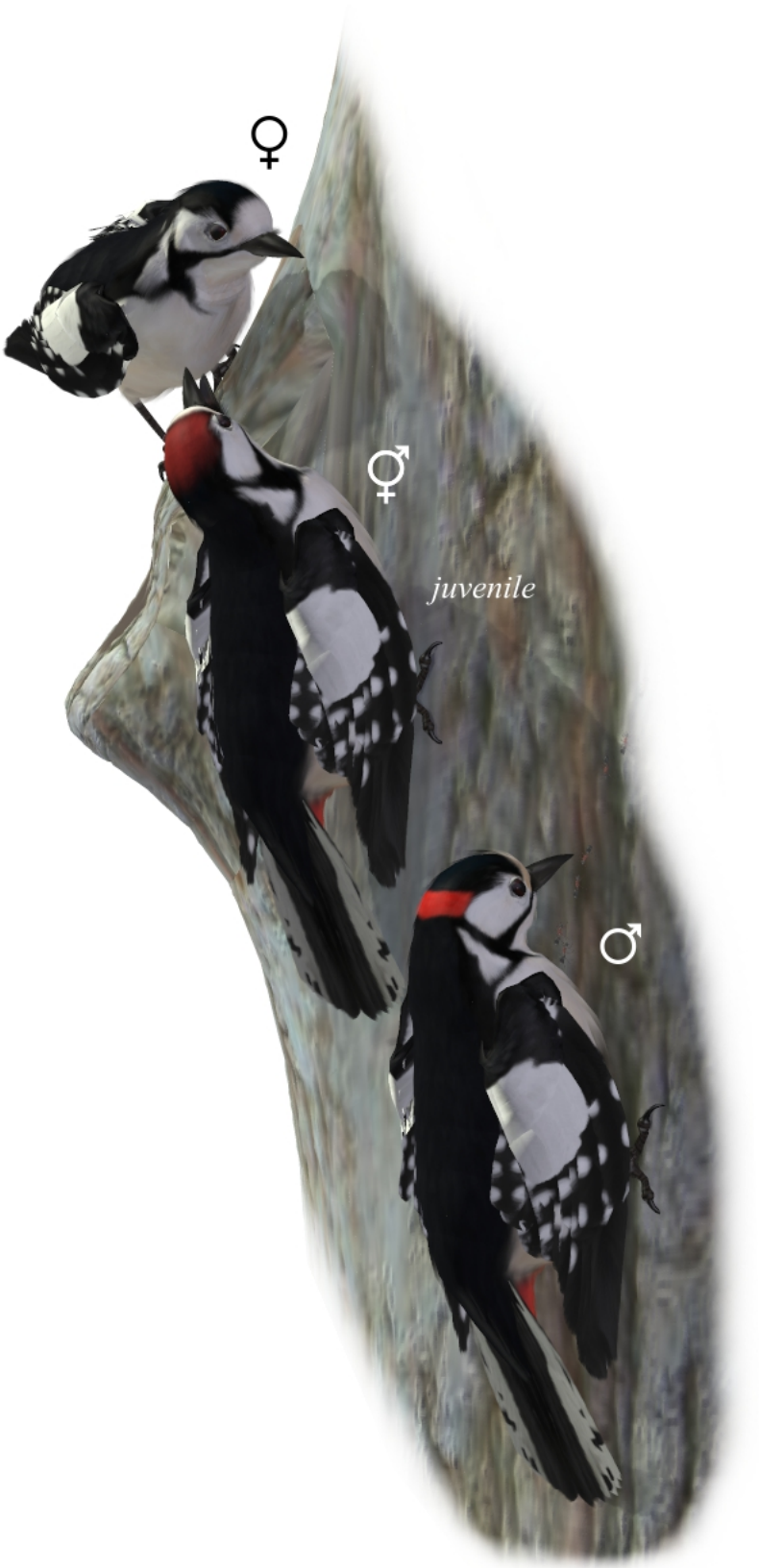
In the breeding season (April-June), the male excavates a nest hole about 5 cm wide in a decaying tree trunk or thick branch. The female lays four to seven eggs and both sexes incubate them for 11–14 days.

Cool Facts: Four subspecies are recognized:

- *D. m. medius.* First reported by Linnaeus in 1758. The nominate subspecies is found from Europe to west Russia.
- *D. m. caucasicus.* First reported by Bianchi in 1905. It is found in north Turkey through the Caucasus. It is brighter below than the nominate, the belly more golden-yellow, the pink of ventral region is less extensive but redder, the breast sides and flanks are more heavily streaked, the outer rectrices more strongly and symmetrically barred.
- *D. m. anatoliae.* First reported by Hartert in 1912. It is found in west and south Turkey. It is very similar to *caucasicus.* but marginally smaller, perhaps with heavier markings below, paler vent.
- *D. m. sanctijohannis.* First reported by Blanford in 1873. It is endemic to the Zagros Mountains (southwest Iran). It has a much whiter head and underparts, the yellow is restricted to a band across the lower belly. It has a deeper pink-red vent and under tail-coverts.

Common Name: Great Spotted Woodpecker
Scientific Name: *Dendrocopos major*

Size: 7.9-9.4 inches (20-24 cm)



Habitat: Eurasia; This species is found across the Palearctic including parts of North Africa.

All kinds of woodland and forest, from pure broadleaved forest to unmixed stands of conifers; also common in copses, tree avenues, parks, gardens. It inhabits olive and poplar plantations and up to cedar , pine, pine-oak and cork oak woods in North Africa. It is found in alder and rhododendron in North Myanmarand it is considered common in deciduous, mixed or coniferous woods, and parks in Japan. It occurs from sea-level to the timber-line in Europe, where breeding recorded at over 2000 m. In North Africa, up to 1000 m elevations (Tunisia) while in Morocco, up to 2200 m. It is found up to 2500 m in the central Asian mountains. Race *cabanisi* can be found in forests above 1800 m in southeastern Asia and up to 2300 m in North Myanmar and Japan.

Status: Least Concern.
Global Population: 75,000,000 - 200,000,000 Mature individuals with a stable population trend. In many parts of its range, it is considered by far the most

commonest woodpecker. It is less common locally, and even rare in southeast Asia. In Europe, it has an estimated population of 3,300,000–4,480,000 pairs, with another 1,000,000–10,000,000 in European part of Russia. The largest numbers are in Germany (500,000–900,000 pairs), then Belarus (c. 600,000) and France (over 300,000). Densities vary from 1 pair per 10 ha to 6.6 pairs/10 ha (the highest numbers being in mature alluvial forests). The increase in extent of forested area, with a greater proportion of dead wood, has resulted in stable or slightly increasing numbers in many regions in Europe. On other hand, harsh winters can cause significant mortality, and fragmentation of habitat can pose problems locally.

The Canary Island races *canariensis* and *thanneri* are currently probably the most vulnerable, especially the former, which may be at some risk because of human exploitation of the Canarian pine forest. Nevertheless, species is generally highly adaptable in much of its range and capable of existing in very close proximity to man, and able to colonize wide variety of wooded habitats.

Diet: It has a very varied diet, with clear seasonal changes in more seasonal habitats. Animal food consists mainly of larvae of wood-boring beetles (*Cerambycidae, Scolytidae, Buprestidae*), Lepidoptera and Hymenoptera, adult beetle, hymenopterans, hemipterans, homopterans, spiders and many other arthropods also consumed. Ants can form substantial part of diet, and include genera Lasius, Formica, also *Camponotus* and *Dolichoderus*. It is also known to take crustaceans and mussels, carrion (small mammals), and obtains suet and other food, including household scraps, at feeders. It is notorious for taking eggs and young from other hole-nesting birds. It also raids open nest.

Plant materials eaten are usually rich in fat, mostly in form of coniferous seeds and various nuts (e.g. hazel , walnut, beech, hornbeam), and acorns. These become more important as a winter food in the northern part of its range. Seeds usually contribute 30% of the diet but often up to 80% of its intake in winter. Other vegetable matter includes buds and, of major importance locally and seasonally, tree sap and fruit nectar. It takes a wide array of berries and fruit, and those are even fed to the nestlings.

It forages alone, and sometimes in pairs, with members keeping in loose contact. Makes use of all strata, but can be found mainly in tree crowns in the winter, and is more frequently found on lower end of tree trunks in the summer. It climbs quickly, mostly straight up, but often backwards and downwards. It clings to twigs and leaf clusters in same manner that tits (*Paridae*) often do. It occasionally will fly catch, but pecking and hammering are the most common techniques it uses. It pries, tears and pecks off pieces of bark, gleaning and probing for food. The drilling of sap holes and sap-sucking is very common. Uses “anvils” to work on unwieldy arthropod prey, fruits and, most importantly of all, pine, spruce or larch cones, and nuts.

Breeding: The male has black nasal tufts, a white to buffish forehead, a blue-glossed black crown with a bright crimson-red nape. Its hind-neck is black with a large white patch on each side. It has white to creamy lores and the

sides of head are bordered below by black stripe from the nape to the base of lower mandible with black broadening in center and extending to the sides of the breast. It has blue-black upper parts, with often grayish feather bases visible on the rump. The outer scapulars are white and the innermost greater and median wing-coverts are white, joining with outer scapulars to form a large white patch. The flight feathers are black or brown-black with up to 6 white spots forming prominent bars, some white in primary coverts; uppertail black, off-white bars at tips of rectrices increasing in size from second-innermost outwards, two outermost pairs mostly white with 2 or 3 black bars. It is generally white, pale greyish-white or buff-white below with a bright scarlet vent and under tail-coverts. The strong bill is short to moderately long, and is chisel-tipped, blackish-gray, lead-gray or slate-gray with the lower mandible sometimes being paler. The iris is a deep red or reddish-brown and the legs are slate-gray, tinged olive or brown.

The female is the same as the male but lacks red on its nape. The juvenile is less glossy, more brown-tinged above, the bases of the white scapulars are often with black barring. The malar is less sharply defined, post-auricular bar narrower and sometimes does not extend to its nape. The under parts are often dirtier with dusky streaks, and the flanks are sometimes barred. The ventral area can be pink or occasionally even buff or whitish. The eyes are browner and the male has a red crown narrowly edged with black (the red is usually less extensive on female juvenile).

