

# WINTER WREN

CARD 17

GROUP 2: BIRDS

ORDER  
Passeriformes

FAMILY  
Troglodytidae

GENUS & SPECIES  
*Troglodytes troglodytes*



**The tiny winter wren has distinctive tail feathers that point upward and, although it is one of the smaller birds, it has a particularly loud song.**

## KEY FACTS



**SIZES**  
Length: 4 in.  
Wingspan: 5 in.  
Weight: Up to 1/2 oz.



**BREEDING**  
Sexual maturity: 1 year.  
Breeding season: April to July.  
No. of broods: 1-2.  
Eggs: 5-6. White, spotted brown.  
Incubation: 14-15 days.  
Fledging period: 16-17 days.



**LIFESTYLE**  
Habit: Roosts communally in cold weather.  
Diet: Mainly insects and spiders.  
Lifespan: 6 years.



**RELATED SPECIES**  
There are more than 60 species in the wren family, which originates in North America. The largest is the 8-inch-long cactus wren that is found in the southwestern United States and Mexico.



■ Range of the winter wren.

### DISTRIBUTION

Widespread throughout North America, Europe, North Africa, and northern Asia.

### CONSERVATION

The winter wren is common in North America where plenty of forest habitat remains in its breeding and wintering regions.

## FEATURES OF THE WINTER WREN

The wren's tiny size, cocked tail, and busy darting movements are the best visual guides to its identification. Despite its small size, it has a remarkably loud, trilling song. Adult male and female birds look alike. Juveniles are a lighter color than adults.



Adult



Juvenile

The nest is built by the male, who may build several during a breeding season. It is lined by the female. The five to six eggs are white with reddish brown spots.



*The winter wren is found in woods, bushes, and cultivated areas—it can adapt to almost any habitat that has thick vegetation and plentiful food. Despite its unique markings and busy manner, it is a shy bird and is difficult to spot.*



### HABITS

Winter wrens are found in great numbers in a variety of habitats, including woodland, open land, rocky areas, and marshes. Like many species of woodland bird, the wren has adapted to living in populated areas where there is enough vegetation to provide cover. Still, they are not as common in urban areas as they are in the country.

Winter wrens have difficulty surviving through cold weather. Prolonged periods of subzero temperatures cause

their small bodies to lose heat quickly, and the snow-covered ground makes it difficult for them to find food.

One way in which wrens attempt to survive in winter is by communal roosting. Just before dusk wrens gather by attracting one another with their loud calls. One by one they enter the roost site—under the roof of a building or in an abandoned bird nest.

*Right: The wren can adapt to almost any habitat that has thick vegetation and plentiful food.*



### BREEDING

A male wren is extremely territorial and claims his territory by singing loudly from a perch among the tree branches. He is most vocal in March, when mating season begins.

At this time the male wren builds several nests in his territory. A female selects one and lines it in preparation for laying her eggs. The nests are usually hidden in a bush, a hole in a wall, or a crack in a tree trunk. In more exposed habitats, a clump of grass or other vegetation is used. However, as the human population expands, more wrens live in sheds and outbuildings in urban areas.

The female lays and incubates her eggs in April. When the young hatch, the male helps to feed them.

A male wren often has more than one mate, especially if he has a large territory. Each female that he mates with chooses a different nest within his territory.



*Left: The male often builds more than one nest. The dome-shaped structure is built from various plant materials, including moss, grass, and leaves, and is lined by the female with feathers.*

*Right: The clutch of five to six eggs takes about two weeks to hatch. Both parents feed the young.*



*Far left: The wren spends most of its time searching for food.*

### FOOD & FEEDING

Winter wrens feed mainly on insect larvae, small beetles, craneflies, mosquitoes, ants, aphids, and spiders. They also eat the *pupae* (immature insects in the cocoon stage) of butterflies and moths. They occasionally eat small slugs and snails as well as small fish and tadpoles.

The tiny birds forage exhaustively for food by looking among all the vegetation they can find. They make quick darting movements when they look for food.



*Above: Insects and their larvae are the wren's main food.*



### BIRDWATCH

Winter wrens are found throughout most of eastern North America but, because they are so small and stay well hidden, they are difficult to observe.

Wrens are usually found fairly close to the ground in bushes, trees, and undergrowth. Wooded areas, where the birds tend to stay close to the edges of flower beds and bushes, are the best places to watch for them.

Because their diet consists of insects, it is difficult to provide food for them in a bird feeder. Still, they do eat grated cheese and soft pet food if it is sprinkled on the ground near their feeding areas. Alternatively, if you sweep leaves and twigs into a corner in the fall and turn them over in the winter, the wrens can feed on the numerous insects that have gathered there.

