

OSTRICH

CARD 21

GROUP 2: BIRDS

ORDER
Struthioniformes

FAMILY
Struthionidae

GENUS & SPECIES
Struthio camelus



The comical-looking ostrich is unique in many ways: it is the world's largest bird, it can run faster than any other two-legged animal, and it lays the largest eggs of any living creature.

KEY FACTS



SIZES

Height: Males, 6-9 ft.

Females, 5-6 ft.

Weight: Males, as much as 350 lb.

Females, as much as 200 lb.



BREEDING

Sexual maturity: Males, 3-4 years.

Females, 2 years.

Mating: Season varies.

Eggs: 10-12, cream or white.

Incubation: About 42 days.

Fledging: 4-5 months.



LIFESTYLE

Habit: Usually forms small groups.

Diet: Grasses, seeds, leaves, and

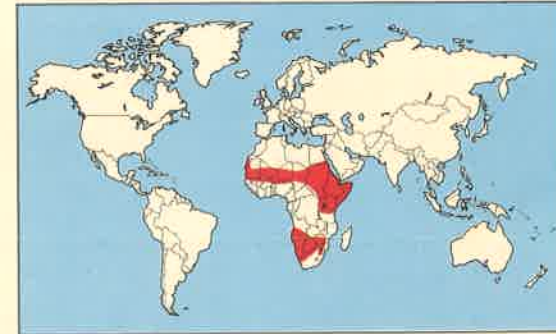
flowers. Very occasionally eats locusts and grasshoppers.

Lifespan: More than 40 years.



RELATED SPECIES

Nearest relatives are rheas, cassowaries, kiwis, and emus—all flightless birds.



■ Range of the ostrich.

DISTRIBUTION

Widespread in the southern Sahara, Somalia, Ethiopia, and parts of East Africa and the Zambesi. Feral populations, descendants of introduced birds, exist in Australia.

CONSERVATION

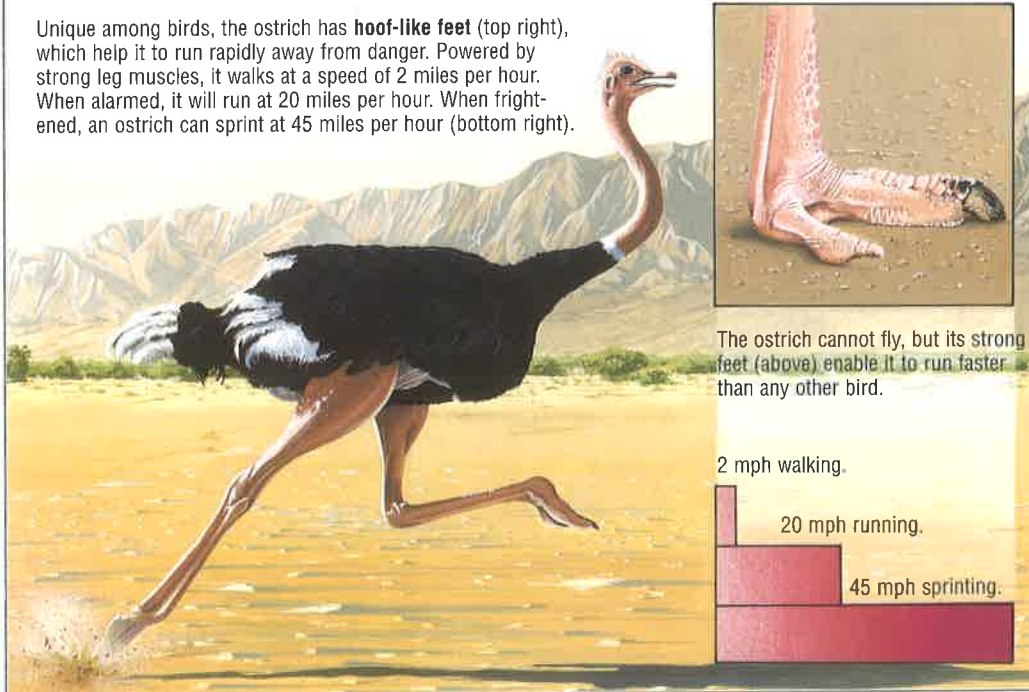
Numbers in southern Sahara are decreasing due to hunting. In other places, populations are not threatened but are declining as a result of human intrusion into habitats.

