# Class: Actinopterygii

# • Bony Fishes

# **Class: Amphibia**

• Frogs, toads, salamanders, caecilians

# **Class: Arachnida**

• Eight-legged invertebrates includes spiders, scorpions, mites

# **Class: Insecta**

• Six-legged invertebrates includes insects

# Goldfish

# Carassius auratus

**Class:** Actinopterygii

**Order:** Cypriniformes

<u>Characteristics</u>: There are many different <u>varieties</u> of goldfish that vary greatly in color and appearance. Common, wild goldfish range in color from orange to olive green to milky white. These goldfish have a general fin pattern that is two sets of paired fins - the pectoral fins and pelvic fins, and three single fins- the dorsal, caudal, and anal fin. Goldfish can grow to be 1.5 feet long, but are usually smaller. They have large eyes and no scales on the head. (<u>Animal Diversity</u>)

**Behavior:** Goldfish are somewhat social fish and tend to school with other fish of similar size. They live well with other varieties of goldfish and different fish species. Goldfish are very common as pets and ornamental pond fish. If properly cared for, they do well in these environments. Goldfish are also commonly used in research.

**<u>Reproduction</u>**: Females will spawn multiple times during the breeding period. The eggs are sticky and will hold on underwater vegetation for development. The juveniles need high temperatures to grow properly (<u>Fishbase</u>). Goldfish can hybridize with common carp and in some places the hybrids outnumber the pure goldfish.

# **Diet:**

Wild: Goldfish are opportunistic feeders and will feed on most available items like crustaceans, insects, and various plant matter. Zoo: Pelleted fish food

<u>Conservation: IUCN</u> evaluated the goldfish as least concern. Goldfish can be found most places that fresh water exists. The species has been introduced worldwide. In the USA, goldfish in the wild are considered a pest species. (<u>USGS</u>)

# FYI:

- Goldfish have a good memory and can even recognize faces and voices of its owners.

-They can be trained to swim through hoops and play soccer.

# Family: Cyprinidae



Range & Habitat: Native to Eastern Asia, including China and adjacent regions. Goldfish can now be found almost everywhere there is fresh water. Goldfish are mostly kept as pets in aquariums or small ponds.



(blue:native red:introduced)

**Lifespan:** up to 25 years in captivity, 6-7 years in the wild.

**Special Adaptations:** Goldfish were domesticated from carp more than a thousand years ago in China. Goldfish are smaller and more colorful than common carp.

# IUCN Conservation Status: Least Concern



# **Koi** Cyprinus carpio haematopterus

**Class:** Actinopterygii

**Order:** Cypriniformes

# **Characteristics:**

Small to very large size fish, depending on age. Koi are an ornamental, decorative variety of domesticated common carp. Carp were first bred for color in 1820 in Japan. There are over 20 different Koi varieties, distinguished mostly by their color patterns. Koi vary in color with different varieties being white, black, red, yellow, blue, and cream. The possible colors are virtually limitless, due to specific breeding of the fish. Koi are hardy fish, and can even survive winter temperatures. However, they do require the water to have a great deal of oxygen while they are polluting it quickly. Oxygen pumps or water circulation devices are often necessary in smaller ponds.

## **Behavior:**

Koi are very friendly fish. They can even learn to recognize the person feeding them and take food from the hand. They live peacefully with other fish species, and will school together if they are comfortable in their environment. Koi will stir up the sediment from the bottom of the pond, causing very dirty water.

# **Reproduction:**

Koi reproduce similarly to most other fish species. This reproductive method is called spawning. The female will lay a large numbers of eggs, and one or more males will externally fertilize the eggs. Koi will produce thousands of offspring, called fry, at one time.

### **Diet:**

Wild: Omnivores eating mostly algae, insect larvae, and pond vegetation. Zoo: Koi pelleted fish food

### **Conservation:**

Information is only available for wild common carp.

# FYI:

Koi fish are common symbols in Chinese culture and feng shui. The koi fish is said to have a powerful and energetic life force, demonstrated by its ability to swim against currents and even travel upstream. Some of the symbolism associated with koi are; good fortune, success, prosperity, longevity, courage, ambition, and perseverance.

# Family: Cyprinidae



Range & Habitat: Carp are originally found in central Europe and Asia. Carp were first domesticated in East Asia, and have since spread almost worldwide. Koi are generally kept in outdoor koi ponds or water gardens.



**Lifespan:** up to 100-200 years in captivity.

**Special Adaptations:** Koi are an ornamental variety of common carp, and have beautiful colors.



# **Green Tree Frog**

Litoria caerulea

# **Class:** Amphibia

Order: Anura

Family: Hylidae

### **Characteristics:**

The Green Tree Frog (also known as White's Tree Frog) ranges in color from green, to blue, to brown, to gray. These frogs have some color changing ability and often change from colorful to brown and back again. Green Tree Frogs are one of the largest tree frog species with females measuring about 4 inches long and males about 3 inches long. They have webbed feet fingers and toes and very large toe pads. Females have a white, smooth throat, while males have a grayish, wrinkled throat. The fat folds and ridges, along with their color, contribute to the nickname "dumpy" tree frog. The skin is covered in a slimy mucus to aid in moisture retention. (Bruin, T. 2000)

### **Behavior:**

The Green Tree Frog does not have a fear of humans, and is very tame in nature. They are most active during the summer rainy months at all times of day and night. During the dry season, they will often burrow into the ground to stay moist. The males will <u>call</u> year round, but this should not be confused with the highpitched distress call. (<u>National Zoo</u>)

### **Reproduction:**

Mating season for the Green Tree Frog is in the summer. They are sexually mature at 2 years of age. The female shoots her 150-300 eggs out, through the deposited sperm cloud, with such energy, that the eggs can land up to 1.5 feet away. The eggs float on top of the water until they are fertilized. Once fertilized, the eggs sink and hatch about three days later. <u>Metamorphosis</u> from a tadpole to a frog can occur in two to three weeks.

### Diet:

Wild: Insects such as, moths, locusts, and roaches. Zoo: Crickets

### **Conservation:**

<u>IUCN</u> lists the Green Tree Frog as least concern since 2004, but also noted that the information needs updating. The population is considered stable. Pollution, predation, export for pet trade, and disease epidemic are of greatest concern for the decline of the species.

# FYI:

The Green Tree Frog is also known as the White's Tree Frog, Australian Green Tree Frog, or Dumpy Tree Frog. These frogs have been known to hop onto people's laps while they are using the restroom.



# Range & Habitat:

Found in the northern and eastern parts of Australia, and in southern New Guinea. They prefer moist forest habitat, but have adapted to drier areas as well. Often found in urban and suburban areas in bathrooms, water tanks, and



Lifespan: up to 16 years in captivity.

**Special Adaptations:** Scientists believe they can control how much water is lost through the skin and therefor adapt to many different habitats including dry and urban.



# **Ornate Horned Frog**

Ceratophrys ornata

# **Class:** Amphibia

Order: Anura

Family: Ceratophryidae

# **Characteristics:**

The name horned frog comes from the folds of skin above its eyes that look like horns. This is a large frog, usually measuring about 5.5 inches long. These frogs can weigh up to a pound with females being larger than males. Ornate Horned Frogs are very colorful with many shades of green, red, orange, yellow, black, and brown on their body. Sometimes they are referred to as "mouths with legs" because the mouth takes up most of the front portion of the body. (National Zoo)

# **Behavior:**

These frogs are most active in the day, but are very passive. Juveniles may be active hunters, but adult frogs will burrow into the ground and wait for prey to come close. Ornate Horned frogs are <u>terrestrial</u> frogs that are often <u>solitary</u>. They are known to be fearless, and will defend themselves against any size predator. If threatened, the Ornate Horned Frog will bite predators using their <u>vomerine teeth</u>.

# **Reproduction:**

Ornate Horned Frogs reach sexual maturity around 1.5-2 years of age. The females will deposit up to 2,000 eggs into standing water. The eggs will take a few weeks to hatch, and tadpoles metamorphose within 2 weeks in good conditions. (Point Defiance Zoo and Aquarium)

# Diet:

Wild: Ornate Horned Frogs are notorious for eating any prey item that they can fit in their mouth including; mice, insects, lizards, and other frogs. Zoo: Crickets, pinkies

# **Conservation:**

In 2004, the species was listed as near threatened, but it has been noted by <u>IUCN</u> that the research needs updating. Ornate Horned Frogs are declining in the wild. It is now rare in Brazil and Argentina. The biggest threat to the population is habitat loss due to development and pollution. It is also used in the pet trade and for research.

# <u>FYI:</u>

They can also be known as Argentina Horned Frog, Bell's Ceratophrys, or Pac-man frogs.



# Range & Habitat:

Found in Argentina, Uruguay, and southern Brazil. These frogs live in grasslands near water, and in ditches or irrigated cropland.



**Lifespan:** up to 6 years in captivity.

**Special Adaptations:** They will hibernate for up to 6 months in the dry season to conserve water.



# **Chilean Rose Tarantula**

Grammostola rosea

Class: Arachnida

**Order:** Artanae

Family: Theraphosidae

<u>Characteristics</u>: Body -1.5 in or longer; leg span up to 5.75 in. Males are longer and slimmer than females with smaller abdomens; females larger and heavier. Neither spins webs strong enough to hold their own weight. Good vision. Burrowing species functioning by smell, touch and vibration. Hair covers entire body and serves as sensory input. Some hairs contain temperature or smell receptors. Others detect airborne vibration or act as itchy irritants to potential predators. Hairs are barbed and work their way into skin causing itching, irritation and eye damage.

**Behavior:** Nocturnal. Considered an invaluable aid in destroying harmful, crop-eating insects. Would rather retreat than bite so poses little threat for humans or pets. Bee sting-like bite with mild to moderate pain, redness and swelling at site. Allergic reactions, not uncommon, can be fatal. Molting process: Stops eating, sheds and produces new exoskeleton in several hours. Occurs only every 1-2 years lying on back. Injury and stress levels are high and humidity levels critical until new skeleton hardens in a few days. Male matures and darkens in color after molting for final time.

**Reproduction:** Mating can occur throughout the year, but depends on the subspecies and environmental conditions. Females lays 100-500 eggs in silk egg capsule. Some leave eggs in the burrow while others carry them with them. Spiderlings hatch 6 wks later are precocial and abandoned after hatching. Males mature in 1-2 yrs, while females take a little longer to mature (3-10 years). Females rarely kill males after mating. Most males live another one or two years longer.

**Diet:** Wild: grasshoppers, crickets, moths, beetles, cockroaches, mealworms, small lizards, mammals. Zoo: One cricket per week.

<u>Conservation</u>: Threatened due to rapidly expanding market for pets. Predators are large mammals, reptile, birds, Pepsis hunting wasps, other tarantulas.

**FYI:** 800 different tarantula species worldwide.

Not the best choice of pet because of stress and danger to the spider (not the handler) when handled.

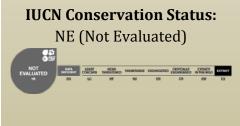


**Range & Habitat:** Chili, South America in burrows or trees.



Lifespan: Captivity- males 3.5, females plus 20. Wild –males 6, females, plus 20.

**Special Adaptations:** Two hidden tarsal claws at end of each leg for stability and maneuverability.



# **Emperor Scorpion**

# **Pandinus emperator**

# **Class:** Arachnid

**Order**: *Scorpiones* 

<u>Characteristics</u>: The largest scorpion - up to 8 inches long. Sexually dimorphic in size - male usually about 6 inches long. Beautiful shiny dark color with two

huge pedipalps (pincers) in the front, four legs and long tail ending in stinger. Juvenile looks like adult but is white in color. Has longer tail, larger abdomen and wider pinchers than other species. Color changes with the habitat. Poor eyesight but other senses are well developed. Cannot consume food in solid state. Powerful venom allows for liquefaction and consuming only the inside of prey. Ectothermic.

**Behavior:** Although they tend to live communally and are social animals, they are the most timid of all scorpions and non-aggressive except for female after birth. Will flee rather than fight unless cornered. Burrow beneath the soil, often in termite mounds, and hide in debris. Will molt multiple times before becoming adults. Mostly nocturnal. Adult kills prey by tearing apart with powerful pincers whereas juvenile depends on stinger. Females may eat mates and their young. Males may consume each other.

**<u>Reproduction</u>**: Monogomous. Breed throughout the year conducting elaborate mating rituals. After a nine month or more gestation period, female gives live birth to 10-12 Scorplings which reach sexual maturity by 4 years of age. Born defenseless, Scorplings rely on mother for food and protection and are carried on her back until old enough to be on their own. Female will run them off by moving them with her tail or rolling on her side to tip them off her back when they are ready to care for themselves. Those that linger will be eaten.

### Diet:

Wild: Insects, arthropods, small vertebrates. Commonly eat termites. May eat heavily and store up large quantities of food. Zoo: Crickets

**<u>Conservation</u>**: Threatened by over-collection for the pet trade and by continuing destruction of its habitat through deforestation. Relatively small litter sizes may mean populations take a long time to recover from any losses. Added to Appendix II of CITIES meaning species should be careful monitored and controlled. There is an increasing preference for captive-bred specimens in the pet trade which may help to prevent decline.

**FYI**: Predators include birds, bats, mammals and spiders. The sting is generally mild and, although painful, is not fatal to human beings. Commonly used in movies and, in many cultures, for making medicine.

### Family: Scorpionidae



Range & Habitat: Rain forests and Savannas of West Africa.



**Lifespan:** 5-8 years in captivity

**Special Adaptations:** Body hairs and pectines (sensory structures) to detect surrounding environment and prey.

IUCN Conservation Status: Not Evaluated.



CITES Appendix II: Should be carefully monitored and controlled.

# **Madagascar Hissing Cockroach**

# Gromphoderhina portentosa

Class: Insecta

**Order:** Blattodea

Family: Blaberidae

<u>Characteristics</u>: L. 2-4 in; Wt. 0.8 oz. Head, thorax, abdomen and six legs with shiny brown, oval-shaped, orange markings on abdomen. No wings; single pair of antennae. Males sport large horns. Sexually dimorphic – males larger, shaped differently. Exhale air through breathing holes (spiracles) which makes hissing sound used in reproduction, communication and as an effective alarm cry. Can survive high doses of radiation and live for a week without its head. May die from dehydration.

**Behavior:** Live in large colonies. Male dominates several females. Active at night scavenging for detritus. Males use horns in aggressive encounters. Rivals ram one another with horns unleashing hisses. Winning roaches hiss more than losers. Communicate involves touching, hearing, pheromones and four different hisses.

**<u>Reproduction</u>**: Breeding season year around but mating occurs only when climate is warm. Male circles female hissing and touching her antenna. Will mate rear to rear for 20-30 minutes. Female creates a cocoon-like egg case called an ootheca and carries eggs {and neonatal nymphs} inside her body 60 days at which time 15-40 cockroach babies, called nymphs, will emerge. Nymphs stay with mother for about 6 months after hatching. Will molt six times until mature in seven months.

# Diet:

Wild: Detrivores. Scavenge for decaying fruit, dead animal matter. Also organic matter including glue, paper, cloth, electrical wire insulation. Zoo: Carrots, potatoes, apples.

<u>Conservation</u>: Not listed by IUCN. Found only in Madagascar where research is difficult due to sparse passable roads and political turmoil. Habitat dying by degradation and fragmentation. Sold commercially in pet trade.

**FYI:** Predators include birds, mammals, reptiles, amphibians. 99% are not household pests. They do not inhabit human dwellings. Known as the battle tank of the cockroach world because of its hard, thin exoskeleton or skin.



Range & Habitat: Hollow logs, leaf litter, rotting wood in tropical jungles and in caves only on the island of

Madagascar



**Lifespan:** up to 5 years in captivity, Up to 5 years in the wild.

**Special Adaptations:** Have lived 350 million years due to uncanny ability to exploit a changing environment.

IUCN Conservation Status: NE (Not Evaluated)



# **Class: Aves**

Birds have
feathers, wings
(even if they
don't/can't fly)
and lack teeth

# **African Penguin**

Spheniscus demersus



**Class:** Aves

**Order:** Sphenisciformes

<u>Characteristics:</u> African penguins are about 23.5 inches in length and can weigh up to 8 pounds. African penguins have one black band across their chest and a variable amount of black spotting on their chest and belly. Penguins have several unique characteristics that make them highly functional in the water such as waterproof feathers, a stream-lined body and hydrodynamic body, and the ability to reduce their heart-rate so they can dive to considerable depths and remain there for almost two minutes. (AZA) Penguins have small muscles at the base of each feather that enable the feathers to be held tightly against the body whilst in water, forming a waterproof layer; alternatively, on land the feathers are held erect, trapping an insulating layer of air around the body (<u>ARKive</u>).

**Behavior:** African penguins live in large colonies. The birds build nests out of their own excrement, called guano, under bushes or rocks (<u>San Diego Zoo</u>). African Penguins are a <u>diurnal</u> species that is found to be most active during dawn and dusk. So technically, it is a <u>crepuscular</u> species. During their active time, they can be found swimming and hunting in the sea. While on land, they primarily gather at their nesting sites.

**Reproduction:** African penguins reach sexual maturity from 4-6 years old. They will form monogamous breeding pairs that will remain together for decades or life. The pair will lay 2 eggs in the nest, dug from sand or guano. The pair will then alternate incubating the egg for about 40 days. Once hatched, the parents will care for and guard the chicks for 30 days. One parent will forage and regurgitate food for the chicks. The juvenile penguins will leave the colony when they develop adult plumage between 60-130 days (<u>ARKive</u>)(<u>Maryland Zoo</u>).

# Diet:

Wild: African penguins feed primarily on anchovies, sardines, horse mackerel and round herrings, but also eat squid and crustaceans (<u>AZA</u>) Zoo: Trout and capelin.

<u>Conservation:</u> African penguins are an SSP species. African penguins have been listed as endangered by <u>IUCN Redlist</u> since 2010. Populations have declined by more than 60 percent since 2000. African Penguins are one of the most endangered species of penguin. Commercial fishing and egg harvesting by locals are the main threats to penguin populations in Africa.

**<u>FYI</u>:** African penguins are also called black-footed penguins and "jackass" penguins due to their loud <u>bray</u>.

Family: Spheniscidae



Range & Habitat:

Mostly found in South Africa and Namibia. African penguins usually stay within 40km of the coastline and nest on sandy and rocky mainland and islands.



**Lifespan:** up to 30 years in captivity, around 15 years in the wild.

**Special Adaptations:** Penguins cannot fly but are highly functional in the water, with waterproof feathers and a stream-lined body.

# IUCN Conservation Status: Endangered

# **American Kestrel**

(Falco sparverius)

**Class:** Aves

**Order:** Falconiformes

Family: Falconidae

# **Characteristics:**

About 25-30 cm long (10-12"), it has long narrow wings and a fairly long tail. Kestrels are one of the few <u>sexually dimorphic</u> raptors. The males' upper parts are hazel-colored, except for the wings, which are gray with black markings. The head is white with gray and hazel on the nape and three black stripes on each cheek. The lower parts are ocher, specked with black. The females and the young are slightly different with less brightly colored plumage. The females tend to weigh 10-15% heavier than that of males (*Handbook of North American Birds*).

# **Behavior:**

A fairly adaptable species, which is also frequent in urban areas, <u>flies</u> nimbly and fast, with a pattern that is interrupted every so often when the bird "<u>hovers</u>" - that is, remains in place in the air while rapidly flapping its wings to maintain its altitude. Prefers to hunt in areas where vegetation is less than 25 centimeters high, allowing for easier capture of prey as well as increasing the chances of identifying predators from a further distance (<u>Bildstein & Ardia 1997</u>). Its <u>call</u> is a sharp killy killy.

# **Reproduction:**

The nest is built in a hollow in a tree or on ledges of a building. 3-7 eggs (usually 4 or 5) are laid, which are incubated mainly by the female for 29-30 days. The nestlings can fly at about 30 days.

# Diet:

Wild: Feeds mainly on insects in summer and mice and small birds in winter. It has rarely been reported for them to feed also on bats.

Zoo: Mice and rarely insects.

# **Conservation:**

Populations are beginning to decline due to human activity. American Kestrels are currently of least concern, but are being closely monitored.

# <u>FYI:</u>

- Because kestrels are so light weight and will often scout for food from branches and wires, they have developed the ability to maintain their heads stable while their body's sway.
- Kestrels have been known to attack other birds of prey that have invaded their territory. They attack by dive bombing them (<u>Scholz</u> <u>1993</u>)



# Range & Habitat:

Live year-round in both North and South America while only breeding in Canada and Alaska during the summer months.