The Great Spotted woodpecker is monogamous, but polyandry has been recorded in Japan. Courtship commences in December with flutter-aerial displays mostly performed by the male flying away from partner. The flight has shallow wingbeats, a fully spread tail turned upwards, and with a call series. Upon landing, the male maypoint to a prospective nest-hole. Usually a new hole excavated annually, by both sexes, mostly by male. Nests are rarely reused. Egg laying starting in mid-April to June (later in far north and at higher altitude). The clutch is 4–7 eggs with incubation performed by both sexes for 10–12 days. Both parent feed chicks and attend to nest sanitation. The fledging period lasts for 20–23 daysand the fledged brood is divided between parents, who feed by them for about ten days and remain near nest for further 5–10 days.

Cool Facts: The fossil subspecies *D. m. submajor* lived during the Middle Pleistocene Riss glaciation (250,000 to 300,000 years ago) when it was found in Europe south of the ice sheet. It is sometimes treated as a distinct species, but did not differ significantly from the extant great spotted woodpecker, whose European subspecies are probably its direct descendants.

The Great Spotted Woodpecker was described by Carl Linnaeus in his landmark 1758 10th edition of “Systema Naturae” as *Picus major*. It was moved to its current genus, *Dendrocopus*, by the German naturalist Carl Ludwig Koch in 1816. The genus name *Dendrocopus* is a combination of the Greek words dendron , "tree", and kopos, "striking". The specific major is from Latin *maior*, "greater".

When drumming, the Great Spotted strikes its' target 10-15 times a second.

Races differ both in size and in plumage, as well as in length and shape of bill, generally the northern populations bigger, with shorter, heavier bill, whiter below.

There are fourteen subspecies separated in three groups:

Great Spotted Group

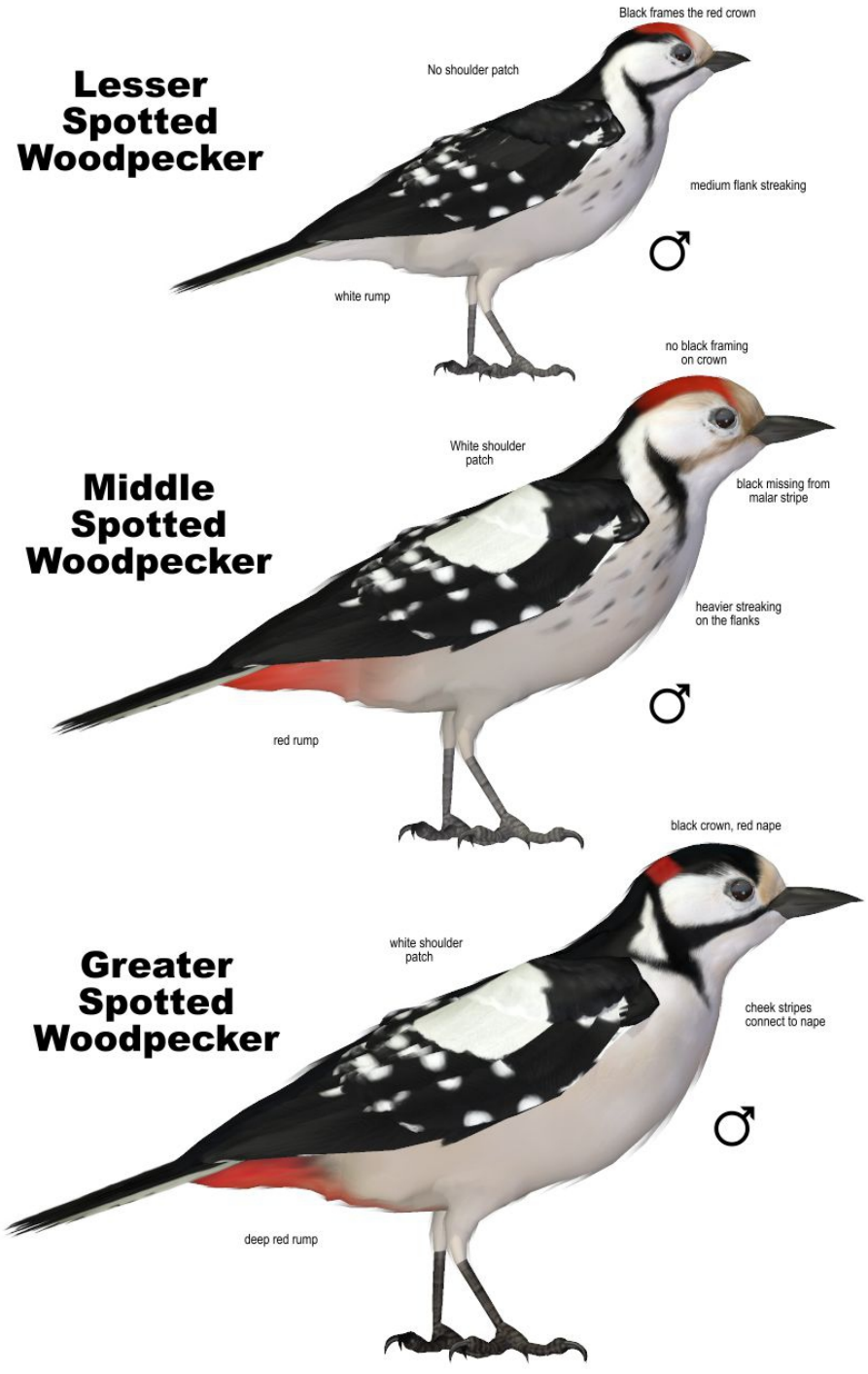
- *D. m. major.* First reported by Carl Linnaeus in 1758. The nominate species is found in Scandinavia and western Siberia eastward to the Urals and southward to northern Poland and northern Ukraine.
- *D. m. pinetorum.* It is found in eastern Ireland, Britain, France and central Europe east to the Volga River and south to Italy, the Balkans, Turkey, southern Ukraine and Caucasus. It is smaller, has longer, narrower bill, light buffish under parts.
- *D. m. harterti.* It is found in Sardinia and Corsica. It is like *hispanus* but bigger, dark gray-brown below with a darker red vent.
- *D. m. hispanus.* It is found in Iberia. It resembles *pinetorum* but is darker.
- *D. m. poelzami.* It is found in the southern Caspian region and Transcaspia. It is rather small, with a proportionately long bill and very brown below.
- *D. m. brevirostris.* It is found from western Siberia eastward to the Sea of Okhotsk, the lower Amur River and northeastern China, and southward to central Tien Shan and Mongolia. It is very much like the nominate but slightly bigger, the plumage is very fluffy and perhaps, whiter below with its vent being a deeper red.
- *D. m. kamtschaticus.* It is found in Kamchatka and the northern Okhotsk coast. It is similar to *brevirostris* but even whiter, the white wing patch bigger and the outer tail is all white.
- *D. m. japonicus.* It is found in extreme northeastern China (northern and eastern Heilongjiang) and southeastern Siberia to Sakhalin and Kuril Island, southward to Korea and Japan (Hokkaido, Honshu, Tsushima). It is blacker above, has less white on the scapulars, and more white on the flight-feathers.
- *D. m. cabanisi*. It is found in southern Heilongjiang south to eastern Myanmar, northern Laos, northern Vietnam (northwestern Tonkin), southeastern China and Hainan. It is even blacker above, has a buff-brown head and under parts. It is darkest in the South, a paler pink vent with often some red on the breast.
- *D. m. stresemanni.* It is found in central China (eastern Qinghai, Gansu, Shaanxi, western Sichuan) south to southeastern Tibet, northeastern India, western and northern Myanmar and Yunnan. It resembles *cabanisi* but even darker below, again darkest in the south of its range.

Canarian Group

- *D. m. canariensisi*. It is found in Tenerife, in the west-central Canary Islands. It is as *harterti* but not quite so dark, it has contrasting whitish flanks and a more orange-colored vent
- *D. m. thannerii.* It is endemic to Gran Canaria, in central Canary Islands. It is paler than *canariensisi*, with white from the flanks up to the breast,

Atlas Group

- *D. m. mauritanus.* It is endemic to Morocco. It is rather pale below, often with red in the breast center, size and darkness increasing clinally with altitude.
- *D. m. numidus*. It is found in northern Algeria and Tunisia. It is distinctive, larger than *mauritanus and* has a black breast-band with red feather tips and the red of the vent often extends in to the belly region.



Common Name: Syrian Woodpecker
Scientific Name: *Dendrocopos syriacus*

Size: 9 inches (23 cm)

Habitat: Eurasia; Austria, Czech Republic, Poland and southern Belarus eastward to Ukraine and southwestern Russia, and southward to the Balkans, Turkey, Levant countries, extreme northeastern Egypt (northeastern Sinai), northern Iraq, Transcaucasia, and to north, west and south Iran. There has been a recent isolated record in western Kazakhstan

It is an inhabitant of open woodlands, cultivation with trees and scrubs, and parks, depending for food and nesting sites upon old trees.

Status: Least Concern. **Global population:** 600,000-1,499,999 mature individuals with a stable population trend.
Hybridization is known to occur with Great Spotted Woodpecker (*Dendrocopos major*), however once sufficient females of *D. syriacus* colonize an area, the extent of hybridization becomes insignificant. The species was formerly persecuted locally as a pest (known to cause damage in plantations and peck irrigation pipes) and sometimes large numbers were shot, however it is now generally tolerated.

Diet: Beetles and their larvae, ants, moth larvae (even hairy ones) and pupae, spiders and various aerial insects. Nuts and seeds eaten both in summer and in winter, include almonds, walnuts, pecans, hazel nuts, apricot stones, acorns, pine seeds, sunflower seeds, pistachios and similar; ripe fruits (e.g. apricots and prunes) are taken to get at the seeds. It takes the flesh of cherries, mulberries, raspberries and other fruits, which may also be fed to nestlings. Sap sometimes taken.

It forages singly and in pairs. Uses all

levels, from ground to canopy, but almost half of all foraging takes place in lower strata. It hops on the ground, and moves swiftly during arboreal feeding. There are marked seasonal changes, from foraging more in crown in winter to opportunistic habitat use during nesting season. Especially in summer, gleaning and probing most common foraging activities, and commonly takes prey on the wing. Anvils used frequently to process large insects such as beetles, fruits and nuts. It covers relatively large distances between feeding sites, and between them and the nest.