HOW THE OSTRICH RUNS FROM DANGER

Unique among birds, the ostrich has **hoof-like feet** (top right), which help it to run rapidly away from danger. Powered by strong leg muscles, it walks at a speed of 2 miles per hour. When alarmed, it will run at 20 miles per hour. When frightened, an ostrich can sprint at 45 miles per hour (bottom right).



The ostrich cannot fly, but its strong feet (above) enable it to run faster than any other bird.



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Although the ostrich is native only to parts of Africa,

it is one of the world's best-known birds.

Its bizarre appearance is characterized by a round,

dumpy body, spindly legs, and a long neck that

extends up to a small head. Its large eyes

give it a puzzled expression.



Left: Kicking up sand as they go, ostriches swing from side to side as they run across a dry river bed.

HABITS

Depending on the amount of grass and vegetation available, ostriches will live in a variety of habitats, including sparsely wooded areas, savannah grasslands, and semideserts.

Outside the breeding season, adults spend their time in small, loose groups of two to five birds. Desert populations are more nomadic. They travel very far to find food and water.

FOOD & FEEDING

The ostrich grazes on the scarce but nutritious plant shoots, leaves, flowers, and seeds in its habitat. The ostrich gathers food with the use of its long neck, and stores it in its throat, called a *gullet*, from which it passes down the digestive tract.

Like many other birds, the ostrich also swallows dirt, sand,

and small stones along with its food. These materials grind up the tough plant fibers that accumulate in the *gizzard* (the bird's second stomach) so that the ostrich can digest them.

While grazing, ostriches often scan the horizon for signs of predators. Their long necks and acute vision are especially helpful for this purpose.

DID YOU KNOW?

- It is a common misconception that ostriches bury their heads in the sand. This belief most likely came about because, from a distance, the tiny head of a grazing ostrich may not be visible.

- Ostriches in captivity have swallowed an amazing variety of objects. During its lifetime, one ostrich swallowed a roll of film, three gloves, a comb, a bicycle valve, a pencil, a piece of rope, several coins, part of a gold necklace, a handkerchief, and a clock.

- One ostrich egg is equal in volume to 20 hen's eggs.

- Ostrich fossils found in India, China, and southern Russia are 7 million years old.

BREEDING

During breeding season, males make several shallow depressions, called *nest scrapes*, in the ground within their territories. Each male pairs up with a female—the major hen—who chooses a nest scrape and lays

as many as 12 eggs. Thereafter, two to five more hens also lay their eggs in the same nest.

Because of its large size, the ostrich can incubate many eggs. However, if there are too many, the major hen will roll

some of the minor hens' eggs to the edge of the nest, where they may fail to hatch. Soon after hatching, the brood joins with broods from other nests, and the large flock of chicks is guarded by one or two adults.



Left: Males defend their breeding territories by chasing away intruders and making aggressive displays, flicking their wings or raising them in the air.



OSTRICH & MAN

Ostriches were once farmed for their feathers, which were used as hat plumes. Today, they are raised for their meat and skin. They have also been trained to scare other birds away from crops, to round up sheep, and to be ridden in races.

Ostriches were first introduced into Australia in the 1860s. Many of the ostriches being farmed escaped and started breeding in the wild.

Right: As night falls, the male takes over nest duty. If he has a large troop of minor hens, he may be sitting on as many as 40 eggs, although only those eggs at the center of the nest, laid by the major hen, are sure to hatch.