**Lifespan:** Up to 17 years in captivity, 11 years in the wild.

# Special Adaptations: Falcons

possess a sharp, triangular Tomial tooth toward the front of the beak to aid in the killing and shredding of prey.



# **American White Pelican**

Pelecanus erythrorhychos

**Class:** Aves

**Order:** *Pelecaniformes* 

Family: Pelecanidae

# **Characteristics:**

American white pelicans are one of the largest birds in North America and can weigh up to 30 pounds. The massive yellow-orange bill with large fleshy pouch for feeding is their defining characteristic. The body is white and the wings are edged with black primary feathers. They are also known as tough-billed pelican (<u>Arkive</u>).

# **Behavior:**

Pelicans have been seen working in groups to herd fish into shallow areas where they can easily scoop them up for feeding. They feed on the surface by scooping their bills under the water. They may even up-end and feed like a dabbling duck but the American white pelicans will not dive to feed like brown pelicans (<u>Cornell Lab</u>).

# **Reproduction:**

During breeding season, white pelicans develop yellowish feathers on the head, chest and neck and their feet become bright orange-red. The bill turns a brighter orange and a large vertical horn develops on the upper mandible of the males. During courtship, they form large colonies on islands to avoid predation. They construct a shallow ground nest and lay an average of two eggs which are incubated by both parents for approximately 30 days. The chicks are <u>altricial</u>, meaning completely dependent on the parents which feed them regurgitated food for about the first three weeks. After that, the chicks form a crèche (group) for protection and will fledge at around 10 weeks.

# Diet:

Wild: Fish Zoo: Fish

# **Conservation:**

The 1960s saw a significant decline in the white pelican population, but since then protection of nesting grounds and protection of habitat has resulted in an increase and stabilization of their populations.

# <u>FYI:</u>

During breeding season, you can identify male white pelicans by the large bump on the top of their bill.



Range & Habitat: Waterways throughout North America



**Lifespan:** up to 25 years in captivity, 15 years in the wild.

**Special Adaptations:** The amazing expandable pouch on their lower mandible can hold lots of fish!



# **American Widgeon**

# Anas (Mareca) americana

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

# **Characteristics:**

Both sexes have a bluish bill with a black tip. Males have a white patch on the forehead, darker circular area around the eye and an iridescent green band that runs from behind the eye to the back of the neck. Females have the same dark area around the eye but have the characteristic drab brown body coloring of most female ducks. The males make a <u>raspy</u>, <u>whistling</u> <u>sound</u> whereas females make more of a low quack.

# **Behavior:**

American widgeons are a dabbling duck that actually prefers to do most of their grazing on land. Interestingly, when in water they spend most of their time on deep water and have been frequently seen stealing food from coots and diving ducks (<u>Audubon</u>).

# **Reproduction:**

American widgeon nest farther north, in Canada and Alaska, than almost all other ducks except the pintail (<u>Ducks Unlimited</u>). Females lay an average of nine eggs. Incubation of the eggs is done only by the females and the young hatch at around 24 days. Mom will stay with her brood usually until they can fly on their own.

# Diet:

Wild: Mostly aquatic and land-growing plants such as pondweeds, sedges, algae and on land young shoots, seeds and grains. Newly hatched ducklings will eat insects.

Zoo: Scratch grains, flock raiser pellets, Seabird, greens, and will graze on the grass

# **Conservation:**

Stable populations, and in fact, their breeding range continues to expand northward.

# FYI:

American widgeons are also known as "baldpates" because of the white patch on the males' head.



Range & Habitat: Marshes, lakes, bays and wetland fields



**Lifespan:** up to 20 years in captivity, average is 2 years in the wild.

**Special Adaptations:** Tend to be very wary, cautious birds and will take flight at least disturbance.



# **Azure-winged Magpie**

Cyanopica cyanus

**Class:** Aves

**Order:** *Passeriformes* 

Family: Corvidae

# **Characteristics:**

The head of the azure-winged magpie is capped with black plumage while the throat is while. In juveniles, the black cap looks as if it were dusty. The tail and flight feathers are azure (blue). The rest of the body is greyish brown similar to that of a turtle dove.

## **Behavior:**

Both European and Asian magpie populations often live in groups. Their <u>calls</u> are reminiscent of the magpies here in Idaho, but with a couple of extra "beeps" at the end.

### **Reproduction:**

These magpies tend to lay 5 to 7 eggs with a maximum of 9. The nests are built with twigs in tall trees which decreased the number of chicks lost to predators (Alonso et al 1991). Colony members are highly involved in the raising and rearing the young of other group members. Both adult and juvenile males seem to be the ones that are more inclined to help build the nest, feeding the nesting female, and the care of the chicks (Valencia et al <u>2003</u>).

### **Diet:**

Wild: Invertebrates, small mice, fruits, seeds, and things it can scavenge. Zoo: Fruits, vegetables, insectivore diet, feline diet and hard boiled eggs (Avian Scientific Advisory Group).

### **Conservation:**

Both European and Asian populations are large and are moderately increasing.

# FYI:

- Some azure winged magpies prefer to build their nests near the nests of Japanese lesser sparrow hawk. The sparrow hawks often don't hunt the magpies or invade their nests, but indirectly defend the magpies' nests from predators (Ueta 1994).
- These birds often bury different types of seeds in the ground probably as a way to save them for later.
- Having two very distant ranges from one another would make one think that they are an invasive species to Europe; however, fossils dating back 400,000 years proves otherwise. It is thought that the two populations were separated during the ice age.
- Korean: Water magpie



**Range & Habitat:** Wooded areas of eastern Asia



Lifespan: up to 20 years in captivity, 15 years in the wild.

# **Special Adaptations:**

- Group rearing of young
- Relatively intelligent

### **IUCN Conservation Status:**









# **Baikal Teal**

# Sibirionetta formosa

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

# **Characteristics:**

A beautiful <u>dabbling</u> duck (slightly larger than the common teal), males have striking plumage including green and tan alternating bands on the head, and elongated feathers on the back. Females have a distinctive head pattern with a white loral (area between the beak and eye) spot and a dark stripe behind the eye.

# **Behavior:**

As a dabbling duck, Baikal teal feed along the top of the water. Rarely, they may migrate as far as Alaska. While some have been seen throughout North America, it is presumed these are most likely escaped captive birds.

# **Reproduction:**

Baikal teal breed in pools along the edge of tundra and swampy forests. They reach sexual maturity between 1-2 years old and will lay 6-10 eggs that hatch following a 25-day incubation period. The nests are located on the ground in meadows or willow clumps.

# **Diet:**

Wild: Seeds, aquatic invertebrates (including larvae, snails and crabs), plant material, small fish Zoo: Scratch grains, seabird diet, flock raiser pellets, oyster shell

# **Conservation:**

Baikal teals have declined over the last several years due to habitat destruction and over-hunting, however it appears not to be effecting their numbers as much as predicted.

# FYI:

In place of teeth, ducks have serrations on their bills that allow them to filter food out of the water.



Range & Habitat: Waterways of central and eastern Siberia; they winter in China, Japan and Korea



**Lifespan:** up to 30 years in captivity, 20 years in the wild.

**Special Adaptations:** They are known to forage <u>for seeds, grains</u> <u>and nuts</u> in forests and along roadways.



# **Barred Owl**

Strix varia

**Class:** Aves

**Order:** *Strigiformes* 

<u>Characteristics:</u> Barred owls have a very distinct appearance when compared to most other owls. They have a large, round head without ear

compared to most other owls. They have a large, round head without ear tufts. Their big, dark brown eyes are highlighted by their pale brown facial disc. They get their name from the brown stripes, or bars, on the white chest. And they have a brown and white mottled back and wings (Biokids). They range from 17-20 inches tall and have a wingspan of 39-43 inches. At a weight of 16-37 ounces, or 1-2.5 pounds, they are larger than a barn owl but smaller than the great horned owl. Barred owls have long, sharp talons and a very sharp beak for catching and tearing apart prey (All About Birds).

**Behavior:** Barred owls are mainly nocturnal creatures. They do almost all of their hunting during the night. They use their great senses of vision and hearing to locate prey in the dark. Barred owls are solitary for most of the year. They will live in family groups during the breeding season until the young leave the nest. Barred owls do not migrate, and rarely leave their small home range. These owls communicate with each other through their well-know "who cooks for you, who cooks for you all" hooting call (National Geographic).

**Reproduction:** This species will nest in a large, natural, hollow in a tree, broken-off snag, or on old nest of hawk, crow, or squirrel. They rarely nest on the ground. The female will lay 2-3 white eggs and incubate the eggs for 28-33 days. The male will hunt and bring back food to the female and young. The young will begin to <u>leave the nest</u> and start flying around 6 weeks of age (<u>Audubon</u>).

# Diet:

Wild: mostly small mammals, reptiles, amphibians, and even some aquatic crayfish and crabs (<u>Audubon</u>). Zoo: Mice, rats, and chicks

**Conservation:** According to <u>IUCN Redlist</u>, barred owls are of least concern. In parts of their range, the population is increasing. The range size is extremely large and the population is expanding. The only known threat is deforestation, especially in swampy southern areas of the range.

**FYI:** Barred owls can be found in the northern parts of Idaho. Barred owls are preyed on by raccoons and weasels as eggs and nestlings. Adults are sometimes killed by great horned owls, northern goshawks, hit by cars, and captured in traps set for mammals. (<u>Biokids</u>)

# Family: Strigidae



# Range & Habitat:

Barred owls prefer dense and thick woodlands near water. They are more common in the eastern U.S. but can also be found in Canada, northern Mexico, and the Northwest U.S.



**Lifespan:** up to 20-30 years in captivity, 18 years in the wild.

**Special Adaptations:** Owls have a comb-like feather edge that allows for <u>silent flight</u>. These are on the leading edge of the wing and are called "flutings" or "fimbriae."



# **Barrow's Goldeneye**

Bucephala islandica

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

# **Characteristics:**

Barrow's goldeneye is a medium-sized diving duck. The male is identified by an iridescent black head, crescent-shaped white patch between the bill and eye, and a black and white bar pattern on side above the wings. The female has a chocolate brown head, white breast and dull brown body. Both sexes have a bright yellow eye. It is mainly found in North America but there's also a small population in Iceland (<u>Audubon</u>).



Range & Habitat: Lakes and ponds



**Lifespan:** up to 25 years in captivity, 18-20 years in the wild.

**Special Adaptations:** Barrow's goldeneye are usually silent, except during breeding season when both sexes will make <u>soft</u>, <u>quiet sounds</u> to each other.

# **IUCN Conservation Status:**



# **Behavior:**

As Barrow's are a diving duck, they have to run across the water to build up speed in order to take flight. They spend most of their time foraging for food, and the rest of the time preening. Except during breeding season, they are rarely found in large flocks (<u>BioKids</u>).

# **Reproduction:**

Goldeneye are cavity nesters and are not particular about raising their own offspring. Like many ducks, they demonstrate nest parasitism where the female will lay her eggs in other ducks' nests. Once the eggs hatch, the ducklings will often come together to be raised by a single female. Goldeneye ducklings are precocial (well developed) and highly independent. They feed on their own and required little parental care (<u>Cornell</u>).

# Diet:

Wild: Aquatic invertebrates, occasionally small fish and fish eggs, and vegetation Zoo: Scratch grains, greens, waterfowl pellets

# **Conservation**:

Like most North American ducks, Barrow's are protected under the Migratory Bird Act but are listed as Least Concern by IUCN.

# <u>FYI:</u>

Barrow's goldeneye were named for Sir John Barrow who was an English admiralty official in honor of his promoting discovery missions to the Arctic (<u>About Birding</u>).

# **Black Swan**

Cygnus atratus

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

## **Characteristics:**

A large water bird and member of the swan family, the black swan's scientific name literally means, "a swan attired in black" as it's the only entirely black-colored swan in the world. As adults, both sexes exhibit black plumage with white primary and secondary feathers, a red bill with a white strip across the tip and red eyes. The legs and feet are black. Cygnets are born with grey down. In proportion to its body size, the black swan has the longest neck of the swan species, and it often holds its neck in an "S" shape. Females are slightly smaller than the males (<u>Arkive</u>).

# **Behavior:**

Black swans are one of just three swan species found in the southern hemisphere. They are strong fliers that fly together in groups and excellent swimmers but quite clumsy on land. They make a honking, trumpeting call. The males display threat behavior by raising their heads and flapping their wings while calling (<u>Animal Diversity Web</u>).

# **Reproduction:**

Pairs mate for life and together raise one brood per season. Clutch size can be up to 10, with the average being 5 to 6 eggs. The nest is made of reeds and grasses and usually placed either on a small island or floating on water. The cygnets are able to swim and feed themselves as soon as they are born (Australian Museum).

### **Diet:**

Wild: Algae and aquatic plants, feeds by putting its head under water Zoo: Waterfowl pellets, scratch grains, greens, lettuce, dog chow

# **Conservation:**

Destruction of wetlands is the largest threat to black swans but their populations are stable so they are listed as Least Concern by IUCN.

# FYI:

The black swan is the state emblem of Western Australia and appears on the state flag.



**Range & Habitat:** Permeant wetlands, large salt brackish or fresh waterways



**Lifespan:** up to 40 years in captivity and in the wild.

# Special Adaptations: As strong

fliers with large bodies, black swans prefer open waterways as they may need over 120 feet of space to gain momentum to take off.



# **Blue and Yellow Macaw**

Ara ararauna

**Class:** Aves

**Order:** *Psittaciformes* 

Family: Psittacidae

# **Characteristics:**

Also known as blue and gold macaws, these large members of the parrot family get their name from their bright blue and yellow plumage. They have green plumage of their forehead, a blackish chin strap and white skin on the cheeks. Their body size is in between the military macaw and the scarlet macaw.

## **Behavior:**

Large families of macaws will roost together at night and leave together in the morning to forage for food. They have a characteristic silhouette when flying as they splay out their tail. Like the scarlet macaws, blue and yellow macaws will seeks out clay deposits to eat, often known as "macaw licks" (IAATE).

## **Reproduction:**

Similar to most macaws, blue and yellows are monogamous, mating for life. They also feed and groom each other. When ready to nest, a pair will leave the flock and search for a cavity, usually in a dead palm tree. The female stays with the nest to incubate 2 to 4 eggs while the male goes in search of food for the pair (National Geographic).

# **Diet:**

Wild: Fruits, vegetable matter and nuts Zoo: Parrot pellets, seeds, apples, carrots, greens, oranges

# **Conservation:**

As they rely even more on forests than other macaws, blue and yellow macaws' largest conservation threat is deforestation/habitat loss; however, they are also victims of illegal pet trade (<u>Bird Life</u>). Their distribution is large enough they are listed as Least Concern by IUCN.

# <u>FYI:</u>

If you are considering a macaw as a pet, there are several points to contemplate. They are definitely a lifetime investment, often living over 60-80 years. They have extremely loud, raucous calls, require fresh fruit daily, need large areas to move around, are incredibly intelligent so need constant enrichment to keep them active, they are quite messy, and they may not get along with other pets.



**Range & Habitat:** Forests and swamps



**Lifespan:** up to 80 years in captivity and in the wild.

**Special Adaptations:** Macaws have extremely powerful beaks capable of cracking open nuts and your fingers!



# Blue-winged Teal Spatula discors

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

<u>Characteristics:</u> Small, dabbling 16 in, 13 oz duck with 23 inch wingspan. Grayish - blue head with white facial crescent, light brown body with white patch near rear, and a black tail. Female is mottled brown. Both have sky-blue patch of feathers on the wing, a green speculum and yellow legs. Sexually dimorphic with female larger and male more colorful.

**Behavior:** Male call is a short whistle, female a soft quack. Lives in small groups, or pairs, and is active during the day. Walks well on land and in shallow water using growth of bulrushes and cattails as escape cover. Feeds by dabbling and up-ends to reach submerged vegetation. As a long distance migrant will flock as far as South America being the first duck south in fall and last north in spring.

**Reproduction:** Female accepts a male by stretching her head outward, lowering it, and pointing toward the male after which they both perform a head pump as if nodding "yes." Female matures after first winter and builds nest, sometimes communally, on dry ground in grassy site near open water where she lays 10-12 eggs incubated in 21-27 days. During incubation male leaves mate for molting cover and becomes flightless for 3-4 weeks. Ducklings walk to water within 12 hours after hatching and fledge in 6-7 weeks.

### **Diet:**

Wild: Vegetative matter, such as grasses, and plant seeds. May include mollusks, crustaceans and aquatic insects.

Zoo: Scratch grain, waterfowl pellets

<u>Conservation</u>: Protected by Migratory Bird Act. Although bag limits have been set and the U.S. and Canada have banned pesticides and other contaminants, the most important negative influence is habitat degradation and loss from wetland draining and conversion to agriculture.

**FYI:** Predators include humans, snakes, turtles, dogs, crows, squirrels, coyotes, foxes, raccoons, minks, skinks and badgers. Can carry and spread Avian Influenza which can decimate bird populations and be transmitted to humans.



Range & Habitat:

North America migrating to Central and Northern South America- on shorelands, calm waters of marshes, lakes, ponds, pools and shallow streams with dense vegetation.



**Lifespan:** Up to 17 years

**Special Adaptations:** 

Hard hook at end of bill for acquiring food, bumps along edges for straining food, and touch receptors at end for filtering food



# **Blue-bellied Roller**

Coracias cyanogaster



**Class:** Aves

**Order:** Caraciiformes

Family: Coraciidae

<u>Characteristics:</u> Small bird with relatively large head, powerful head, wings and beak, weak feet and legs, and three anterior toes. Keen eyesight can spot termite hatch or locust swarm from a distance. Cream colored head and chest, pale blue belly and dark blue or dark green wings. Azure-blue, slightly forked tail. Ave wt: 5 oz. Ave Length 11 in. Not sexually dimorphic.

**Behavior:** Arboreal, diurnal, migratory, territorial. Lives in groups of two to four, spending time mostly feeding, flying, chasing, and calling. Hunts solo for ground-bound prey from trees, fences, lampposts or buildings beside open areas. May batter meat before swallowing. Roosts in groups up to twelve. Irritable and aggressive to express hostility without resorting to fighting which might damage its powerful beak. Uses a complex system of postures and movements such as ruffling of neck feathers, staring, or pecking to communicate social information. Uses brilliant plumage, rolling dives and shrill calls to scare intruders and potential predators.

**Reproduction:** Sometimes monogomous, sometimes polygynandrous (promiscuous). Males and females roll back and forth in the sky, tumbling to the ground while calling loudly and raucously to attract a mate. Breeds April to July laying two or three eggs per season which males and females incubate 18-20 days. Will attack any bird that approaches the nest. Both parents feed nestlings for 30 days after hatching and 20 days after fledging which is at about 4 weeks.

# Diet:

Wild: Large invertebrates such as beetles, grasshoppers, winged ants, termites and colubrid snakes. Also oil-palm fruits. Zoo: Scratch Grain, Water Fowl Pellet

<u>Conservation</u>: Not currently in any danger of extinction. Well adapted to living in regions dominated by agriculture. Play a key role in pest control for farmers in these areas by eating insects which may otherwise feed on crops.

# <u>FYI:</u>

Adults are large and powerful enough to escape most predators. Eggs nestling and fledglings are vulnerable to rodents, snakes, hawks and carnivorous mammals.



Range & Habitat: Western and Central Africa: Senegal to Sudan in savanna, tree plantations, forest edges, recently burned land, and forests near marshes.



**Lifespan:** Unknown. European rollers live up to 10 yrs in captivity.

# **Special Adaptations:**

Long, strong wings to compensate for weak feet and legs that cause difficulty in walking or hopping.



# **Call Duck**

Anas platyrhynchos domesticus

Class: Aves

**Order:** Anseriformes

Family: Anatidae

# **Characteristics:**

The smallest breed of domestic duck, call ducks can come in a variety of colors and patterns; the call ducks at Idaho Falls Zoo are white with bright orange beak and feet.

# **Behavior:**

Easy-going and a friendly, personable duck often used as a pet or for ornamental purposes. They are quite loud, hence their name.

# **Reproduction:**

Call ducks tend to lay fewer eggs in winter than in spring and lay around 50 to 150 eggs per year.

# Diet:

Wild: Plant material and invertebrates Zoo: Scratch grains, greens, occasionally mealworms

**<u>Conservation:</u>** None as they are a domesticated species.

# FYI:

Also known as the decoy duck, they were originally bred for their <u>loud</u> <u>raucous call</u> to acts as living decoys to bring in wild ducks. The call of these little ducks would lure the wild species within gun range (<u>Ashton</u> <u>Waterfowl</u>).



Range & Habitat: May have originated in Asia, but first documented in captivity in Holland.