### DID YOU KNOW?

- In North America the winter wren migrates south at the end of the summer.
- Unlike most bird species, it is the male wren, rather than the female, that builds the nest.
- As many as 60 wrens have been counted sharing a single nest in a severe winter.
- Wrens have been said to ride on the backs of eagles and then fly off when the larger birds grew tired.



# SULPHUR-CRESTED COCKATOO

CARD 18



GROUP 2: BIRDS

ORDER  
Psittaciformes

FAMILY  
Cacatuidae

GENUS & SPECIES  
Cacatua galerita



*The sulphur-crested cockatoo is one of Australia's best-known birds. Its worldwide reputation as a good-natured pet contrasts with its wary nature in the wild.*

## KEY FACTS



**SIZES**  
Length: 18-20 in.  
Weight: 3-3½ oz.



**BREEDING**  
No. of broods: 1.  
Eggs: 2, occasionally 3; white, oval.  
Incubation: 30 days.  
Fledging: 60-70 days.



**LIFESTYLE**  
Call: A variety of very loud, raucous screeches.  
Habit: Active by day; in pairs or small groups.  
Diet: Seeds, roots, bulbs, nuts; also some insects and their larvae.  
Lifespan: In captivity, 50 years.



**RELATED SPECIES**  
There are 17 other species of cockatoo, including the lesser sulphur-crested cockatoo and the blue-eyed cockatoo.



Range of the sulphur-crested cockatoo.

### DISTRIBUTION

Found in most types of open, forested country throughout northern, eastern, and southeastern Australia, and on some offshore islands.

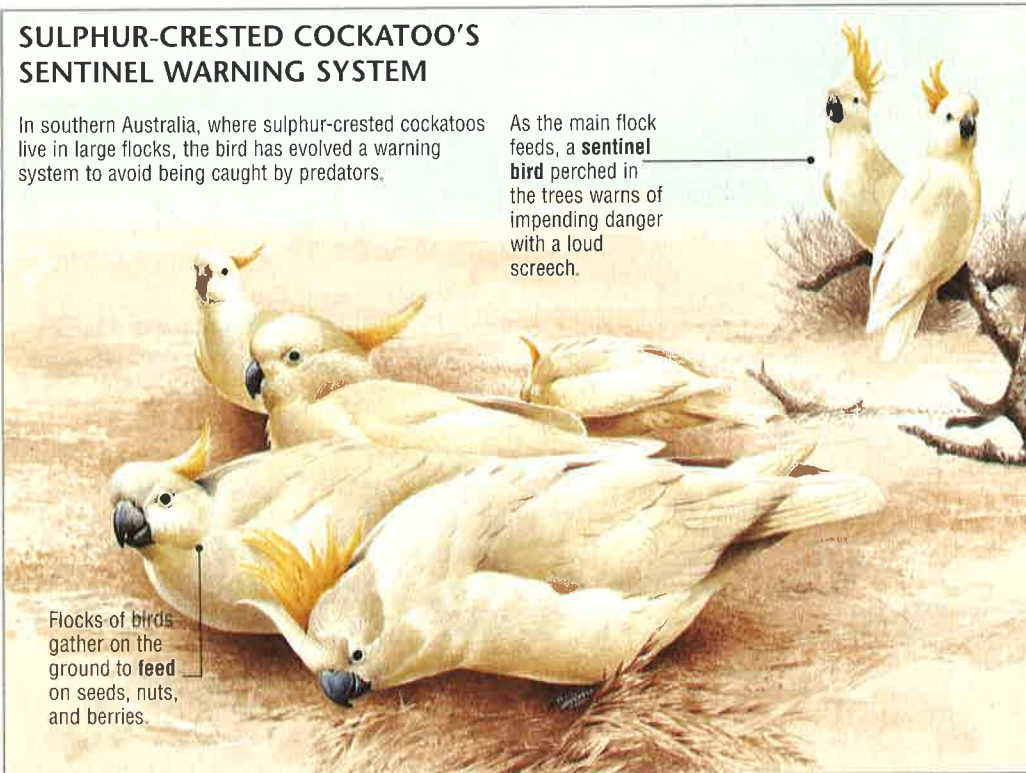
### CONSERVATION

Widespread and common throughout its range. Protected in most Australian states.

## SULPHUR-CRESTED COCKATOO'S SENTINEL WARNING SYSTEM

In southern Australia, where sulphur-crested cockatoos live in large flocks, the bird has evolved a warning system to avoid being caught by predators.