RED KITE

CARD 23

GROUP 2: BIRDS

ORDER
Falconiformes

FAMILY
Accipitridae

GENUS & SPECIES
Milvus milvus



The red kite has a distinctive gliding, circling flight. Its deeply forked tail also makes it easily recognizable.

KEY FACTS



SIZES

Length: Male, 24-26 in. Females larger than males.

Wingspan: 5-6 ft.

Weight: Male, 28-42 oz. Female, 35-56 oz.



BREEDING

Sexual maturity: 2-3 years.

Breeding season: April to July.

No. of eggs: 1-5 (usually 3).

Incubation: 28-30 days.

Fledging period: 45-50 days.



LIFESTYLE

Habit: Pair for life.

Diet: Includes small mammals and birds, carrion, and fish.

Lifespan: Typically 4-5 years, but may live to 26 years in the wild and up to 38 in captivity.



RELATED SPECIES

There are four species of North American kite.



Range of the red kite.

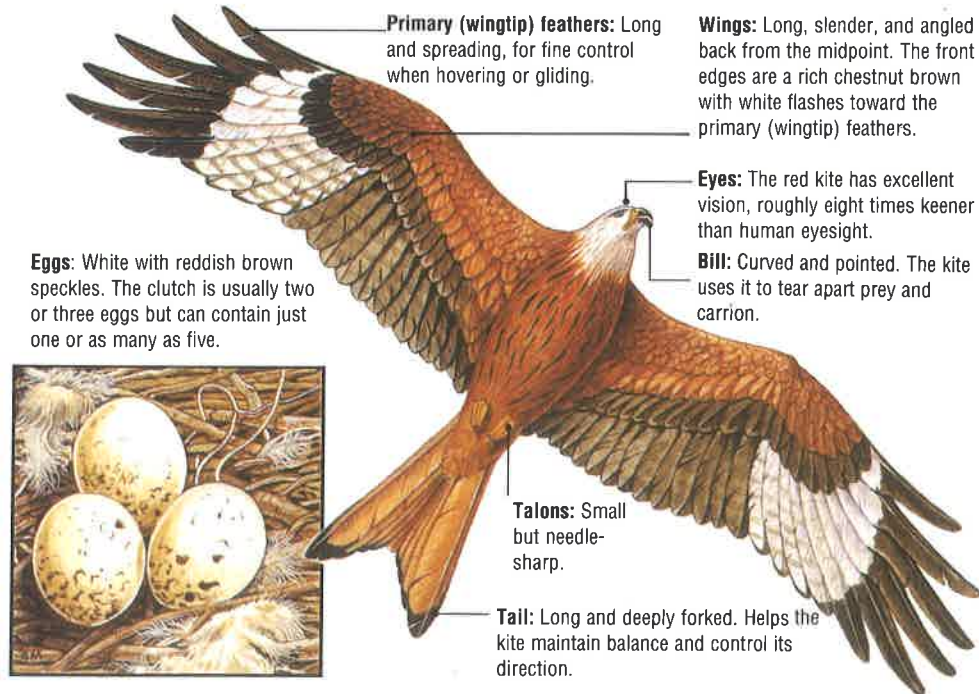
DISTRIBUTION

Scattered thinly over Europe, parts of North Africa, Turkey, and the Caucasus; much reduced or exterminated in parts of northern and western Europe where it was once common.

CONSERVATION

Despite preservation efforts by conservationists, the red kite remains endangered.

FEATURES OF THE RED KITE



Primary (wingtip) feathers: Long and spreading, for fine control when hovering or gliding.

Wings: Long, slender, and angled back from the midpoint. The front edges are a rich chestnut brown with white flashes toward the primary (wingtip) feathers.

Eyes: The red kite has excellent vision, roughly eight times keener than human eyesight.

Bill: Curved and pointed. The kite uses it to tear apart prey and carrion.

Talons: Small but needle-sharp.

Tail: Long and deeply forked. Helps the kite maintain balance and control its direction.