Breeding: The upper parts of the male are glossy black, with a crimson spot on the nape and white on the forehead, sides of the face and neck. On the shoulder is a large white patch and the flight feathers are black with white spots forming three wing bars. The three outer tail feathers show only a few white spots; these show when the short stiff tail is outspread, acting as a support in climbing. The under parts are buffish white, the abdomen and under tail coverts reddish. The long bill is slate black and the legs greenish gray The female has no crimson on the nape. Juveniles are slightly duller than adults, but often some pinkish feathers across upper breast (rarely, complete band), the flanks are usually with obvious streaks and bars, sometimes reaching the breast sides, both sexes with black-bordered red crown and black nape.

Breeding season occurs from mid-April to May. Displays include lateral swinging and aerial chasing. The nest-hole excavated by both sexes (mostly by male), at 1–6 m in trunk or large branch of tree. The neat, round 5 cm diameter nesting hole, is bored in soft or decaying wood horizontally for a few inches, then perpendicularly down. At the bottom of the shaft, a small chamber is excavated, where 5-7 creamy white eggs are laid on wood chips. The hole is rarely used again, but not infrequently other holes are bored in the same tree. Incubation is performed by both sexes for 9–11 days. Both parents feed the chicks and share in nest sanitation. The nestling period lasts for 20–24 days and juveniles remain accompanied by parents for 2 weeks after.

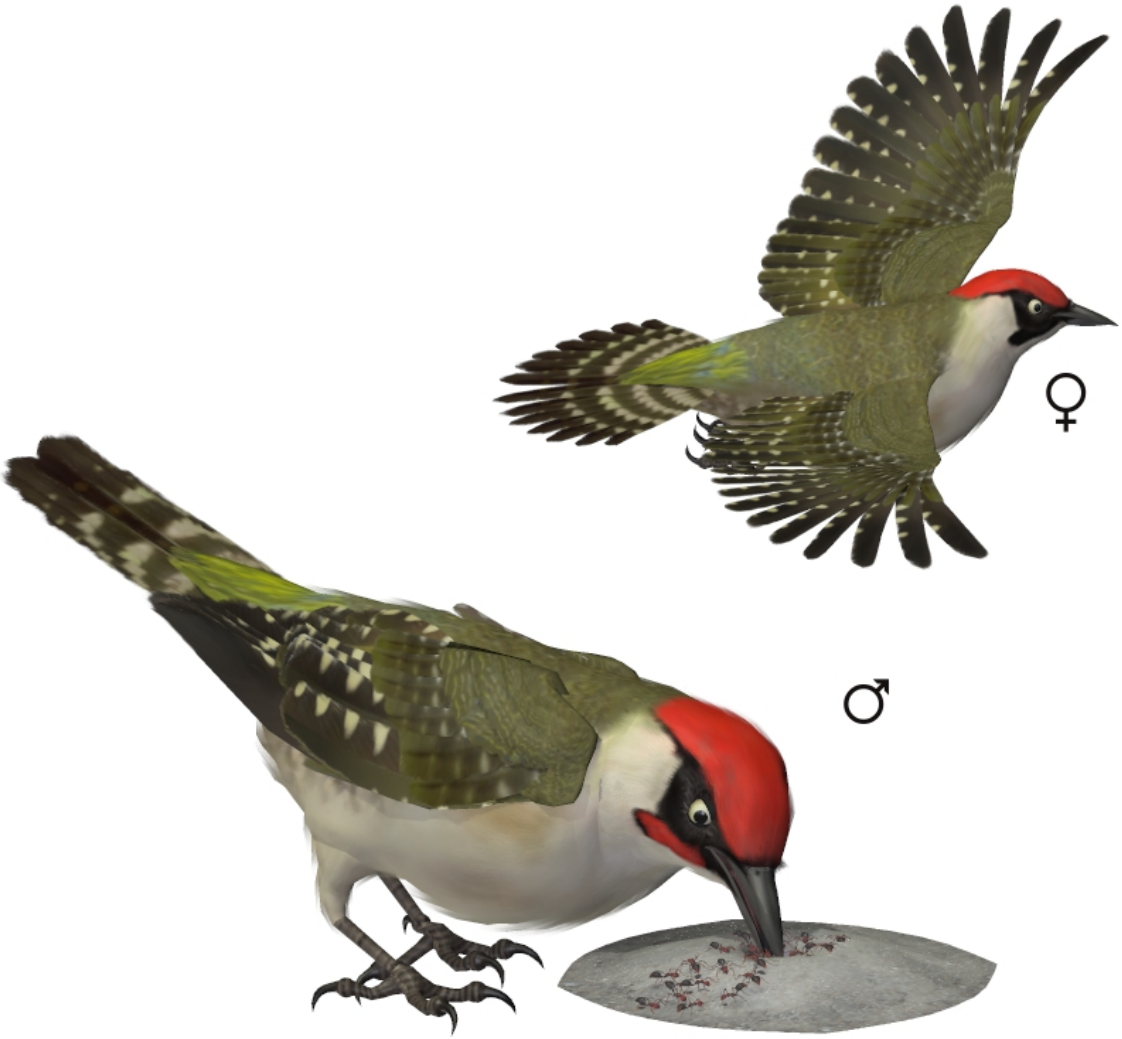
Cool Facts: The Syrian woodpecker was first described as *Picus syriacus* by Wilhelm Hemprich and Christian Gottfried Ehrenberg in 1833, from a specimen collected on Mount Lebanon.

This woodpecker is very close to the Greater Spotted Woodpecker, but look for these key identifiers: It has a longer bill, has more white on the head, and lacks the white tail barring of great spotted. It also sometimes has a stronger black line on the lower flanks that divides the reddish rump from the buff-colored hip.

Common Name: Eurasian Green Woodpecker
Scientific Name: *Picus viridis*

Size: 12.2-13 inches (31-33 cm)

Habitat: Eurasia; more than 75% of the range of the Eurasian Green Woodpecker is in Europe, where it is absent from some northern and eastern parts and from Ireland, Greenland and the Macaronesian Islands, but otherwise distributed widely. Over half of the European population is thought to be in France and Germany, with substantial numbers also in United Kingdom, Sweden, Russia, Croatia, Romania and Bulgaria. It also occurs in western Asia.



It is found in a great variety of semi-open habitats but is confined to larger open sections or clearings in extensively wooded areas. It prefers forest edges, copses, parks, orchards and residential areas, and is usually found near mature deciduous trees (but it often associated with conifers in the mountains

and in the North). It frequent coast and low lands areas and can be found up to 1500 m in the East Alps, to 2100 m in the West Alps, and to 3000 m in Caucasus.

Status: Least Concern. **Global population:** 000 Mature individuals. Common to very common throughout much of its range, but local in some parts (e.g. Turkey). Population estimates in 1980s and 1990s include 10,000–100,000 pairs (probably c. 31,500) in European Russia and a further 400,000–1,260,000 pairs (probably c. 600,000) in rest of Europe; highest numbers in France, where c. 300,000 pairs. Densities not very high: maximum in France c. 0·6 pairs/km², but in parts of N only 0·02 pairs/km². Most populations stable or increasing, and this species has, for example, spread N into Scotland since 1950s. On the other hand, declines recorded in several European countries in recent decades: 20–30% reduction in Sweden, and since 1960s has declined by 50–75% in Netherlands. Main problems are intensification of agriculture and forestry, and conversion of pasture to arable land, which considerably reduces ant populations. Harsh winter weather can also cause major mortality, effects of which may last for years.

Diet: Predominantly ants, chiefly meadow-dwelling species of genera *Formica* (winter) and *Lasius* (spring to autumn); generally, larger ant species preferred. Various other insects also taken, also earthworms and snails. It occasionally catches reptiles and sometimes eats fruits (apples, pears, cherries, grapes), berries, but rarely seeds.

It lives alone, in pairs, and in family groups. It forages mostly on ground by using its bill to sweep away moss, dead leaves, other debris, or even snow. It pecks funnel-shaped holes up to 12 cm deep in ground, and procures prey with action of the very long tongue. These holes may be exploited in lengthy and repeated visits.

At ant nests, it probes into the ground and licks up adult ants and their larvae. They have tongues that wrap to the back of their head. Green woodpeckers will often forage in short grazed or mowed permanent grasslands where the availability of ant nests is high. When the snow cover heavy, it can dig tunnels almost 1m long to reach prey. It will also forage on trunks and branches, as well as on buildings and rocks, by gleaning and probing. Takes sap on ringed trees, but not recorded as drilling sap wells. It will move only short distances on ground.

Breeding: Male has bright red forehead to nape , usually some gray feather bases visible, especially on the crown. There are black nasal tufts, lores and broad area around eye back to the central crown side, continuing over the malar region, latter with broad red stripe in the center. The rear ear-coverts are pale green with paler feather bases showing through. It is darker on neck side. The chin and upper throat are grayish-white, often tinged light green. The hind-neck and upper parts are bright yellow-green, the rump and upper tail-coverts are bright yellow, the latter with green bases usually visible. The wing-coverts and tertials sometimes tinged golden or bronze. The primaries and their coverts are blackish-green, the inner feathers edged green, white

spots are on both webs forming bars, the secondaries are golden-green on outer webs, blackish with white half-bars on inner webs. The upper tail is blackish-green, with the feathers edged green, faintly barred pale on central feather pair, sometimes indistinctly on the others. It is yellow-green below, paler and more yellowish in lower regions, with fairly indistinct dark chevrons or bars from the lower flanks to the under tail-coverts. The under wing is barred gray and white, the coverts are tinged yellow or green. The under tail is as above, with the outer feathers paler and more clearly barred. When worn, the plumage greener and less yellow above, grayer below, the flank barring more obvious, and the gray bases of crown feathers are more extensive. The long bill slightly chisel-tipped with the culmen slightly curved, broad across nostrils, dark gray or blackish, paler base of lower mandible. The iris is white to pinkish or with pinkish outer ring. The legs are olive-gray.

The female lacks red in moustache, and the flank bars may reach farther up. Juvenile is distinctive, much duller, more olive and the eyes are duller or grayer. The upper parts are with whitish spots and bars, and the duller yellow rump is barred. It has pale greenish underparts with dark spotting on the breast and barred lower region. The head is spotted and streaked with gray bases in red forehead to nape, black areas duller, wings and tail more barred, male usually with narrow red tips in the malar.