Lifespan: up to 10 years in captivity

Special Adaptations: Loud, raucous call

# IUCN Conservation Status: Least Concern



# Canvasback

Aythya valisineria

**Class:** Aves

**Order:** Anseriformes

# Family: Anatidae

# **Characteristics:**

A large diving duck, in fact the largest in its genus, the canvasback weighs about 2.5-3 pounds. The male has a chestnut-red head, red eyes, light white-grey body and blackish breast and tail. The female has a lighter brown head and neck that gets progressively darker brown toward the back of the body. Both sexes have a blackish bill and bluish-grey legs and feet.



Range & Habitat: Breeds in prairie potholes and winters on ocean bays



**Lifespan:** up to 20 years in captivity, 10 years in the wild.

**Special Adaptations:** They go from freshwater marshes in summer to saltwater ocean bays in winter.

IUCN Conservation Status: Least Concern

# **Behavior:**

A wary bird that is very swift in flight. They prefer to dive in shallow water to feed and will also feed on the water surface (<u>Audubon</u>).

# **Reproduction:**

Several males will court and display to one female. Once a female chooses the male, they will form a monogamous bond through breeding season. They build a floating nest in stands of dense vegetation above shallow water and lay 7-12 olive-grey eggs. Often redheads will lay their eggs in canvasback nests which will result in canvasbacks laying fewer eggs. The female incubates the eggs which hatch after 23-28 days. The young feed themselves and mom leads them to water within hours of hatching.

# Diet:

Wild: Seeds, plant material, snails and insect larvae, they dive to eat the roots and bases of plants Zoo: Scratch grains, greens, waterfowl pellets

# **Conservation:**

Some say the populations are decreasing while others say they are increasing due to habitat restoration and the ban on lead shot. Either way, canvasbacks are listed in IUCN as Least Concern.

# <u>FYI:</u>

The canvasback's species name, *valisineria*, comes from the scientific name of wild celery (*Vallieneria americana*) which is the duck's preferred food during nonbreeding season (<u>Cornell</u>).

Canvasbacks have been called "the aristocrat of ducks" because of their sleek, regal appearance (<u>BioKids</u>).

# Cape Thick-Knee

**Burhinus capensis** 



**Class:** Aves

**Order:** Charadriformes

# Family: Burhinidae

# **Characteristics:**

The cape thick-knee is also known as the spotted thick-knee, spotted stone-curlew (although they are not related to curlews) and the spotted dikkop. It is the largest of all the African species of thick-knees. The name comes from their spotted-like body and knobby yellow knees (Birds of the World). They can also be recognized by their large yellow eyes. The males and females look alike.

# **Behavior:**

Cape thick-knees are solitary birds most active at night and are fairly common throughout their range. They avoid the harsh African sun by taking cover under bushes and trees during the daytime (<u>St. Louis Zoo</u>). They are usually seen singly or in pairs.

# **Reproduction:**

Cape thick-knees are <u>monogamous</u> (have only one mate) and are only aggressive during breeding season. They are protective parents which raise one to two chicks at a time. They build a ground nest under a bush in spring or early summer using figs, straw shafts and leaves, and lined with small stones or dry plants.

# Diet:

Wild: Insects, small mammals and lizards Zoo: Insectivore diet, Softbill diet, Capelin, feline diet, mealworms

# **Conservation:**

Cape thick-knees are listed as common as the population is stable.

# FYI:

Much like the Kildeer in North America, cape thick-knees will perform dramatic "injury displays" to lure predators away from their nest sites (National Aviary).



**Range & Habitat:** Dry grasslands and savannahs of Sub-Saharan Africa



**Lifespan:** up to 15 years in captivity and assumed about 10-15 in the wild.

**Special Adaptations:** These birds tend to be quiet during daytime, but <u>vocalize loudly</u> at night when they are most active.



# Cattle Egret

Class: Aves

**Order:** Pelecaniformes

# Family: Adreidae

# **Characteristics:**

The cattle egret (also called buff-backed heron) is the only species in the genus *Bubulcus*. It's a small type of heron with a thick neck and stocky appearance, white plumage (golden plumage appears on its head, neck and back during breeding season, the male's plumes being slightly longer than the female's), yellow bill and yellow legs. Juveniles has darker bills and legs (<u>Arkive</u>).

# **Behavior:**

The cattle egret is generally a quiet bird that spends the majority of its time in fields, not in waterways like most herons. As the name indicates, it forages at the feet of hoofstock (mainly cattle but, depending on the region, camels, elephants, tortoises, kangaroos, etc.) eating bugs kicked up by the feet of the herbivores. They will also stand on the backs of the animals, <u>picking ticks and bugs</u> off their hides (<u>All About Birds</u>).

# **Reproduction:**

Cattle egrets nest in large colonies. Breeding takes place near water sources and begins by males competing with each other through animated sexual displays, attracting females. The male will pick one female and they are monogamous for the breeding season. The pair moves to another area where together they build a nest of mixed vegetation on any surface which supports it. Female lays a clutch of 3 to 4 light blue eggs. Which hatch after a 24-day incubation period. Chicks stay in the nest for 14 to 21 days and are dependent upon the parents for food and protection until about 60 days old (Animal Diversity Web).

# Diet:

Wild: Insects, spiders, frogs and worms Zoo: Feline diet, fish, and softbill

# **Conservation:**

The cattle egret has an incredibly large worldwide range and is not at risk for conservation issues. In fact, their numbers are increasing most likely because of globally growing cattle ranching practices.

# <u>FYI:</u>

Some ranchers rely on cattle egrets, rather than use pesticides, to control flies around their herds.



Range & Habitat: Fields near hoofstock herds



Native and/or nesting Introduced Reintroduced Rare / Occasional Doubtful presence

**Lifespan:** up to 20 years in captivity and in the wild.

### **Special Adaptations:**

Opportunistic feeders that have <u>mutualistic symbiosis</u> with hooftsock



# **Chilean Flamingo**

Phoenicopterus chilensis



**Class:** Aves

**Order:** *Phoenicopteriformes* 

<u>Characteristics</u>: Flamingos are one of the most identifiable bird species due to their pink color. They have long necks with small heads, bare faces, yellow eyes, long skinny legs, and webbed front toes (<u>Animal Diversity</u>). Chilean flamingos have a mostly white pale pink color and their long, curved beaks are black and white. The legs of this species are light blueish gray with bright pink joints. <u>Lamellae</u> line both jaws to aid in filter feeding. The wings of the Chilean flamingo have black feathers with crimson on the edge. Chilean flamingos have a large wingspan of 50-60 inches and can reach heights up to 57 inches tall. These flamingos weigh 5.5-8 pounds, with the males usually weighing more than the females (<u>Encyclopedia of Life</u>).

**Behavior:** Chilean flamingos are found in very large flocks of up to tens of thousands of birds. Flamingos are excellent swimmers and fliers. They migrate in a similar V formation to geese. They also communicate with loud goose-like calls in the air. Chilean flamingos are often seen standing on one leg with the other tucked close to the body. This behavior conserves body heat. Flamingos spend a great deal of time preening the feathers to keep them waterproof (<u>Animal Diversity</u>). Flamingos filter the water for food, similar to a baleen whale. They will stir up the mud with their feet and holds its head <u>upside down</u> in the water to capture food particles (<u>Woodland Park</u> <u>Zoo</u>).

**Reproduction:** Chilean flamingos have several different <u>courtship behaviors</u> to attract a mate. A monogamous breeding pair will cooperatively build a pillar-shaped nest in the mud and both parents share in the incubation of the egg. The egg is incubated for 26-31 days. Upon hatching, the flamingo chick is <u>gray in color</u> and will not gain pink color for 2-3 years (<u>Lincoln Park Zoo</u>). The chicks rely on the <u>parents for food</u> for the first 65-70 days after birth. The young reach sexual maturity at 6 years of age (<u>Encyclopedia of Life</u>).

<u>Diet:</u> Wild: aquatic crustaceans and other marine invertebrates, zooplankton, algae, and phytoplankton insects, mollusks, aquatic or marine worms, Zoo: Flamingo pellets

<u>Conservation</u>: The flamingo is listed as near threatened by <u>IUCN Redlist</u>. Over the next three generations, the population is expected to undergo a rapid population decline. This decline is mostly due to egg-harvesting, hunting, habitat degradation, and disturbances from tourism. Our zoo participates in the Chilean Flamingo Species Survival Plan.

**FYI:** Flamingo chicks begin vocalizing hours before hatching while still inside the egg. This allows a bond to form with the parents so they can be easily located

Family: Phoenicopteridae



Range & Habitat: Inhabit muddy, shallow alkaline and brackish lakes. They live in warm and tropical environments, and range from sea level, along the coast, to high altitudes in the Andes. Found in temperate South America from central Peru through the Andes and Uruguay to Tierra del Fuego.



**Lifespan:** up to 44 years in captivity, 50+ years in the wild.

**Special Adaptations:** They have bristle-like projections on the tongue to filter water.



once hatched (<u>Woodland Park Zoo</u>). Flamingoes turn pink from pigments found in the invertebrates and algae they eat (<u>Live</u> <u>Science</u>).

# **Cinnamon Teal**

Spatula cyanoptera

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

# **Characteristics:**

A relatively small dabbling duck named for the distinct reddish-brown coloration of the male. The male also displays a conspicuous blue patch on the upper wing. The female displays the typical drab brown coloration of common in female ducks and also has a light blue to green <u>speculum</u> (patch of color on the wing). During breeding season, the male has a dark patch on top of the head (<u>Arkive</u>).

# **Behavior:**

While many ducks are found from coast to coast, the cinnamon teal is exclusively found in the western North and South America. They usually forage in shallow water and will swim with their head partially submerged, straining food from the water (<u>Audubon</u>). The female has a loud, quack-like call compared to the males <u>"chucking"</u> sounds.

# **Reproduction:**

They build a shallow nest of dead grasses lined with down close to the water edge in which is laid up to 16 pale-colored eggs. The female does all the incubation and the young hatch after 21-25 days. The female immediately leads the young to water.

# Diet:

Wild: Mainly seeds but will also eat plant material and invertebrates Zoo: Scratch grains, greens, waterfowl pellets

# **Conservation:**

Protected by the Migratory Bird Act, their numbers have shown some decline but not enough for concern.

# FYI:

Unlike most ducks, the male may stay with the female until the eggs hatch and has even been seen to accompany a female and her young brood (<u>Audubon</u>).



Range & Habitat: Shallow freshwater and brackish wetlands



**Lifespan:** up to 20 years in captivity, 10 years in the wild.

**Special Adaptations:** If something threatens the ducklings, females may put on a broken-wing act.



# **Demoiselle Crane**

Anthropoides virgo



**Class:** Aves

**Order:** Gruiformes

Family: Gruidae

# **Characteristics:**

Like all cranes, demoiselles have the characteristic long neck and long legs. However, unlike many cranes they have a fully feathered head. They have variant grey plumage and a distinct white line that extends from the corner of their eye to the back of their head. These feathers tend to elongate past the head.

# **Behavior:**

This is a fully migratory species that will travel vast distances in search of food. They have one of the <u>toughest migrations</u> in the world, flying at altitudes up to 26,000 feet over the Himalayas.

# **Reproduction:**

Typically, demoiselles breed during their local rainy season and if reproduction is successful they tend to be monogamous. Like most cranes, they perform elaborate mating dances to attract a mate. Their nest consists of a few sticks or rocks placed on bare ground. Both sexes incubate most often two eggs for 27-29 days. The young fledge after about 60 days, which is a short time for cranes. They have a high degree of parental care. Both sexes will feed and care for the young (Maryland Zoo).

# Diet:

Wild: Plant material, seeds, invertebrates, lizards and small fish Zoo: Greens, capelin, feline diet, crane pellets

# **Conservation:**

Demoiselle cranes have an extremely large range and therefore are not considered to be vulnerable. Their primary threat is habitat loss due to agriculture.

# <u>FYI:</u>

Demoiselles are the smallest of the cranes.

One village (Khichan) in <u>Rajasthan, India</u> has taken to feeding thousands of demoiselle cranes as they pass through on their annual migration.



Range & Habitat:

Grasslands and agricultural fields close to water sources throughout eastern Asia. They will winter in northern Africa, India and Pakistan.



**Lifespan:** up to 65 years in captivity, around 25 years in the wild.

**Special Adaptations:** Cranes are the tallest flying birds in the world.



# **Domestic Chicken**

# Gallus gallus domesticus

**Class:** Aves

**Order:** Galliformes

Family: Phasianidae

# **Characteristics:**

A member of the pheasant family, chickens come in a tremendous variety of sizes, feather colors, egg sizes, etc. One thing that characterizes a chicken from other birds is the presence of a comb and two wattles, which is a characteristic of the *Phasianidae*. Chickens have hollow bones and air sacs but lack the ability to fly well. There are around 175 different breeds of chickens (<u>U of Illinois</u>).

# **Behavior/History:**

The chicken is the most widely farmed animal in the world as they require little space and minimal investment. Chickens have been domesticated for more than 2,000 years, most likely closer to 10,000 years ago. The wild ancestor is believed to be the red jungle fowl and/or grey jungle fowl. Chickens are highly social animals and have a high rate of predation (Penn State and A-Z Animals).



Range & Habitat: Worldwide

# **Reproduction:**

Male chickens are called cockerels, cocks or roosters while females are known as hens. Egg bearing hens can lay over 300 eggs per year. Due to the success of the poultry industry, the <u>reproductive cycle</u> of chickens and turkeys is the best understood of all birds. Hens almost always lay eggs in the early daylight hours and ovulate within an hour of laying the previous egg. If the eggs are fertilized, they will hatch after a 21-day incubation period.

# Diet:

Wild: seeds, berries, fruits, insects Zoo: scratch grains, greens, meal worms, crickets

# **Conservation:**

None. Domesticated.

# FYI:

--The longest recorded flight of a chicken is 13 seconds and the longest recorded distance is 301.5 feet (<u>A-Z Animals</u>).

--In Latin, Gallus means comb.



**Lifespan:** up to 16 years in captivity, 4-5 years in the wild.

**Special Adaptations:** Bred for meat, eggs and feathers

# **IUCN Conservation Status:**

Not Evaluated-Domesticated

# **Double-toothed Barbet**

Pogonornis bidentatus aequatorialis

**Class:** Aves

**Order:** *Piciformes* 

Family: Lybiidae

# **Characteristics:**

The double-toothed barbet has a distinct color pattern with a red chest and black back and tail. They have small amounts of white near the feet. The double-toothed barbet gets its name from the jagged "teeth" that are visible on the beak. This is considered a large barbet at up to 10 inches tall. These birds are plump-looking and have a large, heavy bill. (<u>Carolina</u> <u>Birds</u>)

# **Behavior:**

Barbets are mainly solitary birds. They have a distinct <u>call and song</u> that most birders are able to identify easily. Most barbets use duetting as a way to mark their territory and find a mate.

# **Reproduction:**

They usually nest in holes bored into dead trees, branches or stumps - occasionally in riverbanks or termite nests. The hen usually lays between 2 to 4 eggs that are incubated for 13–15 days. Nesting duties are shared by both parents. (Beautiful Birds)

# Diet:

Wild: Mostly fruit, some insects, and some small vertebrates Zoo: Fruits, vegetables, greens, mealworms, and bird seed

# **Conservation:**

The population of double-toothed barbets appears to be stable. This bird has a large range and is very common across Africa. <u>IUCN</u> lists them as least concern. There are no known threats to the double-toothed barbet.

# FYI:

The African barbets are closely related to North American woodpeckers.



# Range & Habitat:

Found in eastern Cameroon to northern Democratic Republic of the Congo, Ethiopia, northwestern Angola, and northwestern Tanzania. (<u>Avibase</u>) Often found in forested and cultivated environments.



Lifespan: unknown

**Special Adaptations:** The doubletoothed barbet has developed a jagged set of "teeth" on its bill. This is most likely helpful in hunting and gathering.



# **Elegant Crested Tinamou**

Eudromia elegans



**Class:** Aves

**Order:** Struthioniformes

<u>Characteristics</u>: Elegant crested tinamous are stocky, round birds with very short tails and rounded wings. This is a partridge-like ground bird. These birds are very large tinamous with a long, thin crest on the head. The body is usually 15-16 inches long (<u>Encyclopedia of Life</u>). The elegant crested tinamou has only three toes. The body color is an olive gray with black and white lines scattered on the body. This species has a long white stripe from the eye to the side of the neck. (<u>Cornell</u>)

**Behavior:** Elegant crested tinamous are mostly <u>terrestrial</u> and spend their time foraging for food on the ground. They will generally only take flight if startled. They do have very fast flight but stay close to the ground. This species is most active in the morning and late afternoon. When not feeding, the tinamou <u>seeks shade</u> for rest or dust bathing. During the non-breeding season, tinamous form flocks of 30-40 individuals. (<u>Cornell</u>)

**Reproduction:** The elegant crested tinamou will begin to <u>sing</u> well before the breeding season. When the female is ready to mate, she will chase the male until he chases her back. The female will then allow herself to be caught. Males will dig a nest bowl by running continuously in a circle. Females will lay a clutch of 5-6 eggs. The eggs are yellowish-green in color. A single female may lay 30-40 eggs in a season. The male will incubate the eggs for about 20 days. The young leave the nest shortly after hatching, accompanied by the male. The male is responsible for all of the parental care until the young are independent at 3-4 months of age. (<u>ASAG</u>)

**Diet:** Wild: Insects, seeds, leaves, and fruit. Zoo: Fruits, vegetables, greens, finch seed, pigeon mix, and vitamin supplements.

<u>Conservation</u>: According to <u>IUCN Redlist</u>, the elegant crested tinamou is of least concern. The population is believed to be declining, but at a fairly slow pace. This tinamou has a very large range and is thought to be widespread and common throughout.

**FYI:** Tinamous are closely related to the ostrich and emu. (<u>Toledo Zoo</u>) The male hides the chicks entirely under his wings and body. They will gradually wander further and further from him. Family: Tinamidae



**Range & Habitat:** This tinamou is found in dry lowland shrubland and farmland in Southern Chile and Argentina.



**Lifespan:** up to 10 years in captivity, unknown in the wild.

**Special Adaptations:** The tinamou is the closest living relative of prehistoric bird species.



# **Emu** Dromaius novaehollandiae

**Class:** Aves

**Order:** *Casuariiformes* 

Family: Dromaiidae

# **Characteristics:**

The largest bird in Australia and second largest bird in the world (determined by height—up to 2 meters [6 feet] tall) and weighs 90 to 120 pounds. The emu does not have any flight feathers but rather the body is covered in mottled brown comb-like plumage that grows in pairs. Their neck is extremely long and the head is covered in black feathers under which you can see a bluish area of skin from behind the eye down the neck. The beak is bluish black and eyes are brown. Emus are too large and heavy to fly but still possess a <u>vestigial</u> wing at the

end of which is a single sharp claw.

## **Behavior:**

Emus are docile and curious but will flee or defend themselves if necessary. Their powerful legs allow emus to walk for great distances to forage and run 25 to 30 mph (<u>A to Z Animals</u>). They adapt well to most temperatures but do require a lot of water, drinking 2 to 4 gallons each day. Emus enjoy the water, will often play in it, and prefer habitats with a water source.

### **Reproduction:**

Emus pair up from summer to fall and the male builds a rough nest of twigs, leaves and grass on the ground in which the female lays 5 to 15 emerald-green eggs. The female then leaves the nest and the male incubates the eggs, getting up only to turn the eggs and clean the nest. He doesn't eat during this time. The eggs hatch after an 8-week incubation period. The females may go off and lay eggs for other males as well and can clutch up to three times per year (<u>San Diego Zoo</u>). Chicks can walk immediately after hatching.

### Diet:

Wild: Fruits, insects, seeds Zoo: Ratite pellets, dog chow, greens, oyster shell

<u>**Conservation:**</u> Emus are common and chicks are very hardy with a survival rate around 75%.

**<u>FYI</u>:** Emus were once a key species for the survival of Aboriginal tribes. They were a source of food, shelter and clothing. Today, they are often farmed for meat, oil, leather and eggs. Emu oil is said to have medicinal properties for relieving sore joints and arthritis (<u>Emu Facts</u>).



Range & Habitat: Lightly wooded grassland areas near water where tree cover isn't



**Lifespan:** up to 35 years in captivity, 10 to 20 years in the wild.

**Special Adaptations:** Stay-athome super dads! Male emus incubate the eggs and raise the chicks until about 18 months old.



# **Golden Eagle**

Aquila chrysaetos

**Class:** Aves

**Order:** Accipitriformes

# Family: Accipitridae

## **Characteristics:**

The wings are broad and long. The tail projects further from the body then does the head. The feathers are dark brown feathers with a gold sheen to the head and neck regions. One can identify the golden eagle from afar based on its white marking at the base of its tail and wings. When it glides, it holds its wings in a slight "v" shape. The flight feathers at the end of the wing stick out like fingers (<u>All about Birds</u>).