Eggs: White with reddish brown speckles. The clutch is usually two or three eggs but can contain just one or as many as five.



The red kite is one of the most graceful of all birds of prey. It soars on the wind with its long, angled wings, while its forked tail constantly stabilizes its flight. It has a varied diet that includes small mammals and birds, fish, and carrion.

DID YOU KNOW?

- An old name for the kite, *glead* or *glede*, refers to its graceful, gliding flight.
- The red kite sometimes steals food from other birds, including herons, crows, and even other birds of prey such as buzzards, goshawks, and peregrine falcons. It chases them in flight until they eventually give in and drop their food or prey.
- During the English renaissance

the red kite was protected by Londoners because it fed on the refuse that accumulated in the streets. In his play, *The Winter's Tale*, Shakespeare refers to the bird's unusual practice of using clothes snatched from the line as nest-building material: "When the kite builds, look to your lesser linen."
 • The last time a red kite was seen in London was in 1859.

HABITS

The red kite is similar in size to a buzzard but is more slender. Its plumage is mainly chestnut, and it can be identified in flight by its narrow, W-shaped wings and long, deeply forked tail. Its white head is marked with dark streaks, and its wings have white areas near the tips of the underwings. The male and female red kites look very similar to one another.

Left: Keen eyesight and a hooked bill help make the kite an expert predator.

Red kites do not generally migrate, though some young birds may wander quite far from their home range soon after they have *fledged* (grown feathers).

During a typical day a red kite may wander six miles or more from its roost site to hunt and scavenge. In winter red kites gather in small groups at food sites and at roosts. Most of the year they are solitary, although in breeding season they roost in pairs.



Above: Chicks hatching. As with most birds of prey, the eldest is much larger than the youngest. They are ready to leave the nest after eight weeks.

Left: This red kite has found some carrion, a staple of its diet.

BREEDING

Before mating in late March or April, red kite pairs fly together over the nest site, which is usually found on the outskirts of a forest. Sometimes a pair of kites grasp one another's talons and remain



locked together until separating just above the treetops.

Both mates build the nest, which is located high up in a tree. They construct the nest of twigs and man-made materials, adding a soft lining of sheep's wool.

The female incubates the eggs, although the male may help temporarily. The chicks are creamy white and pale brown and hatch at intervals. They make their first flights at 48 days old.

RED KITE & MAN

The red kite was common throughout much of Europe before 1800. It flourished in both cities and the countryside by scavenging on refuse.

The species had become extinct in parts of its range at the end of the 1800s because of overhunting by gamekeepers, trophy hunters, and egg collectors. However, the red kite is now steadily increasing in numbers as a result of conservationists' activities.

FOOD & HUNTING

The red kite's habitat has diminished and, as a consequence, it no longer relies solely on scavenging in garbage dumps for food. It has adapted its diet to include small mammals such as rabbits and rodents, as well as invertebrates, reptiles, and fish. It also kills large birds and eats *carrion* (flesh of dead animals).

The red kite's preference for carrion may be because its

small, weak talons, are unsuitable for subduing large, struggling animals. But its talons are efficient for catching smaller prey.

The red kite hovers effortlessly in the air for hours while it seeks out prey. It generally glides at a height of less than 65 feet. Once it spots live prey, it dives down and snatches the animal with its outstretched talons.



CHARACTERISTICS

The red kite's remarkable ability to soar for several hours at a time was the reason behind the naming of the toy kite, whose maneuvers resemble the movements of the red kite in flight.

The species is sometimes seen in areas populated by man where it often nests near or on buildings. The kite often makes use of the abandoned nests of other birds of

prey, as well.

Like many birds of prey, the red kite performs a mating display. While airborne, the male and female entwine their talons and free fall in spirals, separating and swooping skyward again just before they would hit the treetops.

The red kite is not very vocal. Its call resembles that of the buzzard.