Egg laying starts from early April to June. Singing and calling commences much earlier in December. Male feeds female during courtship. The nest is excavated at a height of 2–10 m up in dead or living softwood tree (such as poplar). The work takes about 2–4 weeks. The egg clutch is usually 5–8 eggs, and both sexes incubate. Only the male incubates during the night. After a period 14–17 days, the chicks and are fed by both parents. They fledge after 23–27 days. The brood is divided between parents, and they remain accompanied for 3–7 weeks more.

Cool Facts: The European green woodpecker spends much of its time feeding on ants on the ground and does not often 'drum' on trees like other woodpecker species.

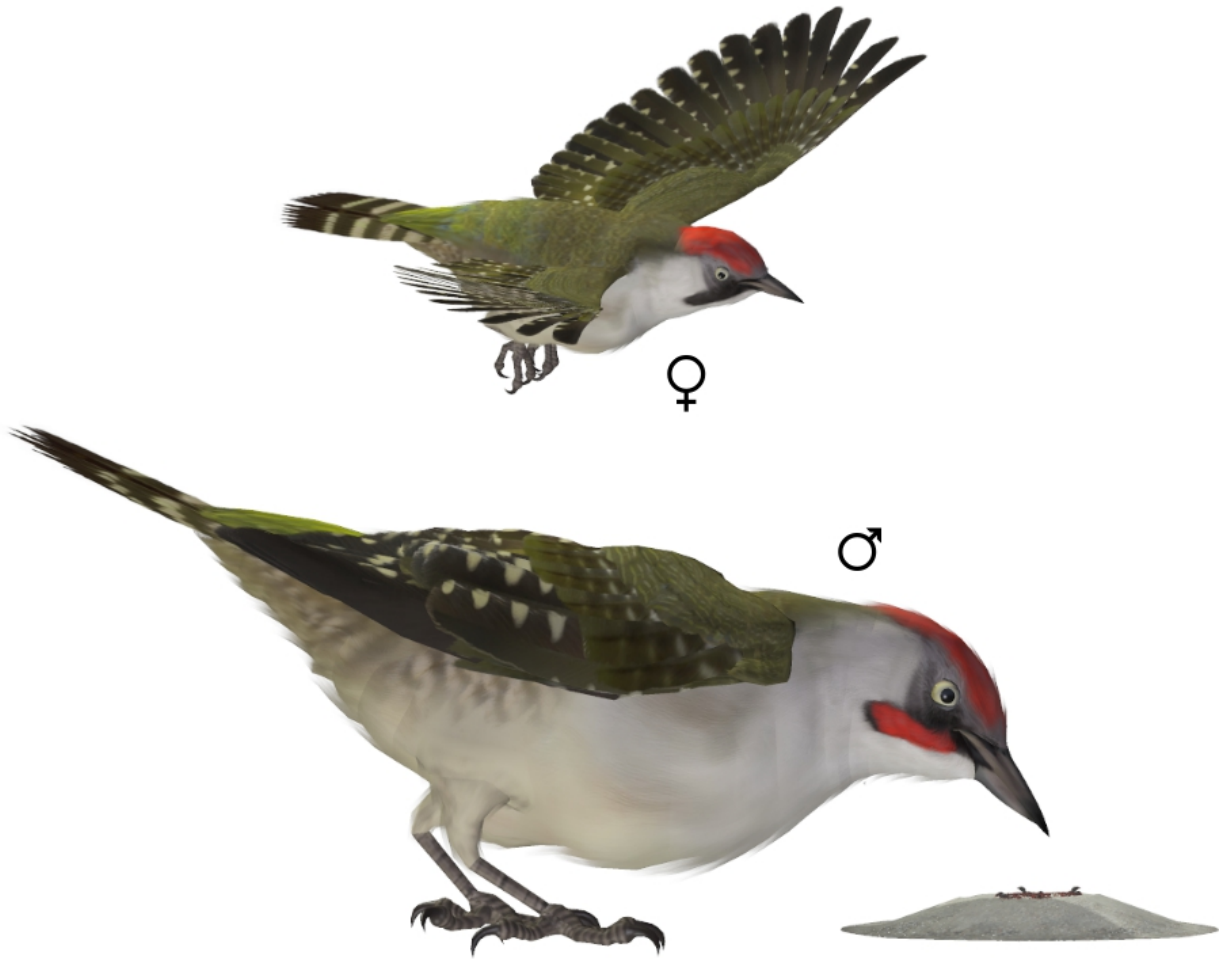
- *P. v. viridis.* First reported by Linnaeus in 1758. The nominate breeds in Europe south to France (except south Roussillon where it is replaced by the Iberian Green Woodpecker), the Alps, Croatia, Slovenia and Romania.
- *P. v. karelini.* First reported by von Brandt, JF in 1841. It breeds in Italy, south-east Europe south from Northern Macedonia, Montenegro, Serbia, Bulgaria, Asia Minor, northern Iran and south-west Turkmenistan. It has duller green upper parts, cheeks and underparts than the nominate.
- *P. v. innominatus.* First reported by Zarudny and Loudon in 1905. It breeds in south-west and southern Iran. It is like *karelini* but with nearly white cheeks, throat and chest and more defined barring on the tail.

Common Name: Iberian Green Woodpecker
Scientific Name: *Picus sharpei*

Size: 12.2-13 inches (31-33 cm)

Habitat: Europe; It is endemic to the Pyrenees, Iberia and extreme southern France (irregularly from the Pyrénées-Atlantiques to Hérault).

It is found in relatively dry open woodlands; both deciduous and mixed. It also frequents plantations, orchards, farmlands, pastures, parks and gardens. It requires some mature trees and clearings with adjacent grassland. It can be found in the lowlands and hills to the mountains up to 3000 m elevations.



Status: Near Threatened. **Global population:** 492,000–941,000 mature individuals with a declining population trend. It is considered locally common. Population estimated at 246,000–471,000 pairs (492,000–941,000 mature individuals), of which some 236,000–420,500 in Spain (2004–2006 data) and 10,000–50,000 in Portugal (2008–2012 data). The population estimated is said to be decreasing at a rate approaching 30% in 16.8 years (three generations). Nevertheless, no serious threats have been identified for this species. Habitat loss is not yet a great problem, but it is believed that in future years it could become so. The intensification of agriculture and forestry, as well as the

conversion of pasture to arable land can reduce populations of ants, its principal food. The removal of wooded hedgerows, copses, isolated groves and riverine woodland can limit potential nesting sites. Wildfires may affect Mediterranean populations. Other threats include localized illegal hunting and very cold winters. Habitat management should aim to conserve old trees as nest sites in woodlands, orchards and villages; meadows, pastures, orchards and heaths should be restored and maintained as feeding areas. With concern over recent population declines, further monitoring and research are needed.It has not been considered a conservation concern until 2015. This European endemic is considered Vulnerable at the regional level.

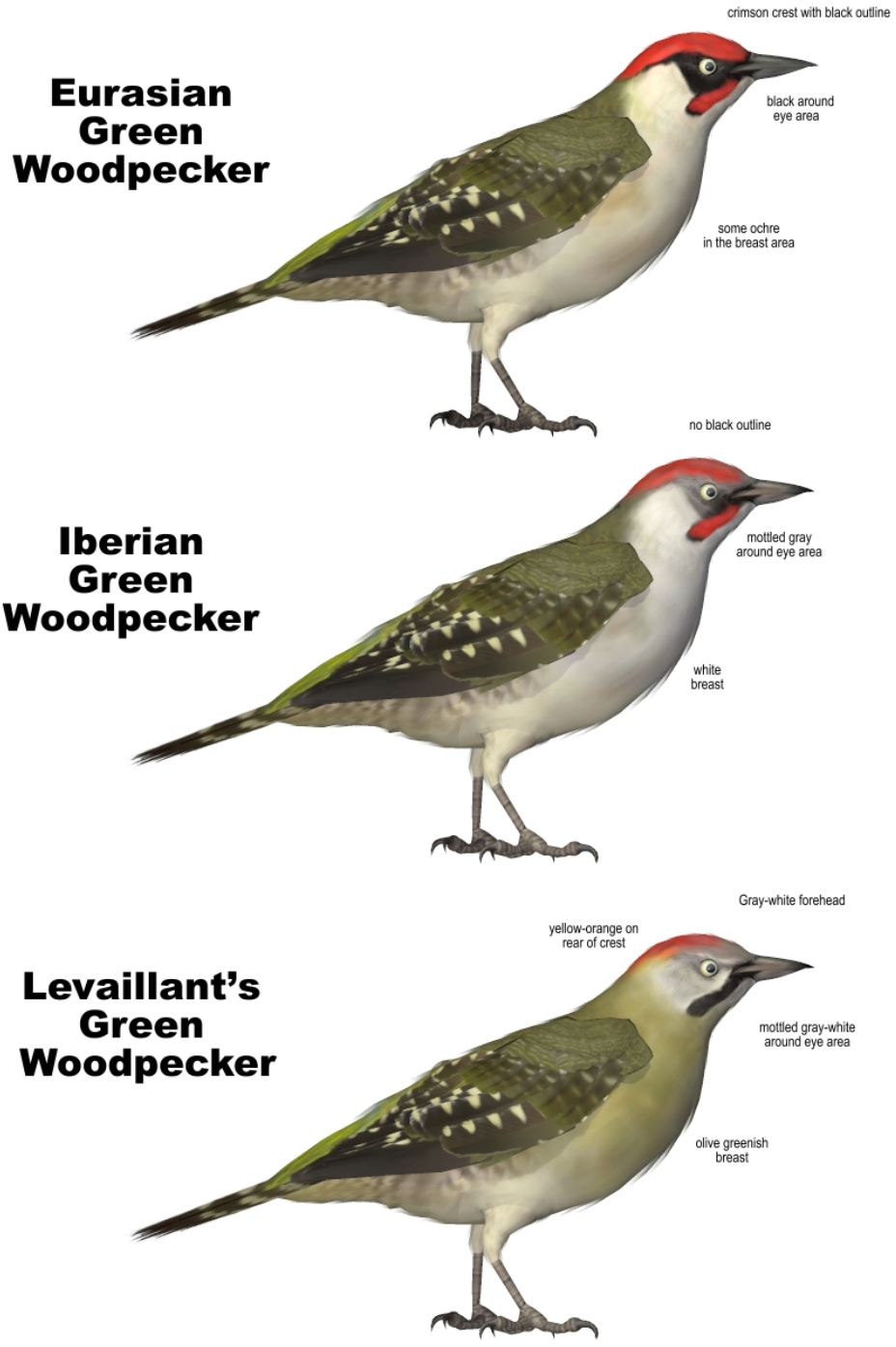
Diet: Mainly of terrestrial ants, some other small invertebrates. Both ground-dwelling and arboreal insects are eaten, along with small amount of fruit.