# **Behavior:**

Often solitary animals. They locate their prey by soaring or perching above their hunting grounds. They'll also employ a range of hunting and killing tactics and may carry their prey items back to their nesting site (ex: <u>large prey cliff hunting</u>).

# **Reproduction:**

Court one another by make gentle dives at one another. When a pair is formed, they potentially mate for life. This pair has multiple nesting sites that they may alternate through every year. These nests are usually large stick nests lined with grasses and other soft grasses. These nests can be located on cliff sides, tall trees or tall perches. Once a year, the pair will lay 1 to 3 eggs (rarely 4). They are incubated for a maximum of 45 days and the chicks will fledge anywhere from 45 to 81 days (<u>All about Birds</u>).

# **Diet:**

Wild: Opportunistic: Mostly medium and small birds but can hunt larger Zoo: Special bird of prey diet, rats, mice and fish

# **Conservation:**

There are only 500 left in Japan due to poor habitat maintenance (Audubon). It is also a protected species in the United States. Possession of a feather or body part can cost 10,000 dollars.

# <u>FYI:</u>

- Largest bird of prey in North America
- Most widely-distributed eagle in the world
- Wind farms in Ireland have decreased their range (Walker et al 2005)
- Adult eagle calls (<u>Youtube</u>).
- Young eagle calls (<u>Audubon</u>).



Range & Habitat: Open to semi-open areas



**Lifespan:** up to 68 years in captivity, 30 years in the wild.

# Special Adaptations: -Long, broad wings -Clever

# IUCN Conservation Status: Least Concern

# **Green Woodhoopoe**

Phoeniculus purpureus



**Class:** Aves

**Order:** Bucerotiformes

## **Characteristics:**

Green woodhoopoes are medium-sized birds with distinct red, curved beaks (the beak is longer in males than females), a dark iridescent body and white spots along the outside edge of the tail. Their short, bright red legs are an obvious contrast to their dark bodies.

## **Behavior:**

Green woodhoopoes are highly sociable, <u>chattering birds</u> (considered one of the noisiest birds of the African bush) which live in small flocks of up to 15 birds. They follow each other from tree to tree foraging in cracks and crevices. They will climb trees in a similar fashion to woodpeckers, using their sharp claws to cling to the tree bark. During the dry season, they will feed on the ground.

### **Reproduction:**

In most flocks of green woodhoopoes, there is generally one monogamous breeding pair, usually the oldest in the flock. They compete with other flocks for good breeding sites as their nests are heavily preyed upon by mammals, other birds, and particularly driver ants. They build nests in live tree cavities or use old woodpecker or barbet nests. They lay 3-5 blue eggs up to twice per year if food sources are good. They breed in July-October and have an incubation period of 17-18 days. The breeding pair will have help from the rest of the flock to feed the young and fledging happens at around 30 days. Once the young fledge, they will help feed the next group of hatchlings. The young will stay with the flock for up to five years as non-breeding helpers (<u>Coraciiformes TAG</u>).

### **Diet:**

Wild: Invertebrates Zoo: Insectivore diet, dog food, feline diet, mealworms, chopped pinky mice

### **Conservation:**

Least Concern despite heavy natural predation on eggs, nestlings

# FYI:

Green woodhoopoes have a distinct musky odor produced in their "preen" (<u>uropygial</u>) gland. The strong smell is believed to deter predators.

Family: Phoeniculidae



Range & Habitat: Widespread range, found in most habitats in Africa EXCEPT arid

zones and forests



**Lifespan:** up to 15 years in captivity, average 8 years in the wild.

**Special Adaptations:** Hoopoes are one of the only families of birds found exclusively in Africa



# **Green-naped Pheasant Pigeon**

Otidiphaps nobilis nobilis



**Class:** Aves

**Order:** Columbiformes

# Family: Columbidae

# **Characteristics:**

Brightly-colored, large members of the pigeon family with a copper body, iridescent head and tail, red eye ring, bright orange beak and green collar on back of the neck (hence the name green-naped). Their tail is laterally compressed like a pheasant (<u>Birds of the World</u>). They have strong legs for ground-dwelling.

## **Behavior:**

Although the green-naped pheasant pigeon is classified in the pigeon family, it behaves like-and occupy-the niche of pheasants in the habitat, hence the name. The pheasant pigeon lives on the rainforest floor feeding on fallen fruits, and when startled it flushes like a pheasant (Pandemonium Aviaries).

## **Reproduction:**

Green-naped pheasant pigeon is a ground nester that lays a single egg under a bush or tree. The egg hatches at about 4 weeks (<u>National Aviary</u>). It would appear both parents care for the chick and feed it regurgitated crop milk which is common for pigeons (<u>Milwaukee Zoo</u>).

### Diet:

Wild: Fallen fruit and seeds on the forest floor Zoo: Fruits, vegetables, greens, pheasant grains

### **Conservation:**

Listed as Least Concern according to IUCN, the pheasant pigeon may be declining in numbers due to a loss of forest habitat, but the decline has not been quantified (<u>Bird Life</u>).

# FYI:

Shy birds that seem to be moving farther away from human inhabited areas as forests disappear as such, little is known about their wild behavior and most knowledge of them has come from their captive breeding program managed by the Association of Zoos and Aquariums.



Range & Habitat: Lives on the forest floor in lower mountain rainforests



**Lifespan:** unknown, but most pigeons live an average of 2 to 3 years.

**Special Adaptations:** See its green nape and hear its unique call by clicking <u>here.</u>



# **Grey Crowned Crane**

Balearica regulorum



**Class:** Aves

**Order:** Gruiformes

Family: Gruidae

#### **Characteristics:**

Grey crowned cranes can be identified by the unique yellowish feather crown on top of their heads. Both sexes are similar except the male is slightly larger. Breeding adults have grey to blue irises while the juvenile tend to have brown irises. The grey crowned cranes' bodies are covered with pearl grey feathers, and they have a longer back toe which allows them to perch in trees. On the neck is a red gular sac which is similar to a wattle but inflatable (<u>Animal Web Diversity</u>).

#### **Behavior:**

Grey Crowned Cranes are not migratory, although they may make limited seasonal moves based on food availability. They prefer to live in grasslands next to bodies of water and feed in open savannahs, pastures and grasslands. Like most cranes, the grey crowns will <u>dance</u> and present "gifts" (often sticks) to impress a potential mate.

#### **Reproduction:**

The timing of breeding varies depending on the rains. In East Africa, they breed during the drier season while in southern Africa they prefer to breed during the wet season. Grey crowned cranes usually nest in tall vegetation where their chicks can be concealed from predators. They have the largest average clutch size of the cranes at 2-3 eggs which hatch following a 28-31 days incubation period (<u>Arkive</u>).

#### Diet:

Wild: Omnivores- seed heads, grasses, nuts, grains, insects, frogs, crabs Zoo: Capelin, crane pellets, chopped greens, feline diet

#### **Conservation:**

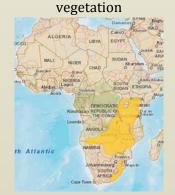
Grey Crowned Cranes were recently listed as Endangered on <u>IUCN</u> due to habitat loss and degradation (draining) of wetland areas, overgrazing by cattle, pesticide use, and egg collection. The population is declining very rapidly, from 100,000 to 50,000 in the last 20 years. They are also illegally captured and sold into the <u>pet trade</u>.

#### FYI:

Cranes are the international symbols of wealth, good fortune, and longevity. The grey crowned crane is the <u>national bird of Uganda</u> and you can actually be fined in that country for harming them.



Range & Habitat: Wetlands with tall emergent



**Lifespan:** up to 30 years in captivity, 20 years in the wild.

#### **Special Adaptations**

One of only two crane species, the other being the black-crowned crane, which are able to nest in trees.



# Guira Cuckoo

**Class:** Aves

**Order:** *Cuculiformes* 

Family: Cuculidae

Characteristics: The guira cuckoo is a medium sized bird at 13 inches in length. Their average weight however is only 1/3 of a pound. (Encyclopedia of Life) The underparts and rump are a light tan or whitish color. The broad, long tail is a much darker brown. They have a crest of feathers on the head that are an orange-rufous color on top of yellow colored skin. The bill of this cuckoo is orange-yellow and heavy looking. The guira cuckoo is a fairly shaggy looking bird. (Jacksonville Zoo)

**Behavior:** The guira cuckoo is a very social bird, living in groups of 6-8 individuals. They can sometimes be seen in flocks of over 20 birds. (<u>Cornell</u>) These cuckoos are <u>very noisy</u> and have a variety of calls. They generally are found feeding on the <u>ground</u> as they are not strong fliers. (<u>Encyclopedia of Life</u>)

**Reproduction:** The guira cuckoo is a non-parasitic species of cuckoo, but still has a strange nesting behavior. They will build a large, communal nest about 15 feet from the ground. Females will lay 5-7 green eggs in the nest. There may be up to 20 eggs in one shared nest. (Beauty of Birds) Within the shared nest, there is much competition and only about one quarter of the young survive to fledging. (Cornell) When other adults are not around, the cuckoo parent will push eggs or even chicks from the nest to decrease competition. (Jacksonville Zoo) The young cuckoos that survive will leave the nest at 15 days of age. (Saint Louis Zoo)

#### Diet:

Wild: <u>Frogs</u>, eggs, large insects, and small mammals (<u>National Aviary</u>) Zoo: Parrot pellet, softbill diet, dog food, crickets, mealworms, meat, pinkies, and eggs

**Conservation:** The <u>IUCN Redlist</u> of endangered species lists the cuckoo as least concern. In fact, it is believed that the cuckoo population is on the rise. The cuckoo is very common in its expansive range.

**FYI:** They are in the same family as the roadrunner. (<u>Cincinnati Zoo</u>) This cuckoo may appear large, but weighs only slightly more than one stick of butter.



Range & Habitat: Found commonly in open and semi-open habitats of eastern and southern Brazil, Uruguay, Paraguay, Bolivia, and north-





**Lifespan:** estimated 9-10 years in captivity, unknown in the wild.

**Special Adaptations:** The guira cuckoo has a foot with 2 toes forward and 2 back that allows it to run on the ground and climb tree trunks with ease.



# Harris Hawk

#### Parabuteo unicinctus

**Class:** Aves

**Order:** Falconiformes

<u>Characteristics</u>: As their Spanish name *aguililla rojinegra* (little red & black bird of prey) alludes to, the Harris Hawk's flight feathers, tail feathers, dorsal and undercarriage are composed of a very dark brown color while their wings and legs are covered in a rusty red color. Unlike the Spanish name suggests, the Harris Hawk is considered a hawk. Their Latin name refers to their vulture-like wide, thick wings and the belt of white plumage at the base and the end of their tails.

**Behavior:** Harris Hawks are the most social of the North American raptors, forming non-migratory, territorial groups composed of 2 to 7 (most commonly 4) individuals (All About Birds). With larger groups, there is usually an alpha female that is dominant over all the other group members including the alpha male. There is a small possibility of a subordinate breeding alpha female (Bednarz 1986, Dawson and Mannan 1991). Harris Hawk groups often hunt together. During the hunt, it has been observed that the hawks will communicate with one another via twitching the white markings on the tail (Woburn Safari Park). Hunting affords them a decrease in energy expenditure, the ability to successfully scare out and capture prey from hiding places and the ability to hunt larger prey than themselves (Bednarz 1988, Coulson and Coulson 2013).

**Reproduction:** The alpha female and male are most often the only breeders of the group. Females frequently have clutches during the late Spring/early summer months, but can have up to three clutches per year. The size of the clutch is usually around four. Beta males are not allowed to breed. Nonbreeding group members have been known to have some role in raising the young, but aren't common (Bednarz 1986). Polyandry has been observed in many regions, but are more common in areas with a high male to female ratio. A trio is often formed where two males breed with one female. These two male hawks will then help in the raising of the young (Mader 1979). Fledging occurs around 40 days but won't leave the nest until two to three months after. Groups of Harris Hawks will defend nests from predators with the alpha male leading the charge and the alpha female standing guard over the nest (Bednarz 1986, Dawson and Mannan 1991).

<u>Diet:</u> Wild: Rodents, rabbits, lizards and other birds. Zoo: crickets, chicks, mice, rat, rabbit and special Bird of Prey diet.

**<u>Conservation</u>**: Populations are declining but not at an alarming rate.

**FYI:** Other Spanish names include Ladrón de gallinas (Chicken thief) and Garra del diablo (devil's claw). The mom will often use her own body to shade the young (Dawson and Mannan 1991 & National geographic). Harris hawks may do something called back-stacking, allowing for a quiet, higher point of view (The Peregrine Fund).

#### Family: Accipitridae



Range & Habitat: From Argentina to the Southern United States Primarily in dry shrubland subtropical areas, but are sustainable in warm grasslands and forests.



**Lifespan:** up to 25 years in captivity, 11 years in the wild.

**Special Adaptations:** Social Birds Hunt in Packs



# **Helmeted Guineafowl**

Numida meleagris

**Class:** Aves

**Order:** Galliformes

Family: Phasianidae

#### **Characteristics:**

A stocky bird with a round body, their identifying characteristic is the small, bald head topped a bony knob and spots of red and blue on their face. The body is covered in grey-black feathers spangled with white dots. They have two wattles, one on each side of their beak.

#### **Behavior:**

Helmeted guineafowl are noisy, gregarious birds meaning they live in large flocks. While they are capable of flight and will nest in trees, they prefer to spend their time on the ground, following hoofstock herds in search of insects and seeds found in the large herbivores' dung. In the bush, they'll walk in a single file imitating whatever the leader does.

#### **Reproduction:**

Males will court the females and once paired, will stay together throughout a breeding season. The males will guard females during egg laying and incubation and both will help take care of the young for the first two weeks after hatchling. Females lay around 6-15 eggs in a ground nest that will hatch after an incubation of 24-30 days.

#### **Diet:**

Wild: Seeds, berries, grasses and insects Zoo: Scratch grains

#### **Conservation:**

Helmeted guineafowl are one of the most widespread birds in Africa and their populations appear stable. In fact, they seem to be benefiting from more agricultural land.

#### FYI:

Helmeted guineafowl are the original birds from which guineafowl were bred (<u>Utah's Hogle Zoo</u>). They are in the same family as chickens, turkeys, pheasants, partridges, grouse, quail and peafowl.



**Range & Habitat:** Found throughout central and southern Africa in the scrubland and savanna



**Lifespan:** up to 12 years in captivity, 5 years in the wild.

**Special Adaptations:** The loud guineafowl <u>call</u> makes them excellent "guard birds!"

#### **IUCN Conservation Status:**



## **Hooded Merganser**

Lophodytes cucullatus

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

Also known as saw-bills or fish ducks, hooded mergansers are the smallest of the three species of mergansers. Hooded mergansers have a crested "hood." The sexes are highly sexually dimorphic. In the males, the hood is white with a black border while the body is brown with a black and white striped back and chest. In females, the hood is brown to match the body's coloration. They also have a long, narrow, serrated bill with a hook on the tip. In males the bill is usually black whereas in females it is brown or orange (<u>National Zoo</u>).

#### **Behavior:**

Mergansers are the only ducks that specialize in eating fish (<u>Audubon</u>). Hooded mergansers locate their food by swimming with their heads just under the water. They then dive under the water to capture their prey.

#### **Reproduction:**

Pairs form in the late fall or winter. The male has an elaborate courtship display which includes raising the hood, throwing back their head, pumping their wings and making distinct vocalizations. They are cavity nesters and lay up to 15 eggs in a nest located above water. Like many ducks, the females will often lay her eggs in another bird's nest (aka brood or nest parasitism). After about a 33-day incubation period, the eggs will hatch.

#### Diet:

Wild: fish, crayfish, frogs, crabs, clams, aquatic invertebrates Zoo: Seabird, flock raiser pellets, scratch grains

#### **Conservation:**

While their habitat (mature trees near water) has been declining, they are considered Least Concern due to their wide range distribution.

#### <u>FYI:</u>

Within 24-hours after hatching, mom will leave the nest, enter the water and calls to the young at which time they use sharp claws to climb out of the cavity and jump into the water below.



Range & Habitat: Only merganser whose range is restricted to North America, they are found in forested wetlands



**Lifespan:** up to 15 years in captivity, 11 years in the wild.

**Special Adaptations:** They have an extremely muscular gizzard which allows them to digest shellfish.



# Laughing Kookaburra

Dacelo novaeguineae



**Class:** Aves

**Order:** Coraciiformes

#### Family: Halcyonidae

#### **Characteristics:**

The kookaburra is the largest member of the kingfisher family (it is also known as the giant kingfisher or laughing jackass). It is up to 18 inches in length and the beak is an average of 4 inches long. While most kingfishers are brightly colored, the kookaburra is rather drab. It has dark brown wing plumage, white head and belly, and its tail is reddish with black bars (National Geographic).

#### **Behavior:**

The kookaburra's name comes from the aboriginal name for it, "guuguuberra." They spend most of the time perched in high branches looking for food. It is thought they use their loud call to defend territory. They are quite comfortable and social around humans and will often approach them in the wild (<u>Animal Corner</u>).

#### **Reproduction:**

Kookaburras are monogamous and quite territorial. About 6 weeks before breeding, the male begins to feed the female. They nest in tree the same hole year after year and lay 1 to 5 eggs. The eggs and chicks are collectively cared for by the parents and older siblings. Chicks are born naked with closed eyes and have a very sharp hook on the end of the bill. The firstborn chick has been known to kill and consume their younger siblings, especially is food is scarce (<u>San Diego Zoo</u>).

<u>Diet:</u> Wild: Unlike most kingfishers, they don't eat fish. They prefer invertebrates, small prey animals and snakes. They occasionally prey upon domestic fowl. They snatch up an animal, take it back to a perch and beat it against a hard surface before consuming it. Food is swallowed whole, head first.

Zoo: Mice, feline diet

**<u>Conservation</u>**: Large range, their population appears to be stable.

**FYI:** Well known as the symbol of Australia and the "merry, merry king of the bush" from the children's song.

It's noisy morning and evening choruses have earned it the name as the "bushman's clock."

The kookaburra's unique call can often be heard in the background of classic Hollywood jungle films.



Range & Habitat: Woodland and open forests such as eucalyptus forests



**Lifespan:** up to 15 years in captivity, 10 years in the wild.

**Special Adaptations:** Best known for their <u>unique, maniacal</u> <u>vocalization.</u>



# Lesser Scaup

Aythya affinis

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

Lesser scaup are one of two scaup species in North America. While the greater scaup tends to prefer salt water, the lesser prefers freshwater and is only found in North and South America. It is a medium-sized diving duck with a slight bump on the peak of the head. The male has a bluish bill, black head, neck, chest and rear end and grey sides. The female is brown but is identified by the white patch at the base of the bill.

#### **Behavior:**

Scaup are diving ducks, which means they will dive completely under the water to find food. Like many ducks, the female and male have <u>distinct</u> <u>calls</u>. They are social, nonaggressive birds that will live together in large flocks.

#### **Reproduction:**

They make a ground nest either on the ground or will also construct a mound of vegetation over water. The female lay 6-14 eggs that hatch following an incubation period of about 30 days. Ducklings can actually dive and start feeding themselves as soon as they are dry out of the egg.

#### Diet:

Wild: Clams, snails, crustaceans, aquatic insects, aquatic plants and seeds Zoo: Seabird diet, scratch grains, flock raiser pellets, greens

#### **Conservation:**

Widely found throughout North and into South America, lesser scaup are Least Concern.

#### <u>FYI:</u>

Lesser scaup are one of the most widespread diving ducks in North America (<u>Cornell Lab of Ornithology</u>).



Range & Habitat: Lakes and ponds in fresh or brackish water



**Lifespan:** up to 20 years in captivity, 15 years in the wild.

**Special Adaptations:** Scaup will "play dead" when grasped by a predator!



# **Lilac Breasted Roller**

**Coracias caudatus** 

**Class:** Aves

**Order:** Coraciiformes

Family: Bucerotidae

#### **Characteristics:**

Both male and female Lilac Breasted Rollers have highly colorful patterns. The average height of these birds are 14.5 inches (<u>Kruger National Park Reserves</u>).

#### **Behavior:**

Lilac breasted rollers are often found perching in dead trees. It is thought that they do so to gain a good vantage point for spotting and capturing prey items. When they capture their prey, they will often feast on it on the ground or return to its perch so that it can beat it against the tree before swallowing it whole (video). Breeding pairs are highly defensive of their nest even outside of the breeding season. Non-breeding birds often hold temporary hunting grounds and are semi-migratory (Kruger National Park Reserves).