EURASIAN STARLING

CARD 24

GROUP 2: BIRDS

ORDER
Passeriformes

FAMILY
Sturnidae

GENUS & SPECIES
Sturnus vulgaris



The starling has become a common sight in urban areas. Huge flocks of these birds can be seen circling in the sky before they settle at their communal roosts.

KEY FACTS



SIZES

Length: 8½ in.
Wing length: 5 in.
Weight: 2½ -3 oz.



BREEDING

Sexual maturity: 1 year.
Breeding season: April to May.
Eggs: Usually 5-7.
No. of broods: Usually 1.
Incubation: 12-13 days.
Fledging period: 3 weeks.



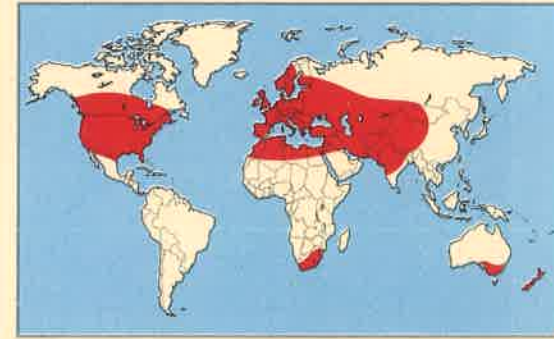
LIFESTYLE

Habit: Sociable; forms large roosting flocks.
Diet: Worms, insects, fruit, berries, and seeds.
Lifespan: Generally up to 3 years. Oldest known, 21 years.



RELATED SPECIES

The starling family (*Sturnidae*) has 108 species, including mynah birds and ox peckers.



Range of the Eurasian starling.

DISTRIBUTION

Widespread in Europe and western Asia, spreading south in winter. Introduced into North America, southern Africa, and Australasia.

CONSERVATION

The starling has adapted well to changes in its habitat. Its numbers have dropped recently in some regions, but it remains abundant.

FEATURES OF THE EURASIAN STARLING

Flying: Flies quickly, in a straight line. Moves erratically when chasing insects.



Feeding: Moves quickly along branches to pick insects from bark.



Eggs: Usually lays five to seven white or pale blue eggs.



Nest site: Selects site at beginning of breeding season. Usually a hole in a tree or wall; often an old woodpecker nest.

Plumage: The main coloring is black interspersed with shiny purple, green, and blue. In summer the male and female have a bright yellow beak.



Left: Although considered pests, starlings have been successfully introduced in many parts of the world.

Right: A stone wall is an excellent site for a nest.

Below: A pile of rotten apples provides a good meal for a group of starlings.



The Eurasian starling is a highly resourceful and adaptable bird. Its adaptability has enabled the bird to greatly expand its range and numbers over the last 150 years, during a time when many other bird species have suffered a serious decline from loss of habitat.



BREEDING

The large flocks of starlings tend to break up for the spring nesting season, but the

non-breeding birds may continue to roost communally. Breeding pairs select nest sites and establish their territories. In the countryside, nest holes are usually in trees or rocks, but urban birds find holes in buildings, often under the eaves of roofs or in drainpipes. The nest itself is a bulky cup of dry vegetation, lined with grass, moss, feathers, and a variety of man-made items such as cloth, string, ribbon, paper, and cigarette butts.

DID YOU KNOW?

- The starling mimics the calls of other birds, and of man-made sounds, such as whistles and ringing telephones.
- Dense roosting flocks of starlings often break tree branches, and small trees have been known to fall under the birds' combined weight.
- Because starlings eat insect pests, they are welcome in some farming regions. Nest boxes are provided for them in parts of the Soviet Union and New Zealand.
- The starling population has recently declined in parts of Europe and the United States—probably because there are now fewer cattle pastures.

The female lays her eggs at daily intervals. She does most of the incubation. The chicks are featherless at birth.

BEHAVIOR

Although the starling is still frequently seen in its wild habitats, such as woodlands, it is now most closely associated with human settlement. It is a common species, both on farmland pastures and in the hearts of cities in many parts of the world.