It forages alone, in pairs, and sometimes, in family groups. It seeks food mostly found on the ground, but will go into trees and the forest canopy at times.

Breeding: The male has its forehead to nape red; usually, with some gray feather bases/tips showing. The lores are blackish, becoming gray in superciliary and subocular areas and on the sides of crown, with a red malar stripe narrowly bordered black and with indistinct thin pale line above (malar appears almost wholly red). The ear-coverts and sides of the neck are gray. The upper parts are green, while the rump and upper tail-coverts are yellow-green. The primaries are black-olive with white spots, while the secondaries and tertials are more yellowish-olive with some paler spotting. The tail is black-olive with green edges, the outer feathers are dark green with dull barring. The chin and throat are gray with hints of yellow, while the under parts are pale greenish-white or light gray. The lower flanks have some indistinct bars or chevrons, the under tail-coverts are washed light yellow-buff and the under wing greenish-white with soft darker barring. It has a medium-length bill that is slightly chisel-tipped. The culmen is gently curved, broad across the nostrils. The bill is dark gray or black; paler at the base of lower mandible. The iris is white to pink is in color and the legs are olive-gray. The female differs from the male in having malar stripe all black and often with more obvious pale edge above, the crown usually has more gray tips. The juvenile is duller than the adult. It has the sides of the head to the breast, heavily dark-spotted. The mantle and upper back have paler speckles and bars, the rump is barred and the under parts are heavily barred dark. The eyes appear darker. Within the juvenile, the sexes similar except for malar pattern, which closer to that of respective adult but generally duller.

Breeding season begins in late May to June with singing and displays starting as early as December and January. The nest is excavated at a height of 2–10 m up in dead or living softwood tree (such as poplar). The work takes about 2–4 weeks. The egg clutch is usually 5–8 eggs, and both sexes incubate. Only the male incubates during the night. After a period 14–17 days, the chicks and are fed by both parents. They fledge after 24–27 days. The brood is divided between parents, and they remain accompanied for up to 7 weeks.

Cool Facts: It is usually considered conspecific with the Eurasian Green woodpecker (*P. viridis*) and Levaillant's Green Woodpecker (*P. vaillantii*), but it differs from the former in having very little or no black on the face, so that the gray face with red crown and red malar vs the black face (on lores, supercilium to above the eye, ocular area, moustachial area and in thin line around red malar); the red on the crown is narrower, allowing a gray-green supercilium (which is black in *P. viridis*) to continue over eye and also ear-coverts vs broader line covering postocular superciliary area and thus adjacent to ear-coverts.



Common Name: Levaillant's Green Woodpecker
Scientific Name: *Picus vaillantii*

Size: 11.8-12.6 inches (30-32 cm)

Habitat: Europe and Africa; endemic to northwestern Morocco to northwestern Tunisia.

It prefers open, dry forests, and is found mostly in openings and clearings of oak (*Quercus faginea*) and cedar forests. It can be found to a lesser extent in mature pine and larch forests (including aleppo pine) in west-central Tunisia. It also frequents wooded river valleys, parks, palm groves, and walnut and olive groves and sometimes enters gardens.

Status: Least Concern. **Global population:** 674,000 Mature individuals with an unknown population trend. It is fairly common in Tunisia and Algeria, and locally common in Morocco. It is scarce in forests of aleppo pine in west-central Tunisia. It appears to have decreased in numbers, but a slight expansion was recorded in Morocco. No obvious threats have been identified.

Diet: Mostly ants,with other small invertebrates. Some fruit is taken.

It forages mostly on ground.

Breeding: Male has forehead to nape red with a few grey flecks, black malar stripe bordered above by fairly broad whitish line from lower loral area to lower rear edge of ear-coverts; rest of head grey-green, generally darkest in anterior superciliary area; neck side and upperparts olive-green, rump and uppertail-coverts yellowish; flight-feathers dark green, outer webs barred black and white; tail dark brownish-green, outer feathers barred greenish; chin, throat and underparts very pale greenish-grey, belly to vent barred dark green; underwing light green-grey, barred brownish, undertail blackish-barred dark green; medium-length bill slightly chisel-tipped, barely curved on culmen, broad across nostrils, upper mandible dark grey or blackish, lower mandible yellowish-horn with grey tip; iris white, rarely light pinkish; legs greyish to olive-grey. Female is very like male (both sexes having all-black malar bordered white above), but has crown blackish-grey, with red restricted to nape and sometimes side of hindcrown. Juvenile is duller and greyer than adult, with face somewhat mottled, body barred and spotted, eyes darker, lesser amount of red on crown than respective adult.

Laying end Mar to Jun. Nest excavated in tree, hole c. 40–50 cm deep. Clutch 4–8 eggs, usually 6 or 7; no information on incubation and fledging periods.

Cool Facts: It is also called by the Maghreb Green Woodpecker. Song a fast series of whistled notes , “kee-kee-kee…” or “pee-pee-pee-pee…”, somewhat higher-pitched and thinner than songs of P. viridis and P. sharpei; loud “kya-kya-kyak” in flight. Drums more frequently than its European congeners; drumroll c. 2 seconds long, at 20–21 strikes per second.

Common Name: Grey-headed Woodpecker
Scientific Name: *Picus canus*

Size: 11-13 inches (28-33 cm)

Habitat: Eurasia; Its distribution stretches across large parts of the central and Eastern Palearctic, all the way to the Pacific Ocean.

This woodpecker is divided into three groups. The Gray-headed Group prefers open country with many small group of trees, in not over-dense forest, floodplain-forest, parks, orchards and gardens. It is associated mostly with deciduous trees, but can be found in pine-oak woodlands, or more open coniferous montane forest with larch. In Europe, it has a broad overlap in habitat with the Eurasian Green Woodpecker (*P. viridis*), but is commonly found more in the forest interior. It avoids pure coniferous taiga in central Siberia, preferring broadleaved forests. It frequents lowlands and hills in Europe, to 1700 m with non-breeders up to 2000 m.

The Black-naped Group is found in open alder or oak forests in Nepal and northern Myanmar, and open deciduous and coniferous country in Tibet and western China. Race *hessei,* in Myanmar and Thailand, prefers deciduous forest and drier and more open parts of teak forests, rather than evergreen. In the highlands of southern Annam (in Vietnam), it shows a liking for native pine forest. Other habitats occupied by this species include bamboo groves mixed with second growth.

The third Group, the Sumatran, prefers upper montane forest, between 1000 m to 2000 m. It may, at times, venture into bamboo in second growth.

Status: Least Concern to Near Threatened. **Global population:** 28,200,000 Mature individuals with a stable population trend. The large-scale clearance of old deciduous woodland and conversion to coniferous plantations, resulting in habitat loss and isolation is a major threat. Changes in forestry practices are shortening the rotation period, resulting in the loss of potential nesting trees and a marked reduction in the time-span available for nesting. High levels of nutrient input from agriculture are thought to reduce habitat suitability for ants and thus driving declines in the species's main food supply. Orchards are also being lost through the expansion of villages. The extent and quality of riverine forests is also decreasing through flood-prevention schemes, canalization and damming.

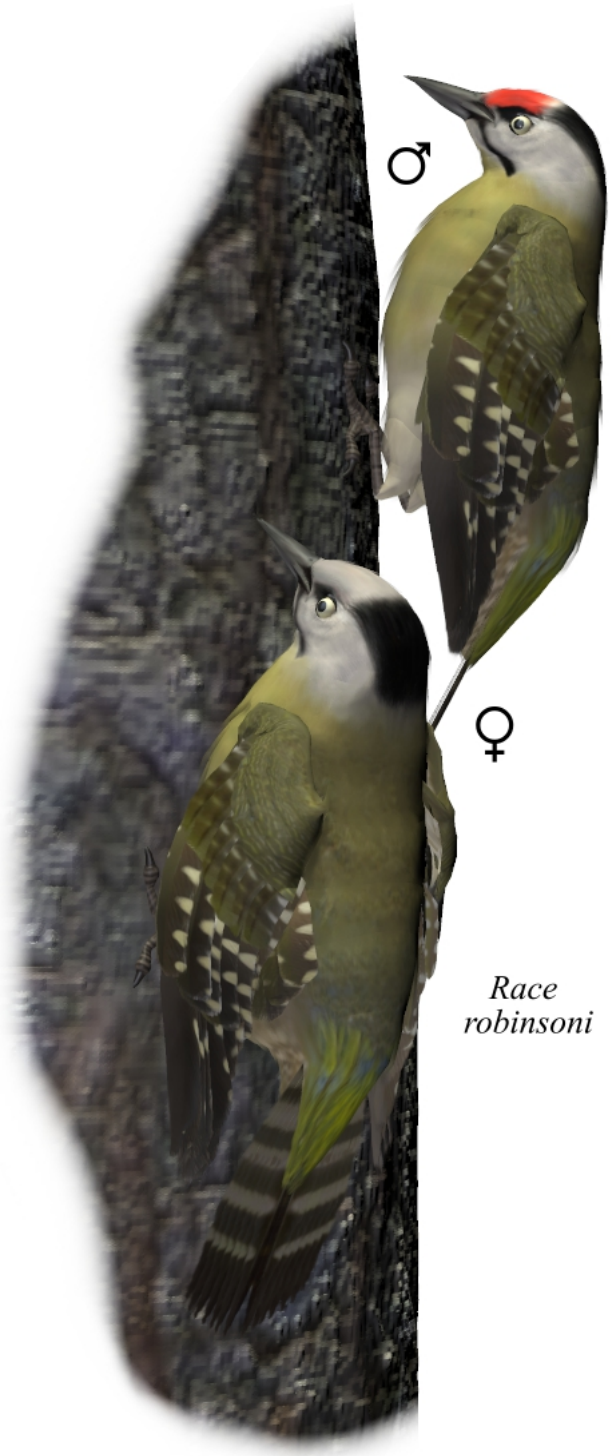
The Sumatran subspecies is currently considered Near Threatened. It is confined to the mountains of Sumatra, where it is rare to very rare. The global population size has not yet been quantified. Since the second half of the last century, Sumatra has undergone extensive forest clearance and degradation. Of the primary forest cover present in 1990, 35.7% has been lost and a further 11% has degraded since 2010 (although much primary forest in highland areas remains intact). Consequently, this species is believed to be suffering moderately rapid decline (approaching 30% over three generations) owing to continuing habitat loss and degradation. The rate of this woodpecker’s decline thought not to be even more rapid because it exhibits some tolerance of habitat modification and fragmentation, and because it occurs in montane areas and is not exposed to the most rapid rates of deforestation in the region. It occurs in Kerinci-Seblat and Gunung Leuser National Parks. There is a need for its precise ecological requirements to be determined, and a full assessment of its ability to persist in degraded and fragmented habitats is required. Field study is needed in order to ascertain details of its biology. Action is required to ensure that protected areas in which it occurs are properly and effectively protected.