As the main flock feeds, a **sentinel bird** perched in the trees warns of impending danger with a loud screech.



Flocks of birds gather on the ground to **feed** on seeds, nuts, and berries.



*The sulphur-crested cockatoo is noisy and conspicuous. With its white plumage and yellow crest gleaming in the sun, it provides one of the most spectacular sights to be seen in Australia.*



### CHARACTERISTICS

The sulphur-crested cockatoo is familiar throughout many parts of Australia. It lives in most types of open wooded country, preferring trees along rivers and other waterways. It has also become widespread on farmland and in urban and suburban parks and gardens.

In the southern part of its range, the sulphur-crested cockatoo gathers in large flocks, except during the breeding season. Some of the flocks contain hundreds of

birds, which cover the ground like a blanket of snow. In northern Australia, the birds remain in pairs or small groups throughout the year.

Each group of sulphur-crested cockatoos has a favorite roosting site, usually in a dead tree that is isolated in open country or towers above the others in a forest.

Cockatoos usually spend mornings searching the ground for seeds and other food. Toward noon, the birds

### FOOD & FEEDING

The sulphur-crested cockatoo feeds on a variety of seeds, as well as nuts, berries, fruits, flowers, corn, and some insects and their larvae.

In grain-growing areas, they aggravate farmers by devouring newly sown seed and young crops. The dam-

age that they do may be exaggerated, however, and they are helpful to farmers because they eat weed seeds and pests, including the eggs of the plague locust.

*Right: A large group of sulphur-crested cockatoos gathers to feed.*



### BREEDING

Sulphur-crested cockatoos have brief, simple courtships. The male struts along a branch toward his prospective mate with his crest raised, bobbing his head while uttering soft, chattering calls. Before mating, they preen each other's plumage.

The sulphur-crested cockatoo makes its nest in a hole or a high and inaccessible

part of a riverside cliff.

The female lays two (rarely three) eggs on a pile of wood dust at the bottom of the hole. Both parents brood the eggs, remaining very quiet to avoid attracting the attention of predators.

*Below: Prior to mating and as a part of their courtship ritual, these beautiful birds spend time preening each other's feathers.*



*Above: A hole in the trunk of a dead eucalyptus tree is an ideal nest site.*

seek the shade of surrounding trees, where they amuse themselves by stripping off the bark and leaves. In the cool of the afternoon, they return to the ground to feed, and at dusk, they fly home to roost.

A flock of cockatoos will return to the same feeding grounds every day until the food supply is exhausted.

### COCKATOO & MAN

The sulphur-crested cockatoo is one of the most popular of all pet birds and has been kept as a pet by man since the 19th century. Many are superb mimics of human speech. Still, the sulphur-crested cockatoo can produce harsh, ear-splitting screeches early in the morning or when it is alarmed.

The best type of bird to be kept as a pet is one that has been bred in captivity, not removed from the wild. The pet bird trade (together with destruction of habitats) poses the biggest threat to wild cockatoos.

The sulphur-crested cockatoo is protected in nearly all Australian states, although permits to shoot them are issued to farmers in crop-growing areas. The cockatoo has even become a familiar sight in some urban areas.

### DID YOU KNOW?

- The oldest captive bird in the world was Cocky, a sulphur-crested cockatoo who died in the London Zoo at the age of 82.
- A cockatoo uses its distinctive crest to show fear, aggression, and sexual arousal.

- The largest cockatoo is the palm (or great black) cockatoo. It also has the largest beak.
- Both the Latin and common names *Cacatua* and cockatoo come from the Malayan word *kakatoe*, in

- imitation of the bird's call.
- The only difference in appearance between the males and females is their eye color. Males have dark brown eyes; the eye color for females ranges from reddish-brown to deep red.



# MANDARIN DUCK

CARD 19

GROUP 2: BIRDS

ORDER  
Anseriformes

FAMILY  
Anatidae

GENUS & SPECIES  
*Aix galericulata*



**The male mandarin duck is much more colorful than its mate. It is easily distinguished from the female by its bright red bill and more prominent markings.**

## KEY FACTS



**SIZES**  
Length: 16-19 in.  
Wingspan: 27-29 in.  
Weight: Male, 22 oz. Female, 18 oz.



**BREEDING**  
Sexual maturity: 1 year.  
Breeding season: April to May.  
Eggs: 9-12, white.  
Incubation period: 29-30 days.  
Fledging period: 40-45 days.