Sociable by nature, starlings feed and roost in noisy, active flocks, and they often nest in loose colonies. On winter evenings, many thousands of the birds flock into cities to roost. They crowd among park trees or along building ledges, often struggling with one another for the best perches. Roosting birds benefit from the slightly higher

temperatures and the shelter from wind that are available in the cities.

Their fairly long, pointed wings make the starlings strong fliers. This enables many starlings to migrate south, away from the harsh winters of their range.

FOOD & FEEDING

The starling is flexible in its feeding habits. It takes advantage of a wide range of food items that it finds in a variety of places. In the country, the starling will feed on seeds and berries, as well as on a variety of insects found in pastureland, such as beetles and

worms. It also chases insects in flight. Starlings in the city are attracted to food put out in bird feeders.

Many city-roosting birds feed in the surrounding country. Waves of birds spread out from the city at dawn. Each bird often heads for a regular feeding site that may be several miles from town.

The starlings return before dusk, forming ever-larger groups as they move in stages back toward the city. The incoming birds concentrate into a spiralling cloud. The whole flock twists and turns in the air for up to an hour before the birds settle for the night.

Right: After feeding in the country, starlings gather in large flocks before flying back to their roosts in cities and towns at dusk.



STARLING & MAN

Starlings are unpopular with people because they soil buildings and trees with their droppings. In one city, the starlings' droppings killed trees, coated paths and picnic tables, and created such a foul odor that some park areas were fenced off. Farmers also consider the birds to be

pests because they cause damage to some crops. But starlings actually do some good by eating many agricultural pests.

City authorities and farmers sometimes use flashing lights and recordings of distress calls to drive away the flocks, often with little success.



BIRDWATCH

Starlings commonly breed in April and May throughout the temperate areas of their range. Their numbers swell in winter when migrant birds arrive from northern habitats. The starlings may gather in

concentrations of up to a million birds. Look for their many droppings; watch for the massing flocks at dusk; and listen for the chorus of chattering that is the starling's unmistakable call.

COMMON BEE-EATER

CARD 26

GROUP 2: BIRDS

ORDER
Coraciiformes

FAMILY
Meropidae

GENUS & SPECIES
Merops apiaster



The common bee-eater has a voracious appetite for flying insects. It breeds in southern Europe in summer and migrates in September to spend the winter in Africa.

KEY FACTS



SIZES
Length: 10 in.
Weight: About 2 oz.



BREEDING
Sexual maturity: 1-2 years.
No. of broods: 1 per year.
Breeding season: May to June.
Eggs: White, 4-7 per clutch, rarely more than 10.
Incubation period: 22-24 days.
Fledging period: 21-24 days.



LIFESTYLE
Call: Bell-like sound in flight.
Habit: Sociable, nests in colonies.
Diet: Flying insects, including bees, wasps, dragonflies, beetles, and butterflies.
Lifespan: Not known.



RELATED SPECIES
Related to other species of bee-eater, which live mainly in the tropics, including the carmine bee-eater, *Merops nubicus*.



Range of the common bee-eater.

DISTRIBUTION

Throughout southern and southeastern Europe in summer. Found in tropical regions of Africa in winter. Also breeds in North Africa and southern Asia.

CONSERVATION

Conservation measures do not appear to be necessary at the present time, although many birds are killed every year by bee-keepers in Mediterranean countries.

HOW THE COMMON BEE-EATER EATS A HONEYBEE

After catching an insect in its long, slender bill, the bee-eater returns to its perch.



The bee-eater kills the insect by grasping it in its bill and beating it hard against the perch.

The bee-eater rubs the insect's stinger against the perch to tear it out.

The common bee-eater eats honeybees as well as other insects. The bird has long been regarded as a pest by beekeepers, but it actually kills and eats many predators of the honeybee, including hornets and bee wolves.