Diet: Chiefly ants, termites and their brood, which often make up more than 90% of its diet. Fruits eaten include apple, pear, cherries, camphor, berries, seeds, nuts and acorns and nectar is taken.

It regularly visits feeders. It is usually solitary outside breeding season, otherwise in pairs or small family parties. It regularly feeds on ground, probing into the soil, pushing and digging with the bill, using the tongue to lick up prey. Funnel-shaped holes dug into ground, used repeatedly as sources of ants. Arboreal foraging occurs with single pecks, some excavation in decaying wood at low levels, and intensive use of the tongue at crevices and sites of decayed wood. Also, it licks from sap wells, but seems not to ring trees itself. Simple anvils are used occasionally. It moves on ground with heavy hops

Breeding: The male nominate race has a red upper forehead and forecrown (often yellowish at rear). The crown usually is with very fine black streaks. There is a short pale line over eye and the narrow black malar stripe often mottled gray at the rear. The rest of the head and neck are ash-gray, slightly tinged greenish when fresh. It is darker on the nape and neck with the chin and throat being a pale gray-white, tinged buff or olive. It has olive-green

upper-parts with a yellowish or greenish-yellow rump and upper tail-coverts, the latter with olive-green feather bases. The wing-coverts are occasionally with slight bronze or yellowish tinge. The primaries are grayish-black to brownish-black with small whitish spots on the outer webs (sometimes also on some inner webs). The secondaries are grayish-black with dull olive-green outer webs, outer feathers often with paler spots. The upper tail is greenish-brown, with pale bars. It is pale gray below, the lower flanks and belly with slight tinge of pale olive-green when fresh, occasionally there are obscure darker chevrons that appear on the lowermost under parts. The under wing is greyish and heavily barred. The under tail is black-gray, tipped greenish tinge with a few obscure paler bars. It has a fairly long, chisel-tipped bill, which is broad-based and the culmen moderately curved, black-brown to gray-black, usually with an olive tinge. The iris is pinkish to blue-white, or deep carmine-red with blended white. The legs are olive-gray to yellowish-olive.



The female is on average slightly smaller than male, with a proportionately shorter bill. The head lacks the red, and its forehead and forecrown are pale gray with narrow black shaft streaks (occasionally there are a few scattered red tips on forehead). The black malar stripe is weaker and often incomplete. The juvenile is duller than the adult, grayer above with a slight scaly appearance, and the rump is more greenish, with some indistinct bars on the wing. The malar stripe is more diffuse and mottled, with inconspicuous darker barring below. The eyes are red-brown The juvenile male has a small orange-red crown patch.

Breeding season occurs from the end April to early June. Courtship involves landing with fluttering wing beats associated with presence of partner and a nest-hole. There is occasional courtship feeding by male. The nest-hole is excavated in 9–20 days in

a dead or dying tree 1-5 m up. The clutch is 7–9 eggs with both sexes incubating. The male incubates during the night, and also seems to incubate more than female during day. The incubation period lasts 14–17 days. The chicks are fed by regurgitation, by both parents equally (helping by a second female known to have occurred). The fledging period lasts 23–27 days and the young accompanied by parents for some time afterwards.

Cool Facts: There is evidence for hybridization between grey-headed and Eurasian green woodpeckers. However, these seem extremely rare. It appears that the female partner was invariably a grey-headed woodpecker. Nothing has been reported concerning the fertility of such hybrid offspring. Their plumage resembles a grey-headed woodpecker more closely, but with a red parting on the head, a reddish nape and a brighter iris, while some were conspicuous for their dark coloration.

Races somewhat variable: The Gray-headed group has gray napes while the Black-naped Group as expected has black on the nape of the neck.The Sumantran Group has a black nape and replaces the olive upper and lower parts (found on the previous two) with cinnamon.

There are 11 subspecies placed in 3 groups:

Gray-headed Group:

- *P. c. canus.* First reported by JF Gmelin in 1788. The nominate subspecies is found in Europe (from southern Scandinavia and France) east to western Siberia and Turkey.
- *P. c. jessoensis.* First reported by Stejneger in 1886. It is found in eastern Siberia to northeastern China, Korea, Sakhalin and Hokkaido. It is generally slightly paler and grayer, less green, than the nominate, but in fresh plumage, it can be almost indistinguishable.

Black-naped Group:

- *P. c. guerini.* First reported by Malherbe in 1849. It is found in eastern China (central Sichuan and Shaanxi to Shandong and Zhejiang). It has a black nape patch and a greenish underbody.
- *P. c. sobrinus.* First reported by JL Peters in 1948. It is found in northeastern Vietnam and southeastern China (Guangxi east to Fujian).
- *P. c. tancolo*. First reported by Gould in 1863. It is found in Taiwan and Hainan.
- *P. c. kogo.* First reported by Bianchi in 1906. It is found in central China from Qinghai eastward to Shanxi and southward to Sichuan.
- *P. c. sordidior.* First reported by Rippon in 1906. It is found in southeastern Tibet east to western Sichuan, and south to northeastern Myanmar and Yunnan.
- *P. c. hessei.* First reported by Gyldenstolpe in 1916. It is found in Nepal and northeastern India eastward to Myanmar, extreme southern China (southern Yunnan) and most of Thailand to Vietnam. It is similar to *guerini* but is more golden green above and a deeper green below.

- *P. c. sanguiniceps.* First reported by ECS Baker in 1926. It is found in northeastern Pakistan, northern India and extreme western Nepal.
- *P. c. robinsoni.* First reported by Ogilvie-Grant in 1906. It is found in the mountains of central Peninsular Malaysia (Gunung Tahan and Cameron Highlands).

Sumatran Group:

- *P. c. dedemi*. First reported by van Oort in 1911. It is endemic to the highlands of Sumatra. The race on the island of Sumatra differs markedly from the other subspecies in having reddish rather than green above, and red, green and gray below. It has a black crown and nape.

Common Name: Eurasian Three-toed Woodpecker
Scientific Name: *Picoides tridactylus*

Size: 8.3–8.7 inches (20-24 cm) Eurasia

Habitat: Eurasia; The breeding habitat is coniferous forests across the Palearctic from Norway to Korea. There are also populations in the Alps and the Carpathian Mountains.

Status: Least Concern. **Global population** 6,000,000-14,999,999 mature individuals with a stable population trend. It is generally uncommon, and rather scarce in many parts of its range. The densities vary depending on habitat quality. It has expanded since 1980s in Central Europe, but declines have also been noted in some areas (e.g. Czech Republic). There is evidence of reduction in numbers in Northern Europe.

Across its widespread range, this species is susceptible to habitat loss, forest degradation and fragmentation. Owing to its relatively small population sizes, its dependence on snags, and its preferences for burnt forest and for large stands of old-growth conifers (which are vulnerable to commercial cutting), its survival in managed forests is not guaranteed. Modern intensive forestry methods, including clear-cutting, fire suppression, removal of dead trees and pesticide use, are detrimental to this woodpecker and have led to local declines.

Diet: Larvae and pupae of beetles living beneath bark form bulk of diet; other insect larvae (*hymenopterans, lepidopterans*) and spiders. It will take tree sap, vegetable matter (berries, spruce seeds) are taken only occasionally.

It forages alone, with local concentrations in areas where there is food abundance. These birds often move into areas with large numbers of insect-infested trees,

often following a forest fire or flooding.

It prefers trunks of dead trees and stubs, foraging mostly at heights of 1–3 m, occasionally on ground (but rarely so in Nearctic). On average, males forage slightly lower than females, mainly on tree trunks, and prefer large trees. Females forage slightly higher up and have a greater niche breadth, also using relatively thin trees and branches, and more frequently live trees (in summer). Both sexes forage lower in winter. Pecking, hammering and, especially, stripping-off of bark are predominant foraging techniques. Gleaning and probing are less common. Sap wells are drilled into a wide range of tree species, mainly conifers, locally lime (*Tilia*), trees becoming covered with sap holes from base of trunk up into their crowns. This occurs frequently in subalpine zone. Nearctic races only occasionally drill sap wells.

Breeding: The male has long nasal tufts mixed black and white. Its forehead is black with a mottled whitish, deep-yellow or pale lemon-yellow central fore crown (usually with some black and white feather bases showing through). The crown sides, hind crown and the band down the central hind neck are glossy black, usually with some white streaks. The supercilium is white from rear of eye broadening backwards, extending as band down the rear neck sides to meet white of the mantle. There is glossy black from in front of and just below the eye, through ear-coverts and down the neck sides, bordered by a broad white cheek band. It has a deep black malar stripe, obscured by white tips near the bill, and extending back to the broad area of black on neck sides that continue irregularly down to the upper breast sides. It has a white chin and throat. The central mantle, innermost scapulars, back and rump are white with a few dull black spots or bars at margins. The mantle sides are dull brownish-black as well as the remaining scapulars and upper tail-coverts. The wings are dull brownish-black, the outer-coverts are sometimes covered with white dots, and the flight-feathers are with variably sized white spots, the largest on inner webs, including those of tertials which forms a prominent barred pattern. The upper tail is black, tips of outer 3 feather pairs with increasing amount of black-barred white. It is white below, faintly tinged cream-buff in fresh plumage, with the breast side streaked black, the flanks and under tail-coverts variably barred. The long bill is straight and chisel-tipped, very broad across the nostrils. It is slate gray with a darker tip and a slightly paler base on the lower mandible. The iris is deep red or brown-red and the legs are slate-gray. As inferred from its common name, a distinguishing feature of this bird is its feet. It possesses 3 toes (2 forward and 1 backward) rather than the 4 toes common in most woodpecker species.