#### **Reproduction:**

The name "roller" comes from the acrobatics seen during a male's courtship dance. When the courtship is successful the pair will form a <u>Monogamous</u>. The pair will often mate midflight. This pair of birds will claim a large portion of land (<u>Gorongosa</u>). They usually nest in natural tree holes, termite mounds, and sometimes tree holes prepared by woodpeckers. They lay 2 – 4 eggs that are incubated for approximately 24 days by both parents (<u>Kruger National Park Reserves</u>).

#### **Diet:**

Wild: Grasshoppers, insects, occasionally lizards, crabs, and amphibians. Rarely eats small birds (<u>Gorongosa</u>).

Zoo: Softbill food pellets, fruit salad, mealworms, feline.

#### **Conservation:**

Although the population isn't well studied, IUCN considers the birds as least concern given that its range and population size are still large and somewhat stable (<u>Birdlife International</u>).

#### <u>FYI:</u>

- Lilac breasted rollers will often take advantage of other animals as they flee from a bush fire (<u>video</u>).

- It is the national bird for both Kenya and Bostwana.



Range & Habitat: Grasslands, open woods, sparse palm



**Lifespan:** 15 years

#### **Special Adaptations:**

Vibrant Array of colors, distinguishable from the purple roller by its long, straight tail. Semi hooked beak.



### Mallard Anas platyrhynchos

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

Male mallards, known as drakes, are arguably the most easily recognizable duck with their bright green head, yellow bill and bright orange feet. The female, called a hen, displays the more common drab brown coloration of female ducks but can be identified by the bright blue stripe on the wing bordered by white and black.

#### **Behavior:**

Mallards are dabbling ducks, which means they dip their head and upper body into the water to feed. They rarely dive completely under the water. A female mallard's call sounds like the characteristic loud <u>duck "quack</u>." Males make more of a <u>chattering</u>, <u>low-pitched</u> sound.

#### **Reproduction:**

Mallards build a nest on the ground or in a protected cavity and the female lays about 12 eggs. The incubation period is around 28 days. During mating season, the males are quite aggressive and territorial toward other mallards but once the eggs are laid they leave the female and join up with bachelor groups. Once hatched, the ducklings leave the nest within 24hours to feed with mom (<u>Audubon</u>).

#### Diet:

Wild: Plants, grains, invertebrates, fish, amphibians Zoo: Wood ducks you see in the Idaho Falls Zoo are wild animals that have flown in, not part of the collection. They come mainly for food but also safety and nesting, so they'll eat the zoo animals' food of scratch grains, greens, and waterfowl pellets.

#### **Conservation:**

Mallards do not appear to be declining in any of their regions.

#### <u>FYI:</u>

Mallards are thought to be the most abundant duck on Earth (<u>National</u> <u>Geographic</u>).





**Lifespan:** up to 20 years in captivity, 5-10 years in the wild.

**Special Adaptations:** Mallards, like some other ducks, can and will mate with domestic ducks.

#### IUCN Conservation Status:



# **Mandarin Duck**

Aix galericulata

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

In full plumage, the male has a pair of "sail" feathers that are raised vertically above the back, a crest of orange and cream feathers, and a broad white eye-stripe that is bounded above and below by darker feathers. The female is duller in color and has an overall grey appearance marked by a curving white stripe behind the eye and a series of white blotches on the underparts. In flight, both sexes display a bluish-green iridescent speculum (<u>Animal Diversity</u>).

#### **Behavior:**

A perching duck that feeds on the water surface, they are close relatives of the North American wood duck and share common nesting and pairing behaviors. They seldom stray far from the water near which they live.

#### **Reproduction:**

The ducks perform an impressive courtship display which includes bobbing, shaking and mock-drinking. After pairing, they may stay together for several breeding seasons. They nest in tree holes and lay 9-12 eggs which hatch after approximately a 30-day incubation period. Mandarins also exhibit <u>nest parasitism</u> where females will lay eggs in other females' nests. It is believed they do this to avoid constructing their own nests or incubating eggs.

#### Diet:

Wild: Seeds, grains, and wetland plants Zoo: Scratch grains, flock raiser pellets, greens, oyster shell

#### **Conservation:**

Has an extremely large home range and therefore does not appear to declining rapidly enough to be of concern.

#### FYI:

Soon after hatching, the young make a "brood leap" out of the tree which can be as high as 30 feet. The chicks land unhurt and head to water to feed (Lincoln Park Zoo).



Range & Habitat: Wooded ponds and fast-flowing streams in Russia, China and Japan. There is a population of released captive-bred birds in Europe.



**Lifespan:** up to 10 years in captivity, 6 years in the wild.

**Special Adaptations:** Like all ducks, mandarins have thin, flat feet that make it easier to paddle through water.

IUCN Conservation Status: Least Concern



# **Military Macaw**

Ara militaris

**Class:** Aves

**Order:** *Psittaciformes* 

#### Family: Psittacidae

#### **Characteristics:**

Also known as green macaw or blue-green macaw, military macaws are large, colorful members of the parrot family. Of the large parrots, they are the smallest macaw. They have bright green plumage with red head feathers, and blue and red primary and tail feathers (Arkive). The skin on the face appears white and will <u>deepen to pink or red</u> when they bird gets excited. The cheeks have small brownish feathers.

#### **Behavior:**

Military macaws are social and are often found in small groups of around 10 birds. They are considered fair "talkers" and excellent at learning tricks (<u>Animal World</u>).

#### **Reproduction:**

In captivity, birds should be kept with the same species as they will readily hybridize. The female lays 2 to 4 eggs in a tree cavity, old woodpecker hole or high cliff face. Little is known about the chicks in the wild as they don't emerge from the cavities until able to fend for themselves.

#### **Diet:**

Wild: Fruits, vegetable matter and nuts Zoo: Parrot pellets, seeds, apples, carrots, greens, oranges

#### **Conservation:**

Population is rapidly diminishing due to the illegal pet trade and habitat loss. The number of birds being smuggled out of the native habitat outweighs the number of wild hatches. Military macaws are protected by law in Venezuela and trade is permitted in only extreme cases (<u>Arkive</u>).

#### FYI:

Macaws are sometimes called "flying primates" as biologists believe they are the most intelligent of the birds (<u>Cougar Mountain Zoo</u>).

<u>Some sources</u> say they are named "military" for their green feather coloring, referring to a soldier's uniform; whereas, <u>other sources</u> said they were named for the European soldiers who brought them back with them following deployment to South America.



Range & Habitat: Humid forests, wooded foothills and canyons



**Lifespan:** up to 60 years in captivity and in the wild.

**Special Adaptations:** They have a loud, raucous call that can be heard over great distances (Encyclopedia of Parrots).



### **Nicobar Pigeon**

Caloenas nicobarica

**Class:** Aves

**Order:** Columbiformes

#### Family: Columbidae

#### **Characteristics:**

Also known as the hackled pigeon, vulturine pigeon and white-tailed pigeon, the nicobar pigeon is medium-sized pigeon with a grey chest and head, metallic back and wings and a white tail. Its long feathers trailing down from the neck give it its distinct look (Lincoln Park Zoo).

#### **Behavior:**

Nicobar pigeons are nomadic, commuting between islands around New Guinea is flocks of up to 85 birds. They will only roost and breed on islands with no humans (<u>Who Zoo</u>).

#### **Reproduction:**

Nicobar pigeon males may spend days courting a female but, if she accepts him in the end, it pays off as they mate for life. The male chooses the nest site and brings twigs and other plant material to the female who builds the nest. One egg is produced per clutch and they usually clutch twice per year. Both parents incubate the egg which hatches after about 30 days. The chicks stays in the nest for about a month (<u>Rosamond Gifford Zoo</u>).

#### **Diet:**

Wild: Hard seeds, fruit, insects, corn Zoo: Fruits, vegetables, greens, pheasant grains

#### **Conservation:**

Nicobar pigeon numbers are declining. They fall victim to the pet trade, logging on islands, and are trapped for food.

#### <u>FYI:</u>

Unique to pigeons, they drink by sticking their beak in the water but don't have to tip their heads back to swallow like other birds.

Nicobar pigeons are related to the Dodo bird.



Range & Habitat: Forests on uninhabited islands



**Lifespan:** up to 15 years in captivity, 8-12 years in the wild.

**Special Adaptations:** Have a very muscular gizzard that allows them to eat nuts with very hard shells.





# **North American Wood Duck**

Aix sponsa

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

A beautiful perching duck identified by the striking coloration of the male and unique boxy crested head found in both sexes. Males have an iridescent green head broad tail, and ornate patterns on nearly every feather. Although drab in color, the female has a similar distinct profile as the male and a white pattern around the eye.

#### **Behavior:**

Unique among waterfowl, wood ducks perch and nest in trees (similar to the merganser), and often fly through wooded areas; hence they are known as perching ducks but they are also classified as a dabbling duck due to their feeding method. They prefer to stay in small groups of fewer than 20 birds. When swimming, they display a characteristic jerking back and forth of the head, similar in motion to what is seen in a pigeon when walking (<u>Cornell</u>).

#### **Reproduction:**

Wood ducks readily nest in tree cavities or, if present they will gladly use nest boxes. Once they pair, the male will stand outside the nest while the female inspects it. She prefers a nice, open cavity. The clutch can be up to 16 eggs, not all of which may be the next owners as they regularly practice brood parasitism. Ducklings hatch following a 28-37 day incubation period (<u>National Wildlife Federation</u>).

#### Diet:

Wild: Juveniles eat mainly aquatic invertebrates whereas adults eat those as well as seeds and plant material

Zoo: Wood ducks you see in the Idaho Falls Zoo are wild animals that have flown in, not part of the collection. They come mainly for food but also safety and nesting, so they'll eat the zoo animals' food of scratch grains, greens, and waterfowl pellets.

#### **Conservation:**

Wood duck populations appear to be increasing.

#### <u>FYI:</u>

Unlike mergansers which consistently nest in cavities above water, wood ducks prefer to nest above water or their nests but it isn't a necessity and the nests may be located up to a mile away from a water source.



**Range & Habitat:** Wooded waterways such as swamps, marshes, streams, beaver ponds and small lakes.



**Lifespan:** up to 15 years in captivity, up to 4 years in the wild.

**Special Adaptations:** Wood duck ducklings are born fully feathered and alert. Within a day of hatch, they jump out of nests well over 50 feet in the air without injury and make their way to water sources, sometimes up to a mile away from their nest site.



## **Northern Pintail**

Anas acuta

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

A dabbling duck with slim lines and a long neck, the male pintail has a characteristic extremely long, pointed tail and a distinct chocolate brown head with a white neck stripe that continues down the breast. The female is brown in color but has the similar sleek appearance and long neck as the male (<u>Cornell</u>).

#### **Behavior:**

Pintails are considered one of the most handsome ducks and are very graceful. They are even quite agile on land, compared to other ducks. They are quiet birds which emit low, mellow calls. They are opportunistic omnivores that will make the best of the food sources they can find (Arkive).

#### **Reproduction:**

Pintails make ground nests in open areas near wetlands, but usually not close to the water. The average clutch size is 8 eggs (<u>Ducks Unlimited</u>).

#### **Diet:**

Wild: Aquatic plants, seeds, and take advantage of waste grain Zoo: Scratch grains, greens, waterfowl pellets

#### **Conservation:**

Pintails were once the most common duck in America, but have declined in the last 50 years. However, due to their widespread range they are listed as Least Concern in IUCN.

#### FYI:

Like mallards, pintails are very wide spread, found throughout North America and Eurasia.



Range & Habitat: Open country with shallow wetlands. In winter they can also be found in intertidal habitats.



**Lifespan:** up to 25 years in captivity, 2-5 years in the wild.

**Special Adaptations:** They are nicknamed "greyhound of the air" because of their sleek, slim body shape.

#### **IUCN Conservation Status:**



# **Northern Shoveler**

Spatula clypeata

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

Also known as the common shoveler, the most obvious feature, also from which they get their name, is the long scoop-like bill. Males have a black bill, bright green, iridescent head and neck, chesnut belly and sides, white breast, and white stripes down the back. The female displays the drab brown coloration of most female ducks with an orange shovel-style bill (<u>Ducks Unlimited</u>).

#### **Behavior:**

Northern shoveler is a dabbling duck that feeds by dabbling and sifting in shallow water. Unlike many dabblers, they don't tip their upper body into the water, but skim the top of the water with their bill to feed. The males make a short, nasally <u>chirping call</u> whereas the females have a more characteristic quacking call.

#### **Reproduction:**

Shovelers are monogamous and may stay together longer than other dabbling duck species, but they play no part in the incubation. The males exhibit an elaborate courtship of calls, wing flaps and swimming maneuvers. They build a simple ground nest lined with down in an area near water surrounded at least on three sides by vegetation. They lay a clutch of around 12 eggs which hatch at about 24 days. The females lead them away from the nest immediately and the ducklings begin to feed on insects and other invertebrates as well as plants and seeds (Arkive).

#### Diet:

Wild: Aquatic invertebrates and seeds Zoo: Waterfowl pellets, greens, scratch grains

#### **Conservation:**

Breeding populations appear quite stable.

#### <u>FYI:</u>

If flushed off the nest, a female shoveler will often defecate on her eggs, most likely to deter predators from eating them (<u>Cornell</u>).



Range & Habitat: Shallow marshes, grasslands



**Lifespan:** up to 15-20 years in captivity, usually average up to 5 years in the wild.

**Special Adaptations:** The elongated, spoon-shaped bill has comb-like projections along its edges to filter food from water.

#### **IUCN Conservation Status:**



### Peafowl

#### Pavo cristatus

**Class:** Aves

**Order:** *Galliformes* 

#### Family: Phasianidae

#### **Characteristics:**

In the same family as pheasants and chickens, the male of the species is one of the flashiest, most colorful birds on earth. While often referred to as simply "peacocks," *peafowl* is the actual correct species name with peacock being the male and peahen the female; an easy way to remember this is think of their relatives: cocks are what you call male chickens and hens are female chickens. The Indian (Common) peafowl is the type you see at Idaho Falls Zoo where the male has blue dominant feather coloration and the female displays the more drab brown coloration. Both sexes have head crest.

#### **Behavior:**

Peacocks are among the largest of the birds that can fly (when you take into consideration their wingspan and tail length) and are known for their impressive courtship displays to attract females (National Geographic Kids). Peafowl are territorial and protective of their mates and young so be careful not to get too close to these birds. If you hear them making a "clicking" noise, that means back off! Peafowl are social, and even in the wild will gather together in a group called a "party." In the wild, peafowl will roost in trees.

#### **Reproduction:**

Similar to other pheasants, a male will gather a harem of several females, each of which will lay 3 to 5 eggs which she incubates until they hatch at around 28 to 30 days. In captivity they tend to build nests wherever they can find that feels safe. In the wild, their nests is usually a scrape in the ground under shrubs or trees. Peachicks are fully feathered and able to walk immediately after hatching. They will usually stay with mom for at least two months, if not longer (<u>Animal Moms</u>).

#### **Diet:**

Wild: Plant material and insects Zoo: Scratch grains, greens

#### **Conservation:**

None. Peafowl have been kept by humans for thousands of years

**<u>FYI</u>**: Peacocks raise their train by raising the much smaller feathers underneath them.



Range & Habitat: Originated in Sri Lanka and India



**Lifespan:** around 15-20 years in captivity and in the wild.

**Special Adaptations:** Long train is not their tail, but actually elongated feathers that grow off the male's back during breeding season. He sheds them once the season ends.



# **Radjah Shelduck**

#### Radjah (Tadorna) radjah

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

Also known as the white-headed shelduck, black-backed duck or Burdekin duck, the radjah shelduck has a mostly white body with chestnut wings topped with green bands, a chestnut collar and flesh-colored beak and feet.

#### **Behavior:**

Radjah shelducks are seldom seen away from water as they rely heavily on it for food and nesting. They feed by filtering water through their beaks to pull out seeds and bugs. They are very vocal.

#### **Reproduction:**

The reproductive pair is strongly monogamous for life and build a nest in a hollow tree. They become extremely territorial during breeding season. The clutch size is 8 to 14 eggs which hatch after a 28-day incubation period. The ducklings leave the nest soon after hatching and head straight for water (Perth Zoo).

#### **Diet:**

Wild: Mollusks, insects, algae, seeds and aquatic plants Zoo: Flock raiser pellets, scratch grains, greens

#### **Conservation:**

Although they have a large home range and IUCN lists them as Least Concern, radjah shelducks benefit from being protected nationally in Australia so their numbers are steady.

#### FYI:

The radjah shelduck is protected throughout Australia and there are harsh penalties for harming or disturbing them (<u>Beauty of Birds</u>).

It is unclear why the ornithologist who first described the duck named it "radjah" (<u>Australian Bird Names</u>).



**Range & Habitat:** Tropical coastal wetlands, nudflats, mangrove forests



**Lifespan:** up to 15 years in captivity, 5-10 years in the wild.

**Special Adaptations:** Flight pattern is more like a goose than a duck.

#### **IUCN Conservation Status:**



# **Red-crowned Crane**

Grus japonensis



**Class:** Aves

**Order:** Gruiformes

#### **Characteristics:**

Also known as Japanese crane or Manchurian crane the red-crowned crane gets its name from the bright red patch of plumage on top of its head. It has a black neck and tail and a white body with a wide white stripe behind the eye that extends down to the start of the neck. They are among the largest cranes with a wingspan of over seven feet!

#### **Behavior:**

Well-known for their <u>elaborate courtship dances</u>, red crowned cranes usually pair for life and their synchronized dance reinforce their bond. The pair will also call in unison to one another to advertise their territory, competition with other pairs, and formation of pair bonding. Usually the female initiates the call and then the male follows (<u>Woodland Park Zoo</u>).

#### **Reproduction:**

Red crowned cranes breed in the spring and summer months and the female lays two eggs that hatch following a 29-34 day incubation period. Chicks fledge at around 95 days.

#### **Diet:**

Wild: Insects, fish, rodents, plants Zoo: Greens, feline diet, capelin, crane pellets

#### **Conservation:**

Red crowned cranes are listed as endangered due to the destruction of their breeding grounds and loss of habitat along migration routes.

#### <u>FYI:</u>

Considered the sacred crane of the orient, red-crowned cranes are a symbol of fidelity in marriage, good luck, long life and love. They are the second rarest crane in the world, behind the whooping crane.



Family: Gruidae

#### Range & Habitat:

Marshes and deep wetland areas in spring and summer. In winter, they live along rivers, coastal salt marshes and freshwater wetlands.



**Lifespan:** around 25 years in captivity and in the wild.

**Special Adaptations:** The redcrowned crane and Siberian crane are the two most aquatic of the species of crane; they both prefer to forage in deep water.

# IUCN Conservation Status: Endangered

# **Red-and-yellow Barbet**

(Trachyphonus erythrocephalus)

Species Survival Plan

**Class:** Aves

**Order:** Piciformes

Family: Lybiidae

#### **Characteristics:**

Red-and-yellow barbets have a very distinctive color pattern. The males have very bright orange, yellow, and red on the face with a black crown atop the head. They have a yellow lower belly with a black and white spotted band across the chest. The back is black with white spots that give the tail a banded appearance. The females and juveniles have similar coloring but in duller tones. All individuals have a long, red bill and grayblue legs and feet (<u>Beauty of Birds</u>). Red-and-yellow barbets are 8-9 inches in length (<u>Animal Facts</u>).

#### **Behavior:**

Red-and-yellow barbets are reported to live in small groups with one breeding pair and several "helpers." They will build their <u>nests</u> inside of termite mounds by drilling a hole through the side. All of the group members will greet each other in <u>song</u> when one arrives. Many people have said that this is a fairly tame bird species, having been known to approach humans for food scraps.

#### **Reproduction:**

Feamles will lay 2-4 eggs in the termite mound or other burrow structure. All members of the group share in incubation and parenting responsibilities. The eggs are generally incubated for 13-15 days (<u>Beauty</u> <u>of Birds</u>). The chicks are fed mostly insects because of the high protein content. When the chicks are old enough, they will often stay with the parents to be the next generation of "helpers." (<u>Animal Facts</u>)

#### Diet:

Wild: Seeds, fruits, and invertebrates. Zoo: Fruits, vegetables, greens, mealworms, seeds, and parrot pellet.

#### **Conservation:**

The red-and-yellow barbet has an expansive range and no known threats to the population. Their numbers are believed to be stable, but there is not much research about the species specifically. (<u>IUCN</u>)

#### FYI:

Maasai people use the feathers from the red-and-yellow barbet in traditional clothing decorations and ceremonies.