DID YOU KNOW?

- The common bee-eater is also known as the European bee-eater.
- The Australian bee-eater has such brilliantly colored plumage that it is sometimes called the rainbow bird.
- In Africa some species of bee-eater make nest chambers in aardvarks' burrows.
- A single common bee-eater must catch the equivalent of 225 bee-sized insects every day to feed itself and its young.
- Most species of bee-eater form family groups of male, female, and young non-breeding birds. The white-throated bee-eater's family group may have as many as 12 members.
- Tropical species of bee-eater, such as the white-fronted and red-throated bee-eaters of Africa, have some of the most complex bird societies known to man.

Left: Bee-eaters have favorite feeding perches to which they return regularly.

Right: The common bee-eater is ready to mate at about 18 months of age.

FOOD & FEEDING

The common bee-eater feeds on flying insects such as bees, wasps, dragonflies, beetles, and butterflies. Still, the bee-eater prefers to eat honeybees when they are available.

The bee-eater hunts by perching on a fence post, telephone wire, or tree branch for

a good vantage point. It rapidly scans the area then flies out and attacks passing insects. The bee-eater later coughs up indigestible parts of its prey in the form of a pellet.

Below: The bee-eater's nest is usually made in a steep bank.



HABITS

The common bee-eater is a sociable bird that nests in large colonies containing hundreds, sometimes thousands, of birds. Within these colonies, the birds form family groups that include one or more young, non-breeding birds called helpers. The group remains together during nest building, incubation, and

hatching and often migrates together.

In flight the bee-eaters form a huge flock that travels at a considerable altitude. Flocks of bee-eaters work together to protect their communal nesting sites by swooping down from the sky to chase away predators such as black kites.



BREEDING

The male and female bee-eaters work together to dig a nest burrow in sandy ground close to water and feeding perches. Aided by the helper birds, they use their bills and feet to excavate a tunnel 3 to 10 feet long. The tunnel is parallel to the ground when it is dug in a bank, but in flat ground it slopes down at an angle.

The male and female defend their burrow by making aggressive gestures and chasing away rival males and other nesting pairs. Four to seven eggs are laid at intervals of one to two days.

Both parents take turns incubating the eggs, although the female usually spends the

night sitting on the eggs while the male roosts in a nearby tree. The male feeds the female during the incubation period.

The eggs hatch at intervals, and the newborn are blind, naked, and pink. The chicks are fed insects by the parents and helpers and open their eyes after a week.

After fledging, the chicks, parents, and helpers stay in the burrow for several days before moving to a roost on a nearby tree. The chicks stay close to their parents for approximately six weeks, depending on them for food until they are skilled enough to catch their own.

EUROPEAN ROBIN

CARD 27

GROUP 2: BIRDS

ORDER
Passeriformes

FAMILY
Turdidae

GENUS & SPECIES
Erithacus rubecula



The chirpy red-breasted European robin is found widely throughout its range. Although it has a red breast similar to an American robin's, it is a much smaller bird.

KEY FACTS



SIZES
Length: 5 in.
Wingspan: 10 in.
Weight: 10 oz.



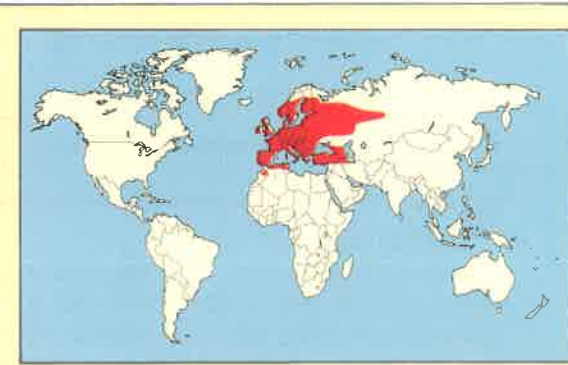
BREEDING
Sexual maturity: 1 year.
Breeding season: April-June.
No. of broods: 2-3.
Eggs: 5-7 per clutch.
Incubation: 270-300 days.
Fledging period: 12-15 days.