**LIFESTYLE**  
Habit: Shy but social; feeds by dabbling.  
Diet: Seeds, nuts, and occasionally snails and insects.  
Lifespan: 3-6 years in the wild. Captive birds up to 12 years.



**RELATED SPECIES**  
One of 13 species of perching duck. Closest relative is the wood duck, *Aix sponsa*, from North America.



Native range of the mandarin duck.

### DISTRIBUTION

Found scattered throughout eastern Asia, the Soviet Union, and China. Most found now in Japan and England, which have populations of 5,000 and 1,000 pairs, respectively.

### CONSERVATION

Destruction of the mandarin duck's habitat and persecution by hunters and collectors have caused the native Asian population to decrease significantly.

## FEATURES OF THE MANDARIN DUCK

The **female's** distinct shape and narrow, striped eye marking make her easy to identify.

During breeding season the **male** has a striking plumage of various colors, as well as conspicuous chestnut-orange cheek feathers.

The downy **hatchlings** remain in their tree nest only a few days before jumping down to the ground.





*Mandarin ducks were once exported from China by the thousands to decorate private lakes and ponds in Europe, but some birds escaped. Now, with widespread destruction of its natural Asian habitat threatening the duck's survival, descendants of the escaped ducks may save the species.*

## HABITS

In its native Asian habitat the shy mandarin duck lives in small groups near wooded rivers and lakes. It prefers areas that have dense undergrowth, where it can enter and leave the water unseen. In late summer it moves to nearby flooded rice fields and marshes in search of food.

The mandarin duck is most active in the morning and evening, when it travels to

and from nearby lakes and rivers to feed. The duck's days are spent at the water's edge or perched in bankside trees. It is as much at ease on land as it is in the water.

Where the mandarin duck is kept in captivity, it has become less shy and more tolerant of human activity.

**Right:** In the fall the male grows colorful feathers to attract a mate.



## FOOD & FEEDING

Although the mandarin duck is primarily herbivorous (plant eating), it also eats insects and animals such as snails and small fish. In late summer Asian mandarin ducks flock to raid rice and wheat fields.

Mandarin ducks are very

buoyant, so they swim on the water's surface. They feed by dabbling in the water with their bills and by upending themselves to reach water plants.

**Below:** A male mandarin duck dabbles at the water's edge.



## BREEDING

During breeding season the male's plumage becomes especially colorful to help it attract a mate. The male competes with other males for the available females. After she selects a mate, the female swims close to him. They develop a close bond by preening each other as they swim.

The female chooses the nest site and lays one egg per day for 9 to 12 days in mid-April. She incubates the clutch alone.

Within several days of their hatching, the female leads her ducklings to the nearest suitable food supply. Although the ducklings become independent six weeks later, they remain in the area until the next breeding season.



**Above:** The female chooses the nest site and incubates the eggs alone.



**Left:** Newly hatched chicks are ready to jump out of their nest.



## BIRDWATCH

In North America the mandarin duck can be seen in zoos. It is also popular for private collections. Although pairs of mandarin ducks have escaped from captivity, they have not become established in the wild in North America.

The adult male is impossible to mistake for any other American duck. But the adult female mandarin closely resembles the female wood duck, since both have white eye markings.



## DID YOU KNOW?

- Pairs of caged mandarin ducks were once given to Chinese newlyweds as a symbol of marital fidelity. But in fact, the ducks do not pair for life; they find new mates each fall.
- When males *molt* (shed their feathers), they resemble females, but they are still recognizable by their red bills.
- The female mandarin duck has only one working ovary. If it fails, the other ovary develops into a male sex organ and the bird becomes a non-breeding male.
- The mandarin is the only species of duck that cannot interbreed with other ducks because it has a different number of chromosomes.



# BLUE AND YELLOW MACAW

CARD 20

GROUP 2: BIRDS



ORDER  
Psittaciformes

FAMILY  
Psittacidae

GENUS & SPECIES  
*Ara ararauna*



The colorful blue and yellow macaw lives in the forests of Central and South America, yet remarkably little is known about its life in the wild.

## KEY FACTS



**SIZES**  
Length: Body to tip of tail, 33 in.  
Tail, 20 in.



**BREEDING**  
Sexual maturity: 3-4 years.  
Nest site: In cavity, high up in a tree.  
No. of eggs: 2, white.  
Incubation: About 25 days.  
Fledging: 3 months.



**LIFESTYLE**  
Habit: Sociable; roosts and feeds in flocks.  
Diet: Nuts, fruits, seeds, berries.  
Lifespan: Up to 50 years in captivity.



**RELATED SPECIES**  
There are currently 17 species of macaw. Some have become extinct, such as the Cuban macaw, which became extinct in 1864.