#### Range & Habitat:

This species is native to Ethiopia, Kenya, Somalia, South Sudan, Sudan, Tanzania, and Uganda. They usually prefer dry savannah, desert, and scrublands.



#### Lifespan: unknown

#### IUCN Conservation Status: Least Concern



# Redhead

#### Aythya americana

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

A medium-sized diving duck in which the male has a cinnamon-colored head, grey bill with a black tip, grey body and blackish breast and tail. Female and young redheads are drab brown but have the characteristic grey bill with black tip (Cornell).

#### **Behavior:**

Redheads are very social birds that will congregate in large flocks. While many ducks lay their eggs in other ducks' nests, redhead females take this to the extreme by parasitizing not only duck nests but other birds' nests as well. In fact, some female may actually never have their own nests and leave other birds to incubate the eggs (<u>Audubon</u>).

#### **Reproduction:**

If the female nests, they nest in dense marshes, particularly in bulrushes, building a bulky above-water nest of dead vegetation which is anchored to standing growth and lined with down. The female lays around 9-15 eggs, although due to brood parasitism it is hard to determine average clutch size. Sometimes females will lay eggs in other nests and raise a brood of her own.

#### Diet:

Wild: Mainly aquatic plants but will occasionally eat insects Zoo: Scratch grains, greens, waterfowl pellets

#### **Conservation:**

Redheads have seen one of the greatest decline of the North American duck species, probably due to habitat loss.

#### FYI:

In addition to laying eggs in others' nests, female redhead will also have "dump" nests where several in a group will go to lay eggs, but never incubate them. One such nest was found to contain 87 eggs (<u>Audubon</u>)!



**Range & Habitat:** Winter in lakes, saltwater bays and estuaries, and summer in freshwater marshes



**Lifespan:** up to 20 years in captivity, 5-10 years in the wild.

**Special Adaptations:** Males have an elaborate courtship dance where they throw back their heads, almost touching their tail!



### **Greater Rhea**

Rhea americana

**Class:** Aves

**Order:** Struthioniformes

<u>Characteristics</u>: The greater rhea is one of the largest birds on the planet. They can measure up to 5.5 feet tall and weigh up to 55 pounds. It has long, muscular legs and an oblong football shaped body. They have a very long, flexible neck and a small head. The feathers of the rhea are gray with black around the head, neck, and shoulders. The under-feathers are white. Males tend to be larger and darker than females. The rhea does not fly, but still possesses large wings for other purposes (<u>Cornell</u>).

**Behavior:** During the spring and summer months, male rheas are solitary, females form small groups, and yearlings form flocks until they are about 2. For winter, males, females, and chicks all come together in a large flock of 20-100 individuals. (Animal Diversity) Rheas are often seen grazing near deer, guanacos, and livestock. They are very <u>fast runners</u>, reaching speeds up to 40 mph, and great swimmers as well (Arkive).

**Reproduction:** Rheas are unusual in their reproductive behaviors. At the start of mating season, males become very <u>territorial</u> and begin to herd females into his territory using a <u>courtship display</u> of outstretched wings and a lowered neck. The male will also use a booming vocalization (ASAG). The males build a shallow nest on the ground. Females and males will have many partners throughout the breeding season. The female will mate with one male and lay her 5-10 eggs in the nest, then move on to a different male to lay more eggs in his nest. The eggs are a greenish-yellow color and are very large. The male rheas <u>incubate the eggs</u>, as many as 80 from different females, for 29-43 days. The males also are the only caregiver of the hatchlings for 6-8 months. The <u>hatchlings</u> are light brown with dark stripes (<u>Beauty of Birds</u>).

<u>Diet:</u> Wild: Broad-leaved plants, clover, seeds, roots and fruits. They also eat insects, and small vertebrates. (<u>Animal Diversity</u>) Zoo: Ratite pellet, greens, oyster shell, and dog chow.

**Conservation:** The <u>IUCN Redlist</u> has classified the rhea as near threatened. This classification is mostly due to the decline of the species from egg collection, and hunting for meat and skin. The rhea are also rapidly losing their habitat to agriculture and ranching developments in the grasslands. Idaho Falls Zoo participates in the rhea SSP for the protection of the species.

**FYI:** The greater rhea is the largest bird in the Americas (ASAG). There is a small population of greater rhea in Germany from three pairs that escaped from a farm in 2000. The small group now numbers over 100 individuals and is protected by the German government (<u>Beauty of Birds</u>).

Species Survival Plan

Family: Rheidae



Range & Habitat: Found in tall grassland, open woodland and wooded pampas of Brazil, Bolivia, Paraguay, Uruguay and Argentina.



**Lifespan:** 30-40 years in captivity, 15 years in the wild.

**Special Adaptations:** Rheas are flightless birds, but use their wings as <u>rudders</u> when running (<u>ASAG</u>).



# **Ringed Teal**

#### Callonetta leucophrys

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

The male (drake) has a chestnut-colored back, pinkish breast with black speckles, and a black band running from the top of its head down its neck. Females (hens) have a brown back, brown and white blotched head. Both sexes have a distinct white & green patch on the wing. Interestingly, they maintain their colors year-round and do not display an <u>eclipse plumage</u> (<u>Beauty of Birds</u>).

#### **Behavior:**

Only duck in the *Callonetta* genus, it is considered a dabbling duck (meaning it feeds on the surface) because of its feeding behavior and placed in the wood duck group because of its nesting and reproductive behaviors, but may also distantly be related to shelducks (<u>Ducks of the World</u>). While swimming, they hold their tails horizontal so it doesn't touch the water surface (<u>Rosamond Gifford Zoo</u>).

#### **Reproduction:**

To attract the female, the male will preen himself and flash his colorful wing patch and swim around the female in a figure 8. Like other wood ducks, they form strong pair-bonds but these bonds are not necessarily life-long. They nest in hollow trees, often quite high off the ground, and the hen lays 6-12 eggs which she and the drake incubate for 29 days. Upon hatching, the chicks jump out of the nest, join their parents in the water, and rub their down against the parents' bodies, probably to acquire oil for personal waterproofing (Happy Hollow Zoo).

#### Diet:

Wild: Aquatic plants, some invertebrates Zoo: Scratch grains, flock raiser pellets, Seabird, greens

#### **Conservation:**

None. While ringed teal are a wild species, they become quite tame in a domesticated setting and are readily bred in captivity.

#### FYI:

The males exhibit more parental care than most other ducks which often allows for double-clutching, meaning the female produces more than one brood per year (<u>Happy Hollow Zoo</u>).



Range & Habitat: Wetlands of central South America



**Lifespan:** up to 15 years in captivity, unknown in the wild.

**Special Adaptations:** They have ridges along their bill (known as lamellae) which help them snip off thick aquatic vegetation.



# **Ring-necked Duck**

Aythya collaris

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

#### **Characteristics:**

A diving duck with striking coloration, the male is black, white and grey with a sloping forehead and peaked head, and a faint brownish ring around the neck. The female is brown, but a closer look reveals a delicate face pattern, white stripe at the base of the bill, and darker area at the base of the neck (<u>Ducks Unlimited</u>).

#### **Behavior:**

Ring-necked ducks are found in small groups, except during migration when they form immense flocks. They will sometimes flock with scaup, which they resemble in appearance. They dive below the water to feed and often prefer smaller bodies of water (<u>Cornell</u>).

#### **Reproduction:**

Ring-necks don't do much to build a nest until the female begins to lay eggs. She proceeds to continue building on the nest while incubating the eggs. The nest is usually located in a flooded area on the water surface and she lays up to 14 eggs which hatch after a 25-29 day incubation period, and they build a ramp on which the female can enter and exit the nest.

#### **Diet:**

Wild: Tubers, aquatic plants, mollusks, aquatic insects and snails Zoo: Scratch grains, greens, waterfowl pellets

#### **Conservation:**

Ring-necked ducks are not a conservation concern.

#### FYI:

It's difficult to see the chestnut-colored collar of feathers unless you have them practically in hand. They were named by nineteenth century biologists who were identifying them from dead specimens, and the ringed neck was quite obvious up that close (<u>Cornell</u>).



Range & Habitat: Small bodies of water during migration, breed in marshes, wetlands and bogs



**Lifespan:** up to 20 years in captivity, 5-10 years in the wild.

**Special Adaptations:** Ring-necks will dive in search of mollusks and swallow them whole.



# **Roseate Spoonbill**

Platalea ajaja



**Class:** Aves

**Order:** Pelecaniformes

<u>Characteristics</u>: The roseate spoonbill is easily identified by their bright pink coloration and unique, spatulate bill. Its wings, abdomen, and tail feathers are bright pink and it has ruby colored legs. This spoonbill is considered a medium-sized bird with very long legs for wading in water. (<u>Saint Louis Zoo</u>) This spoonbill has a long neck and a wingspan of over 3 feet. Its bald head is a pale green color with the neck, chest and back being white. The spoon shaped bill is 7 inches long and gray in color. The bird can reach up to 32 inches in height (<u>Arkive</u>).

**Behavior:** This spoonbill species is known to be gregarious and live in large flocks of birds. The flocks can be comprised of the same or of different species of birds. The roseate spoonbill <u>feeds</u> by wading in shallow water and swinging the tip of the bill, slightly open, back and forth. This is a filter feeding method and is also the method for the spoonbill to find food. The bill is very sensitive and can sense movement in the water and if anything touches the bill. The roseate spoonbill <u>nests in trees</u>. They sleep while standing on one leg with the head tucked under the back feathers. If alarmed, the entire flock will take flight at the same time then land again (<u>Cornell</u>).

**Reproduction:** Roseate spoonbills mate in monogamous pairs. They have ritualized courtship displays that include dancing, bill clapping, bill crossing, and exchanging nest material. (National Zoo) Females usually build the nest while the males deliver the materials. Females lay 2-3 eggs that are cream color with brown spots. The incubation period is 22-24 days, and both male and female will incubate the eggs. The young are all white with pink skin. They will leave the nest after 5-6 weeks and can fly around 7-8 weeks after hatching. The spoonbill young will reach sexual maturity in the third year (<u>Audubon</u>).

<u>Diet:</u> Wild: small fish, amphibians, aquatic invertebrates, and some plant material (<u>National Zoo</u>) Zoo: Feline meat, flamingo pellet, and fish

<u>Conservation</u>: According to the <u>IUCN Redlist</u>, the roseate spoonbill is of least concern. This bird has an extremely large range and the population trend appears to be stable at the current time. The population is even increasing in North America. They are still threatened by development of coastal habitats, climate change, and pollution.

**FYI:** Zoo guests often confuse the roseate spoonbill for a juvenile flamingo due to their similar coloration and shared exhibit.

#### Family: Threskiornithidae



#### Range & Habitat:

Found in a wide variety of marine, brackish, and freshwater habitats, it requires shallow water to feed using its long bill. Their range includes the Southern United States, West Indies, Central America, and South America.



**Lifespan:** up to 15 years in captivity, 10 years in the wild.

**Special Adaptations:** The spoon shaped bill has sensitive nerve endings, which allows it to detect when it comes into contact with prey and snap shut.



### **Rose-breasted Cockatoo (Galah Cockatoo)**

Eolophus roseicapilla

**Class:** Aves

**Order:** *Psittaciformes* 

Family: Cacatuidae

<u>Characteristics</u>: L. 35-38 cm; wt 300-435 gms. Females smaller. Gray back and flight feathers; pale pink crown; rose-red neck and underparts. Bone-colored beak; gray legs. Male: dark brown iris. Female: pink iris. Color of juveniles duller than adults. A highly intelligent, social and highly adaptable animal.

**Behavior:** Bold and loud. Rely heavily on sense of sight. Highly social and long-lived. Bonded pairs have strong lifelong bonds with their partners. Preen facial feathers to show affection. Not highly territorial and often share roosting trees and food sources though minor squabbles frequently occur. Flocks congregate and forage on foot for food in open grassy areas. Communication consists of a high-pitched, splintered identifying call "chill chill; " harsher screeches when threatened, fighting or just having fun; and soft, muffled calls to initiate close contact.

**<u>Reproduction</u>**: Bonded pairs separate from flock and nest in tree cavities where a clutch of 2-5 white eggs is incubated 25 days by both parents. Fed with regurgitated food, chicks leave the nest about 49 days after hatching; reaching maturity in 4 years. Young have grayish plumage and a grey periophthalmic ring (naked area around their eyes) that fades as they approach maturity.

#### Diet:

Wild: grasses, herbs, seeds, nuts, berries, roots, green shoots, leaf buds, cereal crops, sunflower seeds; insects and larvae during breeding. Zoo: Cockatoo pellets, chopped fruit and vegetables, sunflower seeds (for training).

**<u>Conservation</u>**: Most common of Australia cockatoos. Thriving due to expansion of agriculture and permanent water sources plus popularity as a pet. Deaths occur mostly from cars, cats and shooting by farmers who consider them pests.

**FYI:** The term "Galah," from native Aborigine, is considered derogatory Australian slang, synonymous with 'fool' or 'idiot.' Considered pests in Australia. Less common outside of Australia. A galah in captivity will often form a bond with other pets such as a dog or cat.



Range & Habitat: Mainland Australia and Tanzania in open habitats and urban areas such as semi-desert, plains, open woodland, farmlands and fields.



**Lifespan:** up to 80 years in captivity, 30 years in the wild.

**Special Adaptations:** flourished by taking advantage of forest clearing and access to stock watering points.

IUCN Conservation Status: LC (Least Concern)



# **Ruddy Duck**

Oxyura jamaicensis

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

<u>Characteristics:</u> Male and female ruddy ducks differ in appearance and the males change their look depending on the time of year. Males have a rich chestnut color on their necks and bodies. The crown, nape, and tail are very dark brown or black. The male's face is white and the male has a brilliant blue bill. The female has a barred appearance and does not have the chestnut color at all. The females have a dark line across the face and a dull blue bill. In winter, males look just like females except for the white face. (<u>Biokids</u>) Males are also slightly larger than females. The bill of the ruddy duck is wide and flat and the legs are positioned toward the rear of the body. (<u>Animal Diversity</u>)

**Behavior:** Ruddy ducks will spend most of their time on the water. Because of the positioning of their legs, they are not graceful walkers. They are fast fliers, but have a hard time maneuvering in the air. Ruddy ducks are excellent divers. They forage for aquatic plants under the water. They live alone, in breeding pairs, and rarely in small groups. They are known to be aggressive toward other ruddy ducks and especially toward other species. (Cornell) Male ruddy ducks will hold their tail straight up in the air. Ruddy ducks migrate in both spring and fall, but southern populations may be permanent. (Audubon)

**<u>Reproduction</u>**: The male ruddy duck attracts the female with an interesting <u>courtship display</u>. The female constructs the nest and cares for the young. Females lay 6-10 large white eggs. The eggs are incubated for 23-26 days. The young leave the nest after only one day. Young ruddy ducks are capable of diving and aggressive behavior toward other species at just one day old. The parents will abandon the ducklings after just 20-30 days. (Encyclopedia of Life)

<u>Diet:</u> Wild: Aquatic plants and insects Zoo: Duck pellet, grains, seabird pellet, and greens

<u>Conservation:</u> According to the <u>IUCN Redlist</u> of endangered species, the ruddy duck is of least concern. The population is declining, but the ruddy duck has an extremely large range and population size currently. The only known threats to the population are habitat loss and hunting, especially in Europe where they are considered and invasive species.

**FYI:** The ruddy duck's eggs are the largest waterfowl eggs in relation to body size.



Range & Habitat: Native to North and Central America, introduced in many European countries. Freshwater swamps, lakes, pools, marshes, open water, large lakes, brackish lagoons, and estuaries are their preferred habitats.



**Lifespan:** up to 8 years in captivity, 2 years average in the wild.

**Special Adaptations:** The ruddy duck has large webbed feet and legs positioned to the rear of the body for excellent diving abilities.



# **Sacred Ibis**

#### Threskiornis aethiopicus



**Class:** Aves

Order: Ciconiiformes

Family: Threskiornithidae

#### **Characteristics:**

Sacred Ibis is characterized by the distinct greyish-black head and neck (which lacks feathers) and curved bill. The black-tipped wings have areas of red skin visible above and below and the sides of the bodies are often bare where the wings lay.

#### **Behavior:**

Sacred ibis are opportunistic predators which are a migratory species throughout Africa. They are gregarious (meaning social) birds that will use communal nesting sites. They often leave their nests at sunrise to travel in search of food. They are quiet birds that make only low guttural sounds.

#### **Reproduction:**

These birds will travel several hundreds of miles to breed during the rains (Arkive). They gather together in large, mixed colonies, often in the islets of rivers or in trees, of up to 2,000 breeding pairs. The pairs bond lasts for one breeding season. The male collects nesting materials and the females assemble the nest which is a large platform of sticks and branches lined with leaves and grass. They locate the nest in a tree, bush or on the ground if no taller vegetation is available. Females lay 2-5 eggs and both sexes incubate the eggs which hatch around 28 days.

#### Diet:

Wild: worms, mollusks, crustaceans, fish and insects Zoo: feline diet, capelin, crane pellets, greens

#### **Conservation:**

While sacred ibis population seems to be declining, it doesn't appear to be sufficient to cause worry. On islands, for example on Aldabra, they appear to be declining due to hunting and human disturbance; on Madagascar their eggs are gathered by people for food.

#### FYI:

Ibis are in the same family as spoonbills. In ancient Egyptian culture, the sacred ibis were worshipped as the god Thoth who was the god of wisdom. It was supposed to protect the country from plagues and serpents. In folklore, ibis were thought to be the last bird to take shelter from a storm and the first to reappear after the storm. They were often mummified and buried with pharaohs, often 1,000 or more birds in a tomb.



Range & Habitat:

Found in freshwater wetlands, salt pans, dams, mangroves, rivers and cultivated fields of Africa.



**Lifespan:** up to 20 years in captivity, 5-10 years in the wild.

**Special Adaptations:** Their long, downcurved bill is used to probe soft mud and sand in search of prey.



### **Scarlet Macaw**

Ara macao

**Class:** Aves

**Order:** *Psittaciformes* 

#### Family: Psittacidae

#### **Characteristics:**

Named for their bright red plumage, scarlet macaws also have green and blue primary and flight feathers. They have bare white skin between their beak and their eye. Typical of parrots, they use their feet to climb, grip and also as a "hand" for feeding and grasping (<u>Blank Park Zoo</u>).

#### **Behavior:**

Very social, "talkative" birds which live in flocks of up to 30 birds. They are fast flyers with great maneuverability. Vocalization is important for group communication (<u>Sedgewick County Zoo</u>).

#### **Reproduction:**

Similar to other macaws, the female lays 2 to 4 eggs on a nest cavity. The chicks hatch following a 24 to 26 day incubation period. When the chicks hatch, they are blind and featherless. They fledge the nest around 3.5 months old.

#### **Diet:**

Wild: Fruits, vegetable matter and nuts. Often found at clay licks around exposed river banks eating soil which may provide them with nutrients and minerals lacking in their diet and neutralize acid in their system.

Zoo: Parrot pellets, seeds, apples, carrots, greens, oranges

#### **Conservation:**

Like other parrots, scarlet macaws also are suffering a decline due to habitat loss and the illegal pet trade. While only one out of many birds smuggled into the pet trade will survive, the smugglers think the payoff is worth the loss. A single macaw sold on the black market may be worth thousands of dollars (<u>Rainforest Alliance</u>). However, because they have a larger range than other macaws, they are classified as Least Concern by IUCN.

#### <u>FYI:</u>

--Macaws are the world's largest parrots and scarlet macaws are one of the larger macaws.



Range & Habitat: Rainforests, forests bordering rivers, wooded grasslands



**Lifespan:** up to 60 years in captivity and in the wild.

**Special Adaptations:** Can eat fruit toxic enough to kill a human. This could be due to the large amounts of clay they ingest which is believed to neutralize plant toxins (<u>Rainforest Alliance</u>).



# **Scarlet-headed Blackbird**

Amblyramphus holosericeus

**Class:** Aves

**Order:** Passeriformes

Family: Icteridae

#### **Characteristics:**

The scarlet-headed blackbird has a brilliant red-orange head and breast with the rest of the body and legs being black. Both sexes have this brilliant head color. (<u>Cornell</u>) The long, slender, pointed bill is also black in color. The scarlet-headed blackbird is a small bird measuring 9 inches in length. (<u>Toronto Zoo</u>)

#### **Behavior:**

Scarlet-headed blackbirds group in scattered pairs, and are very rarely seen in flocks. These blackbirds are active during the day. They <u>perch</u> on the tops of reeds and sing. They have a distinct <u>song</u>. (<u>Toronto Zoo</u>)

#### **Reproduction:**

Scarlet-headed blackbirds are monogamous birds. The pair will build a nest in the shape of a cup. The female usually lays 2 eggs. The juvenile blackbirds start out all black in color and gradually develop the brightly colored hood. (Toronto Zoo)

#### **Diet:**

Wild: Mainly fruit, supplemented with seeds, insects, and other invertebrates. Zoo: fruit, finch seed, mealworms, dog food, softbill food

#### **Conservation:**

The <u>IUCN Redlist</u> of endangered species classifies the scarlet-headed blackbird as least concern. This classification is due to their large range and stable population trend. However, the species is described as uncommon throughout its range.