LIFESTYLE
Habit: Forms pairs for breeding season only.
Diet: Insects, worms, berries, seeds.
Lifespan: Oldest known bird lived for 13 years. Usually live for only a few years.



RELATED SPECIES
Every continent has birds called robin, but only the Japanese and Ryukyu robins are closely related.



Range of the European robin.

DISTRIBUTION

All over Europe, except for parts of the Mediterranean coast and northern Scandinavia. Also found in the Azores, Canary Islands, and parts of North Africa, and eastward into central Russia, Turkey, and Iran.

CONSERVATION

Stable population, and robins are highly adaptable to different habitats.

IDENTIFICATION GUIDE



Adult plumage



Juvenile colors

Juvenile robins have spotted chests because the pale feathers have brown tips. Within the first two months after fledging, the birds undergo their first molt. All body feathers are replaced, so the bird is left with its first adult plumage. Wing and tail feathers are molted the following year.

Eggs are white, lightly spotted with red.



The robin is found mainly in woodlands throughout much of Europe, but in England, robins often become tame. Still, robins are fiercely aggressive defenders of their established territories.

HABITAT

Throughout their territories, robins may be found in all natural woodlands, where they nest and breed in dense layers of undergrowth.

In England, where increased agriculture has resulted in a

large-scale clearing of trees, robins will also be found at the edges of woodlands and in hedges. They have adapted as well to living in backyards and parks, where they eat from feeders.



Above: Feeding hungry young keeps both parents busy.

Left: Robins nest close to areas inhabited by man.

Right: A robin puffs up its feathers to try and keep warm.

BREEDING

A robin makes its territory known by perching in a visible place and singing very loudly. This happens in spring, when it is establishing its home territory and trying to attract a mate.

When a partner has been chosen, the male robin strengthens the bond by bringing the female food. She builds the nest, concealing it in a low bank among thick vegetation. The domed structure is built with leaves and

then lined with plant roots and hair. In backyards and near houses, robins may build their nests on ledges inside porches and sheds. They are also attracted to nest boxes put in a protected place.

Mating occurs primarily from April to June, although some robins nest as early as January. Once the female has laid her eggs, she stays in the nest for up to two weeks to incubate them. During this time, the male brings her

food, sometimes as often as three times an hour.

Both parents share the task of raising the young. After three weeks, the young have learned to fly and become independent. Adult birds that mate early in the season are more likely to have a second or third brood, and it is not uncommon for the female to incubate the second clutch while the male continues to look after the first group of fledgling robins.



BIRDWATCH

Robins are frequent visitors to backyards, where they like to hunt in the bare soil. They can also be found among rose beds and shrubbery. They are always attracted to well-stocked bird feeders that contain bits of cheese and other fatty foods. Some people have found that these friendly birds will take food from their hands. Still, it is important not to startle the birds or encourage them to become too tame if there are cats in the vicinity.

Robins will nest in artificial sites, such as in an old pan wedged sideways in a bush, or a nest box that has a large opening in the front.

ROBIN'S SONG

All birds, robins included, sing mainly to mark territory and to attract a mate, especially in spring during the breeding season. They will sing in the middle of the night if near a bright light. Early morning song is usually associated with establishing territory.

Unlike other birds, however, robins sing year-round. They are somewhat quieter in late summer when molting. At this time and throughout the fall, young and adults of both sexes sing quieter, more melancholy songs, which serve to mark their winter territories.

Males begin to sing the song associated with breeding as early as December.



DID YOU KNOW?

- Nearly three-quarters of young robins die before they are a year old. They are usually caught by predators.
- British mailmen used to be called robins because of the red uniforms they wore.
- It is mainly in England that robins have a close association with man. Elsewhere in Europe, they are shot by the thousands for food or sport.
- The American robin is also a thrush.