The female has its forehead and crown black with variable amount of white spots and streaks. The juvenile is duller and browner than adult, with the white of the back being less extensive and sometimes barred. The under parts are duller and buffer with heavier but diffuse markings. The eyes are paler. The young male has a dull yellow fore crown patch that is smaller than on the adult male. The patch is reduced or sometimes absent on female juvenile.

Courtship from starts in late Marsh with flutter-aerial displays, bill-pointing, and head-swinging with an erect crest. Nest-hole is excavated 2–10 m up in dead tree, or in dead section of a live tree with heart-rot. Spruces and other conifers are preferred but some non-coniferous species (*Populus, Betula* and *Alnus*) are also used. A new nest-hole is made each year. Egg laying begins in mid-May (up to 2 weeks earlier in southern Europe) and ends by late June. A clutch of 3 to 6 eggs is laid. Both sexes share in all nest duties and the incubation period lasts 11–14 days. Both parents feed the nestlings for 22–26 days and the fledglings are accompanied by their parents for up to a month (the brood is apparently divided between the parents).

Cool Facts: The Eurasian three-toed woodpecker was formally described in 1758 by the Swedish naturalist Carl Linnaeus in the tenth edition of his “Systema Naturae”. He coined the binomial name, *Picus tridactylus*. The specific epithet is from the Ancient Greek *tridaktulos* meaning "three-toed".

The Eurasian three-toed woodpecker was formerly considered conspecific with the American three-toed woodpecker (*Picoides dorsalis*). In recent decades North American subspecies commonly treated as forming a separate species on basis of genetic evidence, but morphological differences involve merely narrower postocular stripe and a smaller size.

Available evidence suggest that the Three-toed Woodpecker may regulate tree-damaging bark beetle populations during an epidemic. This underlines the benefit of protecting the species and its habitats as a means to possibly limit beetle damages in surrounding managed forests.

Races differ mostly in amount of white in plumage, eastern ones also on average slightly larger and longer-billed. Eight Eurasian subspecies are recognized:

- *P. t. tridactylus.* First reported by Linnaeus in 1758. The nominate subspecies is found in northern Europe to the southern Ural Mountains to southeast Siberia and northeast China.
- *P. t. alpinus.* First reported by C.L. Brehm in 1831. This subspecies is found in central and southeast Europe to western Ukraine and Romania. It is darker overall, with the white of back narrower and barred or spotted black. Its dark under side are pale-barred with narrow central white band, while the outer tail more broadly barred black. The juvenile is mostly dark above and below with the pale coloring restricted to its throat, spots on its mantle and mottling on the under parts.
- *P. t. crissoleucus.* First reported by Reichenbach in 1854. It is a resident of the northern Ural Mountains to eastern Siberia. It has plumage more fluffy than the nominate with more white on the head, back and flight-feathers, less black in the outer tail, with very few or no markings below.
- *P. t. albidior.* First reported by Stejneger in 1885. It is endemic to the Kamchatka Peninsula (eastern Siberia). It is even whiter than *crissoleucus*, with pure white on the outer tail and under parts, plus much white in the wings, and including spots on the coverts.

- *P. t. tianschanicus.* First reported by Buturlin in 1907. It is a resident in eastern Kazakhstan and western China.
- *P. t. kurodai.* First reported by Yamashina, 1930. It is found in northeast China and North Korea.
- *P. t. inouyei.* First reported by Yamashina in 1943. It is endemic to Hokkaido (Japan)
- *P. t. funebris.* First reported by J. Verreaux in 1871. It is a resident of central China. This subspecies is sometimes treated as a separate species, the “Dark-bodied Woodpecker” (*P. funebris*).

Common Name: White-backed Woodpecker
Scientific Name: *Dendrocopos leucotos*

Size: 9-10.2 inches (23-26 cm)
Habitat: Eurasia; The nominate race *leucotos,* occurs in central and northern Europe, with the race *lilfordi* being found in the Balkans and Turkey. The other ten races occur in the region eastwards as far as Korea and Japan.

It is a scarce bird, requiring large tracts of mature deciduous forests with high amounts of standing and laying dead wood. Old-growth and overmature but relatively open deciduous and mixed forest with high proportion of dead trees and fallen timber, favoring stands older than 80 years. It is often found on steep slopes or near water and in primeval eastern European forest, it prefers swampy woods with ash, alder and stands of oak and hornbeam. It occasionally frequents coniferous stands.

It can be found in central Europe and the Pyrenees in light, sunny mixed forests of beech/oak, beech/fir and maple/spruce provided there has been little forest management. It is closely associated with mature montane forest dominated by *Abies cephalonica* on the Peloponnes (southern Greece). It can be found in deciduous forests (particularly birch), mixed light coniferous forests, and willows along floodplains in Siberia. The Japanese populations depend to great extent on natural beech forest. It requires large continuous areas of suitable habitat. It is attracted to burned areas and those devastated by insect plagues.

Status: Least Concern to Near Threatened. **Global population:** 1,320,000-3,350,000

mature individuals with a declining population trend. Numbers have decreased dramatically in Nordic countries from a 1000 pairs in early 1950s to only 30–40 pairs in late 1990s. Only three isolated populations remain in Sweden. In Sweden, its population decline has caused the Swedish government to enact protection for the species in the national Biodiversity Action Plan Seems to be at best, uncommon in most of its range, and in many parts rare or extremely rare, but may be commonest woodpecker in parts of Siberia. Numbers are more stable in southeastern and eastern Europe and it has extended its range in Slovenia, and in Switzerland. Since mid-20th century, it has become endangered wherever forest management is intense, leading to reduction of dead stems or introduction of conifers. This reduction in population size is accompanied by loss of genetic diversity.

Race *insularis* fairly common on Taiwan but the status of other island populations is uncertain. Everywhere, this species' survival is dependent on preservation of reasonably large areas of unmanaged deciduous forest.

Race *owstoni* is currently considered "Near Threatened" and rare. Its estimated global population no more than 630 pairs. The numbers are believed to be fairly stable, as no evidence of any declines or serious threats. Although habitat loss was previously thought to be a significant problem for this woodpecker, recent assessments reveal that only limited logging and road-building are now taking place on Amami-Oshima. Nevertheless, in view of its very small total range, vigilance is recommended. Surveys should be undertaken in order to obtain an up-to-date estimate of the population level, and regular surveys are required in order to confirm the population trend. All remaining areas of mature forest on Amami-Oshima should be conserved and, where necessary, restored.

Diet: It specializes on large wood-boring insect larvae; mainly cerambycid (*Aromia, Necydalis, Rhagium, Saperda, Strangalia*) and jewel beetles, goat moths, and ants and their larvae. Some plant material consumed, including wild cherries, prunes, berries, acorns and hazel nuts (taken in summer).

It forages alone, and occasionally in pairs. Most foraging is done on dead trees trunks in late spring and summer. Techniques include stripping off bark, hammering holes through bark, and hammering on already exposed wood. Males hammer more strongly and more persistently than females, and more often visit live and taller trees, and forage on larger branches. Foraging techniques change seasonally, with gleaning most common in post-breeding season, then comprising about a quarter of all techniques used. It occasionally hunts aerial prey.

Breeding: The male has a white forehead and lores tinged grey or buff, crimson-red fore crown to upper nape (often some black feather bases visible), a black lower nape and band down the central hindneck. The face is white and the rear part of the sides of the neck. There is often pale buffish area behind the eye, and with black malar stripe meeting a fairly large black patch on side of neck that extends up behind ear-coverts (not reaching the nape) and down on to the sides of the breast. The chin and throat are white. The mantle

and most of scapulars are slightly glossy black. The back and rump are white extending partly on to lower scapulars (some dark feather bases usually visible) and black upper tail-coverts. The wings are black with the greater coverts tipped white. The flight-feathers including the tertials are with broad white spots forming prominent bars. The upper tail black centrally, third pair tipped white, and the outers are white with 3–4 narrow black bars. The underparts are white to pale creamy with black streaks from the breast to the flanks and sides of the belly. The belly is faint reddish-pink growing more intense to the under tail-coverts (and often lower flanks). The long bill is chisel-tipped and dark slate-gray. The iris is red-brown and the legs are gray. The female has lacks the red at the top of head; instead it is black. Juveniles are duller and browner than adults, with the pale areas tinged gray or buff, and the markings below more diffuse, the red area on vent is smaller and paler. Both juvenile sexes with red or orange-red on the crown, reduced on female, usually mixed with black.

Breeding season starts in late April and extends to May or June, but significant courtship begins February. Displays include with bill-pointing, relatively slow lateral swinging, and flutter-aerial displays. Both sexes work for 2–4 weeks on excavating nest. The female lays three to five white eggs and both parents incubate them for 10–11 days. The fledging period lasts for 27–28 days.
Cool Facts: It is the largest of the spotted woodpeckers in the western Palearctic.

Twelve subspecies are recognized. Races vary mainly in coloration and markings, also in size.