Range of the blue and yellow macaw.

### DISTRIBUTION

In forests from Panama to the northern tip of Argentina, but absent from most of Venezuela and to the west of the Andes.

### CONSERVATION

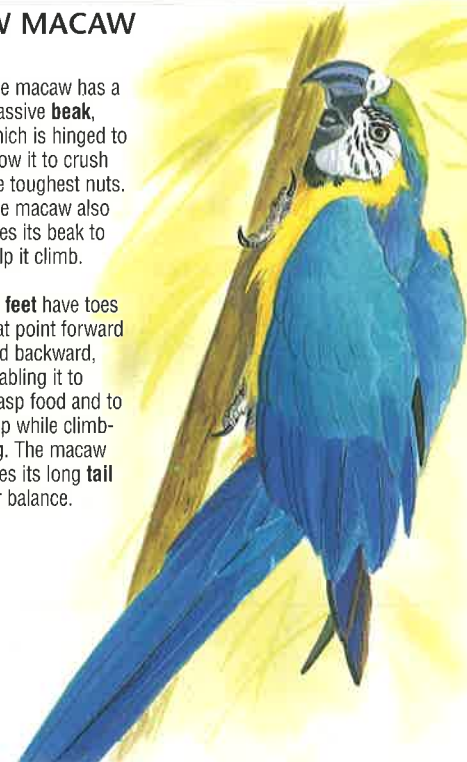
Threatened by loss of habitat and the zoo and pet trades. Their survival is threatened to some extent, and some species are probably close to extinction.

## FEATURES OF THE BLUE AND YELLOW MACAW



The macaw has a massive **beak**, which is hinged to allow it to crush the toughest nuts. The macaw also uses its beak to help it climb.

Its **feet** have toes that point forward and backward, enabling it to grasp food and to grip while climbing. The macaw uses its long **tail** for balance.



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*Uniquely adapted to life in the forest,  
the macaw's blue and yellow feathers actually  
help to conceal it in the bright sunlight of its forest  
habitat. A strong flyer, it travels with steady,  
shallow wingbeats that carry it rapidly  
through the trees.*

### HABITAT

The blue and yellow macaw lives in forests that grow in swampy ground or along rivers. A wary bird, the macaw usually avoids human contact; macaws have declined or disappeared altogether in populated areas.

In the forest, macaws can be found in communal roosting sites at night. At dawn, they leave their roosts to bask in the sun and feed. The macaw's plumage blends in perfectly with the rays of sunlight and the blue sky.

### BREEDING

Very little is known about the breeding habits of blue and yellow macaws in the wild. They spend the majority of their time in flocks. It is believed that macaws do not breed until they are 3 to 4 years old. They probably pair for life.

The birds nest high above the ground in cavities found in large, dead trees. Only two eggs are laid, and it is thought

that the female incubates them. However, both parents aggressively defend the eggs.

When the young hatch, they are blind and featherless. They do not develop their full plumage until they are at least 10 weeks old. After they grow feathers, or *fledge*, they remain with their parents for several months before they become independent.



*Left: Macaws are thought to pair for life. Strong pair bonding is reinforced by mutual preening and displays of affection.*

*Right: A macaw in its true home—the trees of the tropical forest.*



### DID YOU KNOW?

- Blue and yellow macaws fly as far as 15 miles to feed.
- Macaws belong to the parrot family, which has 328 species. Most macaws live in tropical or subtropical regions.
- The largest species of macaw is the hyacinth macaw, *Anodorhynchus hyacinthinus*. It is 3 feet long from head to tail tip. The red-shouldered macaw is the smallest species, measuring only 12 inches.
- Different species of macaw eat different foods.

### FOOD & FEEDING

Blue and yellow macaws are completely dependent on trees for their food, which includes fruits, seeds, berries, and nuts.

In their tropical and subtropical habitats, different trees bear crops at different times of the year, so food is always plentiful. Large flocks often travel great distances each day to assure

an ample supply of food.

The macaws most likely learn how to find feeding grounds in the appropriate season by following the older, more experienced individuals in the flock.

*Below: The macaw's powerful bill can crack the toughest nuts, enabling it to exploit a food source which other birds cannot.*



### MACAW & MAN

Most macaws have long been imported to Europe and North America to be sold as pets. This has had a serious effect on the wild population; some species are already extinct.

Collectors often cut down trees so they can take young

macaws from their nest. But the birds are often killed in the process.

But the greatest threat to the macaw's survival is the destruction of its habitat as forests are cut down to clear land for agricultural uses.