#### FYI:

Theodore Roosevelt was impressed by the spectacular sight of the scarletheaded blackbird during his travels to Brazil. (<u>Cornell</u>)



**Range & Habitat:** Found in reedbeds in Argentina, Paraguay, Uruguay, Brazil, and Bolivia.



**Lifespan:** 13+ years in captivity, average 2-4 years in the wild.

**Special Adaptations:** They use the long, pointed bill like a woodpecker to open vegetable matter.



# Silvery-cheeked Hornbill

**Bycanistes brevis** 

**Class:** Aves

**Order:** Bucerotiformes

Family: Bucerotidae

#### **Characteristics:**

A fairly large bird with a cream-colored, lightweight casque ("horn") on top of its beak. The head has silvery-grey feathers (hence the name) and the rest of the body is covered with black or white feathers. In males, the casque is larger than the females. Otherwise they are quite similar.

#### **Behavior:**

They usually live in pairs and, as they are fairly gregarious, will sometimes roost in flocks of several hundred individuals (<u>Beauty of Birds</u>). They have a fairly wide range through which they fly long distances feeding on fruits and small birds in flight. They return to their tree roost at night.

#### **Reproduction:**

They breed in the African spring (September and October). The female finds a cavity and, with the male's help, seals herself in leaving a small hole through which he feeds her regurgitated fruit. She lays a clutch of 1-3 eggs which hatch following a 40-day incubation period (<u>Oiseaux Birds</u>).

#### **Diet:**

Wild: mainly fruits but will also eat insects, small birds, rodents, small reptiles, centipedes

Zoo: softbill, fruit/veg mix, hardboiled egg, dog food and parrot pellets

#### **Conservation:**

The population appears to be quite stable and has a large range, however their numbers seem to be declining in Zimbabwe (<u>Biodiversity Explorer</u>).

#### FYI:

The hornbill is one of the few birds that have eyelashes to shield them from sun and dust (<u>Pittsburg Zoo</u>).



**Range & Habitat:** Forested areas from the Ethiopian highlands through Mozambique and into eastern Zimbabwe



**Lifespan:** up to 50 years in captivity and in the wild.

**Special Adaptations:** The hollow casque on their bills serves to amplify their <u>loud, raucous call.</u>



# **Snowy-headed Robin Chat**

Cossypha niveicapilla



**Class:** Aves

**Order:** Passeriformes

#### Family: Muscicapidae

#### **Characteristics:**

Also known as snowy-crowned robin chat, this song bird is common throughout Africa and often mistaken for the North American Robin by zoo visitors. Their most notable characteristics are the orange body and white stripe on the top of their head. They are in the chat and old world flycatcher family.

#### **Behavior:**

Chats are known for their <u>strong</u>, <u>varied song</u> which often incorporates mimicry mixed with their own fluttery sound. They have an extremely large range, spread throughout most of central Africa. Unfortunately, despite their large distribution very little is known about their wild habits as they tend to hide in forested areas and avoid humans.

#### **Reproduction:**

Both sexes build the nest and care for the hatchlings but only the female incubates the eggs. It is unknown how many eggs are commonly laid.

#### **Diet:**

Wild: Insects, spiders, caterpillars, centipedes and other arthropods. Will also feed on seeds and grains, possibly berries Zoo: Insectivore diet, dog food, feline diet, mealworms

#### **Conservation:**

Found throughout central Africa, chats seem to be stable and are considered common.

#### FYI:

The name <u>chat</u> refers to the family of birds that eats insects, preferring to catch them on the wing.



Range & Habitat: Sub-tropical or tropical dry forests, moist lowland forests and moist savannah regions



**Lifespan:** up to 10 years in captivity, average is one year in the wild.

Special Adaptations: noisy, fluttery call



# **Southern Ground Hornbill**

Bucorvus leadbeateri



**Class:** Aves

**Order:** Coraciiformes

Family: Bucerotidae

#### **Characteristics:**

The African Ground hornbills (also known as the Southern Ground Hornbills) weigh approximately 3000 grams. They are meat eaters and use their powerful bills (able to get through vinyl coated chicken wire). Ground Hornbills limited binocular vision to allow for successful hunting even though their bill seem to be in the way. Hornbills have also developed eyelash-like feathers above their eyes that filter out intense light (Martin & Coatzee 2004). Hornbills are the only birds with the first two neck vertebrae (axis and atlas) fused together. The throat skin is inflatable and sometimes inflates when making its guttural call. The throat skin on males are orange while female hornbills have a patch of blue on their neck (Stevenson & Fanshawe 2002 plate 125)

#### **Behavior:**

The word "ground" in the Southern Ground Hornbill comes from their being more frequently found walking rather than flying <u>(Stevenson & Fanshawe 2002)</u>. Ground hornbills are often found in family groups and will hunt in groups and take down a large snake together.

#### **Reproduction:**

Slow breeders. The female will lay and incubate two eggs for 40 days in trees and cliff sides. The older sibling usually outcompetes the younger sibling, lowering the potential <u>reproductive success</u> (<u>Mabula</u> <u>Ground Hornbill Project</u>).

#### Diet:

Wild: Feeds on "anything that they can overpower" (<u>Martin & Coatzee</u> 2004). This can include hares, mice, lizards, squirrels, scorpions, termites, among others (<u>Kemp 1995 p.97</u>).

Zoo: Mice, chicks and insects.

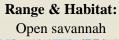
#### **Conservation:**

IUCN considers the birds as vulnerable while South Africa considers them endangered. The principle reasons for their decline are loss of habitat, <u>secondary poisoning</u>, and electrocution (<u>Mabula Ground-Hornbill</u> <u>Project</u>).

#### FYI:

- Traditional African cultures saw ground hornbills as omen of rain. Killing them was taboo (<u>Robert Godfrey</u>).







**Lifespan:** Up to 70 years in captivity, 50 years in the wild.

**Special Adaptations:** A large bill, wielded by powerful muscles. Unique guttural call

# IUCN Conservation Status: Vulnerable

# **Spur-winged Lapwing**

Vanellus spinosus



**Class:** Aves

**Order:** Charadriiformes

#### **Characteristics:**

Also known as the spur-winged plover (not to be confused with the recently renamed masked lapwing of Australasia), this lapwing is a wading bird identified by their striking white cheek feathers, black head cap, brown wings against a black body and long black legs.

#### **Behavior:**

In Africa, lapwings don't travel far outside their home area but merely make short movements to find wetter areas of their habitats. They spend their time searching the marshy ground for small invertebrates.

#### **Reproduction:**

Because of their large range, these birds have variable breeding seasons. Spur-winged lapwings nest in solitary monogamous pairs, often with other mixed species bird nesting colonies. The large nesting groups help protect the birds in the colonies against predation. The lapwing pair will build a nest in a scrape on the ground sometimes lined with vegetation. The female lays 2 eggs that are yellow with brownish black mottling. They hatch after a 28-day incubation period and both sexes help feed the young. If they double-clutch, the male tends the older chicks while the female incubates the second brood (<u>Sacramento Zoo</u>).

#### Diet:

Wild: Invertebrates Zoo: softbill, feline diet, capelin, mealworms and insectivore diet

#### **Conservation:**

Spur-winged lapwings are abundant in their range in Africa and as such are listed as Least Concern by IUCN.

#### <u>FYI:</u>

The bird gets its name from a small spur-like appendage hidden in each of its wings. They may use this wing-claw to attack other animals who may be threatening them or their offspring (<u>Beauty of Birds</u>).

Family: Charadriidae



Range & Habitat: Marshes and wetland habitats of central Africa



**Lifespan:** over 15 years in captivity, up to 15 years in the wild.

Special Adaptations: Spurwinged lapwings have a unique <u>call</u> that acts as an alert when humans are near.



# **Superb Starling**

Lamprotornis superbus

**Class:** Aves

**Order:** Passeriformes

#### **Characteristics:**

A small bird with distinctive plumage of metallic blues and greens on the chest and back, a duller black head, a chestnut body and white under the wings and tail and white eyes.

#### **Behavior:**

A gregarious species, the superb starling feeds in groups on the ground. They prefer to live in close proximity to human habitation (<u>Utah's Hogle</u> <u>Zoo)</u>.

#### **Reproduction:**

Breeding season varies depending on the location of the colony. The male performs a courtship dance for the female and both sexes share the responsibility of building the nest, incubation, and feeding the young. An average of four greenish blue eggs are laid in a nest of grass and twigs lined with feathers. Usually the nest is located in a low thorny bush, tree, or cliff hollow.

#### Diet:

Wild: Insects, berries, human scraps Zoo: Parrot pellets, fruits and veggies, mealworms, Insectivore diet, dog food, feline diet and hardboiled eggs

#### **Conservation:**

Superb starlings are not a listed species so are listed as Least Concern in IUCN.

#### FYI:

Superb starlings are in the starling family which includes mynah birds and oxpeckers found predominately in Asia and Africa. The common starling, native to Europe, was introduced to the United States.

#### Family: Sturnidae



Range & Habitat: Woodlands, bush and acacia areas of Northeast Africa



**Lifespan:** up to 15 years in captivity, 10 years in the wild.

**Special Adaptations:** A loud, raucous bird that has a <u>series of</u> <u>different calls.</u> They're also known to mimic other birds and sounds.



# **Taveta Golden Weaver**

Ploceus castaneiceps

**Class:** Aves

**Order:** Passeriformes

#### Family: Ploceidae

#### **Characteristics:**

The male is bright yellow with a black bill while the female is more olivecolored with dusky streaks and a horn-colored bill. They are named in part for the bright yellow plumage (<u>Lincoln Park Zoo</u>).

#### **Behavior:**

Taveta golden weavers live in noisy groups with other weavers. They will also breed and next in colonies.

#### **Reproduction:**

The male uses his beak to <u>weave intricate ovoid nests</u>, usually over water. Females choose a male based on his weaving skills and will then lay two to three glossy dark olive green eggs.

#### **Diet:**

Wild: Seeds Zoo: Seeds

#### **Conservation:**

Common throughout their range so they are classified by IUCN as Least Concern.

#### FYI:

Weavers in general get their name from the elaborate nests they construct.



#### Range & Habitat:

Prefers swampy or forested areas and lives along the east coast of Africa from Kenya to Tanzania.



**Lifespan:** up to 20 years in captivity, average 10 years in the wild.

**Special Adaptations:** Strong claws and beaks enable them to build elaborate nests.

#### **IUCN Conservation Status:**

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# **Tawny Frogmouth**

Podargus strigoides

**Class:** Aves

**Order:** *Caprimulgiformes* 

**Characteristics:** Tawny frogmouths are named for their incredibly wide beak, resembling a frog's mouth. The tawny frogmouth is a silver-grey with mottled black and browns. The underparts are a lighter cream color. Inside of the frogmouth's <u>enormous mouth is a lime-green</u> or yellow color. They have longer feathers and a somewhat fluffy appearance. This is partially due to the tufts of bristles above the beak and on the neck. Males and females are distinguishable by iris color, with the males having an orange-brown ring around the yellow iris. Tawny frogmouths are about 12-20 inches long and weigh 0.4-1.3 pounds (<u>Toronto Zoo</u>).

**Behavior:** Tawny frogmouths are nocturnal animals that hunt at night and roosting during the day. These birds hunt by waiting for prey to come to them, then jumping from a low perch and catching the prey in their large beak. If threatened, the frogmouth will freeze with its feathers tight to its body and its head pointed upward and eyes closed to look like a stump or log (Beauty of Birds). At night, these birds make a drumming "oom-oom-oom" sound, especially during breeding season (Saint Louis Zoo).

**<u>Reproduction</u>**: Tawny frogmouths nest in trees, and a breeding pair will return to the same nesting site for many years. The pairs will stay together until one of the pair dies. The females will lay 2-3 white eggs and both parents share in incubation of the eggs. (<u>Lincoln Park Zoo</u>) The eggs are incubated for about 30 days. Both parents care for the chicks until they leave the nest at <u>25 days old</u>. (<u>Beauty of Birds</u>)

<u>Diet:</u> Wild: mostly large insects, occasionally frogs and other small vertebrates (<u>Australia Zoo</u>) Zoo: mice

**<u>Conservation</u>**: The tawny frogmouth is listed as least concern by <u>IUCN</u> due to its extremely large range size. The population trend also seems to be stable for the species. This bird is known to be common throughout its range and has no known major threats. They are a species that is in the Species Survival Program through AZA.

**FYI:** Tawny Frogmouths are not owls. Although they look similar, they are more closely related to nightjars. (Perth Zoo)

Species Survival P Family: Podargidae



**Range & Habitat:** Found in most wooded areas throughout Australia and Tasmania.



**Lifespan:** up to 30+ years in captivity, 14 years in the wild.

**Special Adaptations:** These birds are <u>masters of disguise</u>. When threatened they will freeze with their head pointed upward and cannot be distinguished from a tree branch or stump.



### **Temminck's Tragopan**

Tragopan temminckii

**Class:** Aves

**Order:** Galleiformes

Family: Phasianidae

### **Characteristics:**

Tragopans in general are <u>sexually dimorphic</u>, meaning males and females are different in appearance. The males are by far more brightly colored with black plumage marking the forehead, temples, and bordering a rich, vibrant blue skin. The blue skin on the neck can be expanded to display a wattle-like structure called a <u>gular lappet</u> with a complex array of blues and red. There are also two blue, fleshy horns that can only be seen during the courtship dance. The rest of the plumage of the head and neck is a light orange which changes to a brick red as the viewer scans down the body. The body feathers are marked with dull gray spots. The female's plumage is more for camouflage. Her plumage is mostly covered with browns and blacks with white marking some of her feathers in an almost pattern-like fashion.

### **Behavior:**

Temmincks are somewhat transient when it comes to their location. During the summer, they inhabit the high forests of the Himalayas, but will move down in elevation during the winter. Usually solitary creatures until finding a mate when they form <u>a monogamous pair</u>.

### **Reproduction:**

During the breeding season (March and April) to attract a female, a male will often perform a <u>Courtship Dance</u> which is comprised of unfurling and inflating the wattle-like gular lappet, inflating the two horns, fluffing up the plumage and flapping the wings accompanied by some head movements. If the male is successful in courting, the two will soon be incubating an average of three to five eggs (max 12) for 28 days in a nest built in a tree (which is highly unusual for a pheasant).

### **Diet:**

Wild: flowers, grasses, berries, moss and some bugs Zoo: Soft bill pellets, mixed vegetables, fruits, berries, and meal worms

#### **Conservation:**

Deforestation issues. Population is on the decline, but not at a rapid rate.

### FYI:

-Named after the Dutch naturalist Coenraad Jacob Temminck. -Can be tamed rather easily.



**Range & Habitat:** Forests of the Himalayan Mountains in China, Myanmar, India and Vietnam



**Lifespan:** up to 20 years in captivity, unknown in the wild.

#### **Special Adaptations:**

Sexually dimorphic Male: Inflatable horns and gular lappet



### **Tundra Swan**

### Cygnus columbianus

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

### **Characteristics:**

Also known as whistling swans, tundra swans are large birds with heavy bodies, long necks, and entirely white plumage. The bill is usually black with a yellow spot at the base near the eye. They are slightly smaller than the trumpeter swan.

### **Behavior:**

On water, tundra swans keep their necks up straight and when they fly the neck is outstretched. They forage like a dabbling duck, often dipping their upper body under the water. They group together in flocks, except during breeding at which time they pair-off. During breeding season, they sleep on land and in the winter they sleep on water (<u>Cornell</u>).

### **Reproduction:**

Tundra swans nest on the arctic tundra and both sexes construct a nest on the ground made of a mound of plant material. The nest can be up to two feet in diameter. The female lays up to seven eggs and incubates about <sup>3</sup>/<sub>4</sub> of the time to the male's <sup>1</sup>/<sub>4</sub>. Both parents tend to the young, and may paddle their feet in the water to stir up aquatic vegetation for the cygnets (baby swans). Cygnets usually stay with the parents through the first winter and fledge around 2-3 months (<u>Audubon</u>).

### Diet:

Wild: Plant material (including stems, seeds, and roots), algae and sometimes small invertebrates Zoo: Greens, waterfowl pellets

### **Conservation:**

The population is stable and large enough that hunting is allowed in some areas.

### FYI:

Lewis and Clark were the first to describe the tundra swan in their written documentation during their westward journey. Meriwether Lewis called them <u>"whistling swans"</u> because of their whistle-like call (<u>Cornell</u>).



Range & Habitat: Lakes and ponds



**Lifespan:** up to 20 years in captivity, 10 years in the wild.

**Special Adaptations:** Tundra swans may specialize their eating habits depending on the regions where they live.

### **IUCN Conservation Status:**



### **Turkey Vulture**

Cathartes aura

**Class:** Aves

**Order:** Cathartiformes

Family: Cathartidae

### **Characteristics:**

Except for the grey primary and secondary feathers, the turkey vulture is covered in black plumage. The head and neck are featherless with the skin being either a light pink or red. The nasal cavity is not divided by a septum, allowing for a viewer to look into one nostril and out the other side. The wing span to body mass ratio suggests that they can fly and glide with less energy cost when compared to other vultures (<u>Wallace 2004</u>).

### **Behavior:**

To cool themselves, they will perform urohydrosis (they will urinate on their legs which evaporates, cooling the legs) (<u>Arad et al 1988</u>). Turkey vultures have weak beaks, suggesting that they would prefer softer, decaying flesh. The can sense this decaying flesh via their highly developed sense of smell (<u>Houston 1986</u>). As a defense mechanism against predators or annoying animals, Turkey Vultures can vomit their food up to ten feet (<u>Nature Mapping Foundation</u>).

### **Reproduction:**

Lays 1 to 3 eggs on the ground once a year. Unlike other birds, they are born without downy feathers, but will develop them later. The parents will feed them by regurgitation. The chicks will fledge after two to three months (Howell and Webb 1995).

### Diet:

Wild: Anything dead, eggs, fruit, vegetables and refuse. Zoo: Mice, special bird of prey diet and fleshy bones.

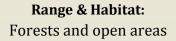
### **Conservation:**

The species population is considered stable, possibly because of laws prohibiting the destruction of these birds.

### FYI:

- There are four to six debated subspecies of turkey vulture (three in the US and Mexico and three in Central and South America), (Palmer 1988).
- Black Vultures can't smell very well so they will follow turkey vultures to kills.
- Turkey vultures are lured in to dead animals via the release of ethyl mercaptan.







**Lifespan:** up to 33 years in captivity, 16.83 years in the wild.

Special Adaptations:

Featherless head; immune to many diseases IUCN Conservation Status: Least Concern

### White-cheeked Turaco

Tauraco leucotis



**Class:** Aves

**Order:** Cuculiformes

Family: Musophagidae

### Characteristics:

The average size of this bird is approximately 16 inches. They are olive green with a darker greenish-blue tail and wings. The underwings are a vibrant red. The crown of the head has a dark green-blue crest. There are white patches on the cheeks and in front of their eyes. Around their dark eyes is a featherless dark orange region. Their beaks are also a dark orange. The green and red feathers contain copper, giving them their colors.

### **Behavior:**

Live in non-migratory flocks of up to 12 individuals. A flock will often have a favored roosting and feeding area. They move from area to area by running along branches. They have <u>calls</u> which they use as a way to locate one another. These birds remain silent and still when predators are near. If they're spotted they will take off flying. Pairs are very territorial with males often chasing away intruders.

### **Reproduction:**

Mostly form monogamous pairs with both mother and father taking turns incubating 2- 3 eggs for a space of 21 to 24 days. When the chicks hatch, the feeding of these offspring becomes a flock affair (<u>Ruppel 1835</u>). Chicks are able to fly after 4 weeks and will decide whether to stay with or leave the group around 6 weeks of life.

### <u>Diet</u>

Wild: Prefer to eat fruits and berries with the occasional insect or small lizard.

Zoo: A variety of fruits and vegetables with hard boiled eggs serving as a proteins source.

### **Conservation:**

Are considered a pest by natives because they feed on crops. Deforestation is also a concern.