- D. l. leucotos (Bechstein, 1802) – widespread across Eurasia from north, central and eastern Europe to northeast Asia, Korea and Sakhalin
- D. l. uralensis (Malherbe, 1860) – west Ural Mountains to Lake Baikal
- D. l. lilfordi (Sharpe & Dresser, 1871) – Pyrenees to Asia Minor, Caucasus and Transcaucasia. It is darker than nominate, rump mostly black, back barred black, red below more extensive.
- D. l. tangi Cheng, 1956 – Sichuan province, western China. It is very like *fohkiensis*, but bigger and less black below.
- D. l. subcirris (Stejneger, 1886) – Hokkaido, northern Japan. It differs little from nominate, but has a buff tinge to the face, is more black on the neck and breast and the ventral region is paler and pinker.
- D. l. stejnegeri (Kuroda, 1921) – northern Honshū, Japan. It is slightly smaller and darker than *subcirris*, the rump is partly barred, and it is darker and more streaked below. The pink on the ventral area more extensive.
- D. l. namiyei (Stejneger, 1886) – south Honshū, Kyushu, Shikoku (Japan). It resembles *stejnegeri* but has a buffer face, a fully barred back and rump, a little white in wing, the side of the breast are broadly black with heavy streaking below and a darker pink ventral region.
- D. l. takahashii (Kuroda & Mori, 1920) – Ulleungdo Island (off eastern Korea). It resembles *namiyei*, but the wing and bill are shorter, there is more white above and the face and underparts are much paler.
- D. l. quelpartensis (Kuroda & Mori, 1918) – Jeju Island (off South Korea)

- D. l. owstoni (Ogawa, 1905). It is endemic to Amami Ōshima Island in the northern Ryukyu Islands, Japan. The Amami woodpecker is 25–28 cm in length. The male has a pale buff-grey to whitish lower forehead and face, a dark red upper forehead, crown and upper nape with some black streaks (variable). The lower nape and hindneck are black. The chin and throat are light buffish-gray to whitish. There is a broad black malar stripe extending back and curving upwards around lower ear-coverts and broadening downwards to create a large black patch on the breast. The upper parts are black, some small white spots on wing-coverts and small spots on the flight-feathers, the upper tail is black, the outer rectrices have small white spot-bars. The breast is mainly black with broad streaks below. The lower breast to under tail-coverts are dark pink-red. The bill is long and chisel-tipped and dark slate-gray. The iris is brown or reddish-brown and the legs are gray. The female lacks red on head, has entire crown to nape black. Juveniles are duller and browner than adults, both sexes with reddish on the crown(the male having more than the female). Race *owstoni* is sometimes recognized as a distinct species, the Amami Woodpecker.
- D. l. fohkiensis (Buturlin, 1908) – mountains of Fujian province, southeast China. It is dark, nearly as dark as *owstoni*, but smaller, with some white on the back, paler below with less black on the breast.
- D. l. insularis (Gould, 1863) – Taiwan. It is smallest subspecies, rather similar to *tangi,* but more white on the back and more extensive pink below.

Common Name: White-winged Woodpecker
Scientific Name: *Dendrocopos leucopterus*

Size: 8.7-9 inches (22–23 cm)

Habitat: Eurasia; It is found in east of the Aral Sea to southern Kazakhstan, northern and western (north to the southern tip of Lake Balkhash) and western China (northern Xinjiang to Karamay and Lop Nur), and southward to southwestern Turkmenia (possibly also extreme northeastern Iran) and northeastern Afghanistan in western and Chinese Turkestan (south to edge of Kunlun Shan) in east.

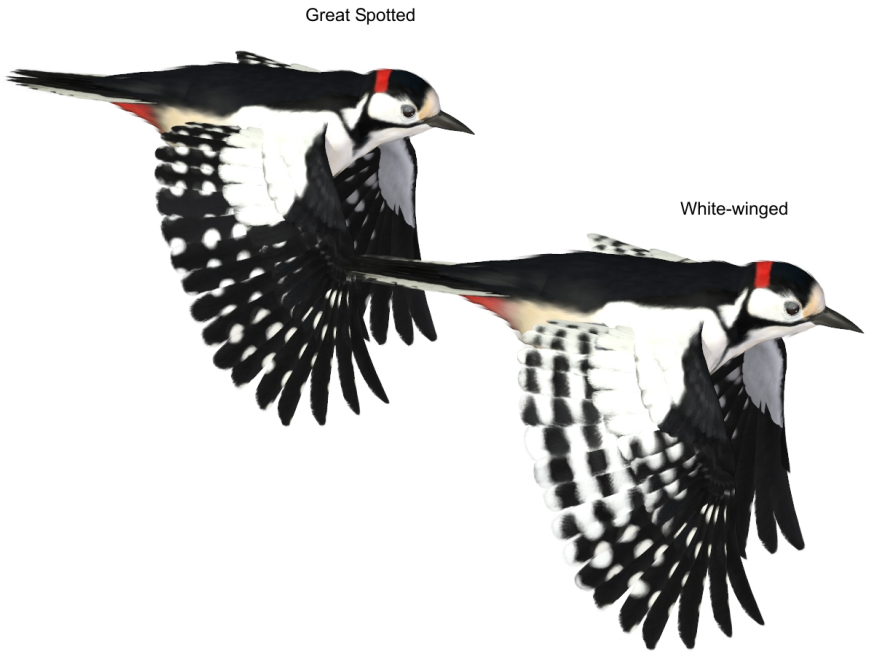
The white-winged woodpecker's natural habitats are Riparian woodland with poplars and other softwoods (e.g. *Juglans regia* in Kyrgyzstan), willows and saxaul (*Haloxylon ammodendron*) scrub in the deserts. It has been seen frequenting orchards and gardens. It can also be found in broadleaved montane forests, often containing hazel and fruit trees, mixed with fir or in juniper stands. It is generally at lower elevations, locally to 1050 m but can be found up to 2500 m on the northern slopes of Kunlun Shan.

Status: Least Concern. **Global population:** 3,300,000 mature individuals with a stable population thread.It was previously considered “Near Threatened”. It appears to be common within its range. It is a little-known species and further study is required, especially of its ecology.

Diet: Beetles and their larvae, ants, moth larvae and pupae, spiders and various aerial insects. Nuts and seeds eaten both in summer and in winter. Sap is sometimes taken.

It forages singly and in pairs. Uses all levels, from ground to canopy, but almost half of all foraging takes place in lower strata. It hops on the ground, and moves swiftly during arboreal feeding.

Breeding: The male has a white forehead, black crown, red nape and a black hind neck. There is a thin white line above the eye. It has white cheeks and ear-coverts (often stained) and a black malar stripe curving up behind ear-coverts to the upper nape and broadening on the sides of the neck, extending down to the breast and back to join on the sides of the mantle, isolating a large white patch on the rear part of the sides of the neck. It has black upper parts with the wing having a large white area on the scapulars and inner wing-coverts and very broad white bars on the primaries and secondaries and white edges of outer webs of the tertials and white marginal coverts. The upper tail is black with broad white bars towards tips of outer 2–3 feather pairs. It is white below, sometimes with faint gray or buff tinge or staining and the vent and under tail-coverts are red to pinkish red (in fresh plumage pink feather tips extending centrally up to lower breast). Its medium-long bill is straight, slightly chisel-tipped, and gray-black in overall color with a paler base on the lower mandible. Its iris is deep red, red-brown or brown and the legs are dark gray. It is distinguished from the Great Spotted Woodpecker (*D. major)* by much more extensive white in wings. The female lacks the red on the nape. Juveniles are duller than adults with more brown-black above, buff below, and often more white in the wings and tail. Occasionally the scapulars are finely barred black, the ventral area pink rather than red, and sometimes there are black streaks on the side of the breast. Juvenile males have the red crown mixed with black and white feathers and a black nape. The female is with usually a variable amount of red in its fore crown.



Breeding starts in late March through April. The nest hole is placed 1–5 m in a softwood tree (e.g. poplar, willow, walnut). A clutch 4–6 eggs is laid. It is believed that the breeding and nesting behavior is similar to that of the Great Spotted Woodpecker (*D. major)*.

Cool Facts: Its common call is a "*kewk*" or "*kig*". It also makes a rattling calls and frequently drums.

A Snagging Issue

Dead and dying trees provide vital habitat for more than 1,000 species of wildlife nationwide, however forest management and homeowners readily remove them.

Dead trees comprise two important wildlife resources:

- Snags - The name for dead trees that are left upright to decompose naturally.
- Fallen Logs - When a snag (or part of a snag) falls on the ground, it becomes a log--also a very useful for wildlife habitat.

By some estimates, the removal of dead material from forests can mean a loss of habitat for up to one-fifth of the animals in the ecosystem.

How Dead Trees Help Wildlife

Wildlife species use nearly every part of a dead tree in every stage of its decay for things such as:

- A Place to Live - Many animals, including birds, bats, squirrels and raccoons make nests in hollow cavities and crevices in standing dead wood.
- A Food Source - By attracting insects, mosses, lichens and fungi, dead wood becomes a gourmet restaurant for wildlife looking for a snack.
- A "Crow's Nest" - Higher branches of snags become excellent look-outs from which wildlife (such as raptors) spot potential prey and also eat what they catch.
- A Hiding Place - The nooks and crannies of dead wood are put to good use by squirrels and other wildlife looking to store food.
- A Soil Refresher - Mosses, lichens and fungi all grow on snags and aid in the return of vital nutrients to the soil through the nitrogen cycle. Decaying logs on the forest floor also act as "nurse logs" for new seedlings.

Incorporating Dead Trees into Your Habitat

You can create a refuge for hundreds of woodland creatures by keeping snags in your yard (or constructing artificial snags if no natural ones are present). Despite the importance of snags to wildlife, many modern forestry practices encourage the removal of dead wood from the forest floor in an attempt to control pests and fungi, as well as for aesthetic reasons.

When should I remove a snag? - Never allow dead wood to rest against your home. Also any trees which may fall on your home (or a neighbor's home) should be removed. In both these cases, however, consider moving the wood to another safer area of your yard.

What about termites? - As long as the snags are a reasonable distance from your home, termites and other pests won't find their way into your home.

How do I create artificial snags? - If there are no natural snags in your yard, you can create artificial ones by trimming branches on live trees of varying sizes and types. Hardwood trees tend to make better nesting habitats while softer wood is better for food foraging. If you do not wish to create snags from living trees, the use of nesting boxes can be a good alternative
.
How many snags should I have? - Three snags per acre is a good estimate for most areas, but you should check with your local wildlife management authority to get specific recommendations for your region.

Special Thanks to my Beta-Testing Teams

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Species Accuracy and Reference Materials

The author has tried to make these species as accurate to their real life counterparts as possible. Many birds of the same species do vary considerably in color. This package tries to emulate the colors and markings in the most commonly found variants.

With the use of one generic model to create dozens of unique bird species, some give and take is bound to occur.

The model was created in Modo. The model rigs in Poser and DAZ Studio. The texture maps were created in Painter.

Field Guide Sources:

- **Handbook of the Birds of the World** Alive https://www.hbw.com/
- **Wikipedia** https://en.wikipedia.org
- **BirdLife International** https://www.birdlife.org/


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