### <u>FYI:</u>

- Chicks have claws on the end of their wings to help them cling to branches. They lose these claws when they fledge (<u>National</u> <u>Aviary</u>).
- Key species in seed dispersal



**Range & Habitat:** A variety of forest habitats, including tall, riverside and evergreen. YEMEN CHAD KhartoumO SOMALIA CENTRAL SOUTH SUDAN REPUBLIC angui Mogadis Kampala KENYA DEMOCRATIC Nairobi REPUBLIC OF THE CONGO

**Lifespan:** up to 10-12 years in captivity, 8 years in the wild.

### **Special Adaptations:**

Will shed their major feathers when captured to avoid predation

#### IUCN Conservation Status: Least Concern



### **White-Crested Laughingthrush**

Garrulax leucophus



**Class:** Aves

**Order:** *Passiformes* 

Family: Timaliidae

#### **Characteristics:**

White-crested laughingthrush have a narrow-black strip of plumage starting at the base of the top beak that ends close to the skull-vertebrae junction. The rest of their head, head crest and chest have white plumage. The lower part of the body is covered in a reddish brown plumage. Their tail feathers are black.

### **Behavior:**

These birds are social animals. In these groups, thrushes produce a <u>variety of calls</u> and <u>subsongs</u> used to create cohesion, show excitement, sound the alarm for danger or to instigate <u>mobbing (Cinkansadran 2011</u>).

### **Reproduction:**

There has been no visible courtship ritual; however, it has been observed that formed pairs will often have synchronized calls (Vencl et al 1976). When pairs are formed, they will often raise more than one group of offspring per season. Each group of offspring usually has about 3 to 5 eggs which have an unusually short incubation time of 15 days. The hatchings are then attended to by both parents and by other individuals from the flock in the wild with older offspring possibly playing a role in the rearing as observed in a zoological setting (Round 2006, Young et al 1978). Chicks will fledge after two weeks.

### **Diet:**

Wild: Insects and Fruit Zoo: softbill pellets, fruits, mealworms, insectivore food and mice.

### **Conservation:**

Possible population decline due to habitat loss.

### <u>FYI:</u>

- Most sociable of the laughingthrush family
- Excited calls make them sound like they're laughing.



### Range & Habitat: Himalayan foothill forests



**Lifespan:** up to 20 years in captivity, 15 years in the wild.

### **Special Adaptations:**

Varying vocalizations Group rearing of young

#### **IUCN Conservation Status:**



### White-headed Buffalo Weaver

Dinemellia dinemelli



**Class:** Aves

**Order:** Passeriformes

#### Family: Ploceidae

#### **Characteristics:**

The male and female of the white headed buffalo weaver have dark brown wings with orange to yellowish-orange feathers at the base of their tail and on the back of their hind quarters. With the exception of the black eye-rings around their eyes, their heads and undercarriage are covered in white plumage. Their feet are usual for perching birds, meaning they have three unwebbed toes facing forward with one strong toe oriented backwards. They have strong beaks (meaning they have broad, and tall beaks when considering their body size). These beaks have been observed to go from a dark black to a light dust color during breeding season. <u>Their call</u> seems to be almost electronic.

#### **Behavior:**

Colonies of these birds take advantage of the insects disturbed by the movement of passing by buffalo, giving them their name. These groups are often territorial, males often fending off invading males.

### **Reproduction:**

Both males and females will participate in a <u>courtship dance</u> consisting of partly opened wings exposing the white patches on the bottom of their wings accompanied by bobbing their heads while singing. Elaborate enclosed nests are built in trees. The nests exterior and frame are made with twigs with the interiors lines with grass and other soft materials. These nests usually have one entry tunnel that leads to multiple chambers. 2 to 4 eggs will be incubated by both parents for 14 days. Both parents will also feed their young until they fledge (max. 21 days). At this point the offspring can chose to leave or stay with the colony (<u>aviansag.org</u>).

### Diet:

Wild: Insects and fruits Zoo: pelleted diets, fruit/vegetable mix and insects.

#### **Conservation:**

No current conservation efforts are underway.

#### FYI:

When building their nests, they may steal from the nests of other birds.



Range & Habitat:



Lifespan: up to 20 years in captivity, years in the wild: unknown.

#### **Special Adaptations:**

- Weave elaborate nests



### White-bellied Go-away Bird

Criniferoides leucogaster

**Class:** Aves

**Order:** Cucliformes

Family: Musophagidae

### **Characteristics:**

White-bellied Go-away birds have three different feather colors. White is the predominating color the underbelly and the inner, non-flight feathers of the wings. White also appears as a horizontal stripe on its tail feathers. The rest of the body is predominantly gray with the flight and tail feathers black. The bird is on average 19 inches (50 cm) long and weighs a little under half a pound (480 grams). The male and female bird are different in size (the larger being the female) and in bill color. The bill of a male is gray while the female's bill is green (Beauty of Birds).



### **Behavior:**

White-bellied Go-away birds are weak fliers but are adept climbers. When they do fly, they often glide or make a swooping motion. They often live in non-migratory groups. They communicate within these groups via different calls including alarm calls.

### **Reproduction:**

Two to three eggs are laid and incubated by the mom in a nest made of twigs for 21 – 24 days. After the chicks hatch, the chicks are raised by more than just their parents but also others of their family flock. It appears that this group mentality is essential for the rearing of these chicks since parents by themselves have a lower success rate. The chicks will leave the nest within 10 to 12 days (<u>Riehl 2008</u>).

#### **Diet:**

Wild: Fruits, leaves and seed pods Zoo: varying types of fruits, leafy vegetables and seed

### **Conservation:**

The birds seem to be abundant in their range. The only threat (which is currently minimal) is human encroachment.

### FYI:

-The "go-away" portion of their name is due to their unique call that sounds like its telling an annoyance to "<u>go away</u>." It also has another call that sounds like "<u>gwaa</u>" which is heard when it is surprised or feels threatened.

- These birds can give alerts to not only other go-away birds but also other species via "<u>eaves dropping</u>".



**Lifespan:** up to 28 years in captivity, unknown in the wild.

**Special Adaptations:** 

-Group rearing mentality - A toe 90 degrees from front toes.

### IUCN Conservation Status: Least Concern



### White-faced Whistling Duck

Dendrocygna viduata

**Class:** Aves

**Order:** Anseriformes

Family: Anatidae

<u>Characteristics</u>: The white-faced whistling ducks are named for their white colored face and there <u>three-whistle call</u>. These ducks also have a white patch on the throat. The top of the head and neck are black. Their breast is a reddish chestnut brown color. (<u>Oregon Zoo</u>) The back and wings are dark brown to black with the flanks having white barring on black. They have a long grey bill, long neck, and long legs. The legs and feet are a bluish grey color (<u>Beauty of Birds</u>). The average length of a white-faced whistling duck is 16 inches, and average weight is 1.5 pounds.

**Behavior:** This whistling duck is active mostly at night. They live in large flocks of sometimes thousands of birds. The white-faced whistling duck feeds by <u>wading, swimming, or diving (Arkive</u>). The triple note "whee-whee" call of the white-faced whistling duck is used as communication for these birds in a variety of situations. These ducks are excellent walkers, swimmers, and flyers. (<u>Sacramento Zoo</u>)

**Reproduction:** The white-faced whistling ducks usually build their nests on the ground in covered areas. (WAZA) Before breeding, they will perform several different mating displays. The most important in pair formation being mutual preening. Both parents will incubate the 6-12 eggs for 26-28 days. The ducklings can feed themselves after just one day and will leave the nest after 8 weeks. The ducklings will reach sexual maturity at just one year old (Sacramento Zoo).

<u>Diet:</u> Wild: Aquatic vegetation, seeds, rice, mollusks, crustaceans, and aquatic insects (<u>Sacramento Zoo</u>) Zoo: Flock raiser pellet, grains, greens, and oyster shell

<u>Conservation</u>: According to the <u>IUCN Redlist</u> of endangered species, the white-faced whistling duck is of least concern. This species has an extremely large range, covering two continents, and the population size is also over 1.7 million individuals. The population trend for this species is at an increase even though they are hunted locally and a highly susceptible to avian diseases.

**<u>FYI</u>**: The nine different species of whistling ducks each have their own unique call.



Range & Habitat:

Generally found on freshwater lakes or reservoirs. They have a large range of tropical South America, Panama, Costa Rica, central and eastern Africa, Madagascar and the Comoro Islands



**Lifespan:** up to 15 years in captivity, unknown in the wild.

**Special Adaptations:** This duck freezes in a tall, erect posture when alarmed.



# Class: Mammalia

 Mammals have hair, feed their young milk, have a four-chambered heart and three inner ear bones

## African Lion

#### **Class:** *Mammalia*

**Order:** Carnivora

<u>Characteristics:</u> Females average 4.5 to 6 feet (1.4 to 1.7 meters) long; males are 5.5 to 8 feet (1.7 to 2.5 meters) long – not including the tail. Weights range from 270 pounds to 400 pounds for females and males from 325 to 570 pounds. Males are identified by longer hair around the head, neck and shoulder (mane) whereas females have shorter fur.

**Behavior:** Lions are unusually social compared to most cats and live together in groups called "prides." The average pride is 13 cats but can range anywhere from 2 to 40 individuals. A pride consists of one to three males with several females and young. Females are the primary hunters and will often work together to take down prey (<u>National Geographic</u>). Lions (especially the males) spend upwards of 16-20 hours per day sleeping.

**Reproduction:** Lions actively breed year-round. Gestation is about 120 days. There are usually two cubs in a litter but as many as four is not uncommon (National Geographic). They breed within the pride, and if a new male challenges and overcomes an established male, the new male will often kill the pride's cubs and immediately breed with the females, most likely to establish his own genetic lineage (BBC).

**Diet:** Wild: Lions hunt mostly zebra, antelope and wildebeests but will eat anything they can catch and kill. They are also known to scavenge, displacing such animals as hyenas from their kills. Zoo: Feline diet, bones

<u>Conservation:</u> Current populations are decreasing due to indiscriminate killing (human and livestock protection), conflict with ranchers, prey depletion, loss of habitat, use of body parts in traditional medicine and trophy hunting. Disease, particularly diseases from domesticated animals such as dogs, has also had a population impact. Overall, IUCN lists the lion as Vulnerable as its status varies by region. In South Africa, their numbers are greater whereas in West Africa and India, the lion is considered critically endangered or endangered, respectively. Overall, the population is trending downward (<u>IUCN</u>). In fact, in December, 2015 U.S. Fish and Wildlife Service listed the subspecies of the western African lion as endangered (<u>African Wildlife Foundation</u>).

**FYI:** A lion's roar is used to communicate with its pride and to warn of intruders in their territory and can be heard up to five miles away (<u>Lincoln</u> <u>Park</u>).



### Family: Felidae



Range & Habitat: Grassland, scrub and open woods of sub-Saharan Africa



**Lifespan:** up to 30 years in captivity, 15 years in the wild.

**Special Adaptations:** Males have the large mane to impress the females and to intimidate rival males.



### **African Pygmy Hedgehog**

Ateleric albivensis

**Class:** Mammilia

**Order:** Erinaceomorpha

Family: Erinaceidae

<u>Characteristics</u>: Length: 6-8 inches; Wt: 18-25 ounces. Females larger than males. Long, pointed pinkish-brown snouts, dark noses; round, dark eyes; oval brownish ears; short, white hair on brows, cheeks, and bellies and ½-1 inch long, un-barbed spines on back and sides. Reasonably good eyesight with some degree of color vision but depend more on excellent hearing and sense of smell that can detect prey 2 inches or more below ground.

**Behavior**: Solitary and territorial. Forages at night. Returns to burrow during day. Aestivates (becomes dormant) and lives off stored fat during dry season when insects are scarce. Shelters in logs, roots, brush piles, burrows, termite mounds. If endangered, rolls into a ball, tenses muscles and draws spiny coat together with head, belly and feet tucked inside. Chirps, chuffs, hisses and growls. Screams if hurt or frightened. Self-anoints by spreading foamy saliva over spines. Like porcupines, they jab their spines into predators as a defense mechanism. Unlike porcupines, hedgehogs will retain their quills.

**<u>Reproduction</u>**: Females ovulate during the rainy season when food is abundant. Male courts by running around female in circles, twittering, growling, and snorting. After 30-40 days gestation and after hibernation, 3-4 blind young are born weighing about 0.35oz. Spines are soft & white at birth hardening after a few days. Eyes open in 8-18 days; rolls up at 2 weeks; stops nursing at 40-45 days. Sexually mature at 60 days and will leave mom and siblings shortly after.

### **Diet:**

Wild: worms, snails, arthropods, frogs, lizards, snakes, eggs, nestling birds, small mammals, carrion, fruits, seeds, peanuts, fungi, roots. Zoo: Ferret Food and wax worms.

<u>Conservation</u>: Not currently protected although low reproduction and pet trade are major threats. Due to their popularity as pets, collecting them from the wild is no longer allowed. Due to their extensive range and stable wild population, the species holds no particular conservation status. Predators: Verreaux eagle, owls, honey badgers, jackals, wild dogs.

FYI: AKA Four-toed hedgehogs with 4 toes on back feet, 5 on front.



Range & Habitat: Eastern and Central Africa in rocky hillsides or outcrops in arid scrub

and savanna.



**Lifespan:** up to 10 years in captivity, 3 years in the wild.

**Special Adaptations:** standard defensive reaction is to tense up all the muscles on its back to cause its spines to stand erect, and then roll into a ball protecting its limbs and head Info.

**IUCN Conservation Status:** Not Evaluated



### Alpaca

### Vicugna paco

**Class:** Mammalia

**Order:** Artiodactyla

Family: Camelidae

### **Characteristics:**

Alpacas are the smallest of the domestic South American camelids. Alpacas are slender in appearance with either a thick, tight, curled hair on the body with shorter hair on the legs or thick non-curly hair. They can have up to 22 different colors in their coats (FABA). The hair is very soft and silky, most likely <u>artificially selected</u>. Their teeth are similar to camelids, meaning they lack front, upper teeth (incisors) but have a strong upper gum (<u>Alpacas of Montana</u>).

### **Behavior:**

Alpacas are social animals, living in large groups of up to 20 individuals. They communicate using a variety of calls. They often show frustration with higher toned calls and may spit on those they see as threatening or annoying. Alpaca herds will excrete waste products in one central location.

### **Reproduction:**

Alpacas are induced ovulators, meaning that the act of copulation will cause the ovary to release an egg 24 hours afterwards. The female is no longer receptive to the male when ovulation occurs. Gestation can last anywhere between 240 to 360 days. Most of the time, the female will give birth to one cría (Spanish for baby animal) during the rainy season.

### Diet:

Wild: Grasses and Woody shrubs Zoo: Hay and access to salt licks

### **Conservation:**

Llamas and alpacas can interbreed. Since alpacas and llamas are often found together, there are worries that the pure alpaca breed might be lost to hybrids.

### FYI:

- Based on mitochondrial DNA, alpacas were domesticated from vicuñas while llamas were domesticated from guanacos (<u>Kadwell et al 2001</u>).

- Crías have been known to wonder the herd and try to nurse from other females. They either respond by allowing it, walking away, or spitting on the young.



**Range & Habitat:** No established wild populations of alpacas.



Found in the high mountains of Peru and Bolivia.

**Lifespan:** up to 20 years in captivity, 5 years in the wild.

Special Adaptations: Valued for thick wool.

IUCN Conservation Status: Not Evaluated



### Amur Tiger Panthera tigris altaica

#### **Class:** *Mammalia*

**Order:** Carnivora

<u>Characteristics</u>: Amur tigers are the largest living feline species. They can measure up to 12 feet in length and weigh up to 900 pounds. The average Amur tiger is around 600 pounds and 9 feet long. Tigers are very well known for their orange coat with vertical black stripes. The belly, chest, throat, some areas of the eyes and cheeks, and underside of the limbs are all white. Tigers have short, thick necks, broad shoulders, massive forelimbs, and long retractable claws. These make the tiger a very powerful animal. They have a very strong bite due to their enlarged <u>sagittal crest</u>, where the jaw muscles attach (<u>Animal Diversity</u>).

**Behavior:** Amur tigers are generally solitary animals, preferring to live alone except to breed. They maintain very large territories using <u>scent marking</u> (<u>National Geographic</u>). These tigers <u>hunt</u> mostly at night and stalk their prey from behind dense cover. These large cats are amazing <u>runners</u>, climbers, and swimmers (<u>Lincoln Park Zoo</u>).

**Reproduction:** Solitary males will seek out females in estrus and may need to compete with other males for access. The gestation period for the Amur tiger is 103 days (Pittsburgh Zoo). The female gives birth to 1-7 cubs, 2 or 3 on average, in a den. Females raise the cubs with little or no help from the male (National Geographic). Newborn cubs are blind and helpless. The eyes and ears open from 6-14 days after birth. The cubs are weaned at 90-100 days old, but cannot hunt on their own until they are about 18 months old. The cubs will stay with the mother until they are 1.5-3 years old (Animal Diversity).

<u>Diet:</u> Wild: various large ungulates and other mammals including; deer, elk, water buffalo, elephants, sloth bears, birds, leopards, crocodiles, fish, and rarely humans (<u>Animal Diversity</u>). Zoo: meat and bones.

<u>Conservation</u>: The Amur tiger is listed as endangered according to <u>IUCN</u>. In the 1930s the population was as low as 20-30 Amur tigers. The population has now bounced back to around 400 individuals in the wild and is considered to be stable. Poaching of Tigers as well as their wild prey species is considered to be driving the decline. The genetic variability of this species is also very low and the population could be susceptible to diseases. Idaho Falls Zoo participates in the SSP for Amur tigers.

**<u>FYI</u>**: Just like fingerprints of humans, a tiger's stripes are individual to each animal (<u>Pittsburgh Zoo</u>).



### Family: Felidae



Range & Habitat: Amur tigers inhabit mixed deciduous and coniferous forests in mountain areas. They are found mostly in eastern Russia in the



**Lifespan:** up to 25 years in captivity, 8-10 years in the wild.

**Special Adaptations:** Amur tigers have a rough tongue to peel off the skin of prey animals. It is also helpful in peeling flesh from bone.



### **Bactrian Camel**

### Camelus bactrianus/domesticus

**Class:** Mammalia

**Order:** Artiodactyla

Family: Camelidae

### **Characteristics:**

Bactrian camels have two large humps on their back, opposed to <u>Dromedary camels</u> that only have one hump. Camels have long, curved necks. Bactrian camels stand about 6 ft. tall at the shoulder and can weigh up to 2,000 lbs. They have large, broad feet that are cushioned by fat for walking on sand, snow, and rocky terrain. These camels have long, dark hair in cold weather, and molt annually. (<u>San Diego Zoo</u>)

### **Behavior:**

Bactrian camels are social animals that live in small groups of 2-15 individuals. Groups often consist of one male and many females (harem). In the wild, camels will gather near sources of water. Bactrian camels are often friendly and are easy to domesticate for use in transport and riding. Males can easily carry over 400 lbs. Males can be aggressive during breeding season and will defend harem against other males. Camels can run up to 40 mph in short bursts, if threatened.

### **Reproduction:**

Camels become sexually mature around 5 years of age. Males will usually go into rut in the cool, wet season. Females will be receptive for 3-4 days. Gestation is 12-14 months. Female gives birth to a single, <u>precocious</u> calf that can walk shortly after birth. The calf will weigh between 75-100 lbs. depending on the size of the parents.

#### Diet:

Wild: Grasses, leaves and twigs of shrubs and trees, all desert plants Zoo: Hay, herbivore biscuits, browse from trees, pinecones (locally)

#### **Conservation:**

The Bactrian camel is an <u>IUCN Red List</u> species listed as critically endangered since 2002. There are approximately 950 individuals in the wild. That number is expected to decrease 80% in the next 45 to 50 years due to hunting, predation, and mating with genetically different, domestic populations.

### <u>FYI:</u>

Camels have very long eyelashes and ear hairs to protect from blowing sand. The <u>nostrils</u> are also capable of sealing shut to keep out sand. A thirsty camel can drink up to 200 liters (52 gallons) of water in one day.



Range & Habitat: Found in the Gobi and Gashun Gobi deserts of China and Mongolia. Regionally extinct in Kazakhstan.



**Lifespan:** up to 50 years in captivity, 40 years in the wild.

**Special Adaptations:** Camels store body fat in their humps. It is a common misconception that water is stored in a camel's humps. Camels have adapted to live in temperatures of -40°F to +120°F.



### **Barbados Blackbelly Sheep**

**Ovis** aries

### **Class:** Mammalia

**Order:** Artiodactyla

Family: Bovidae

<u>Characteristics</u>: Barbados Blackbelly Sheep are polled (horns bred out of the species). The hair is a rusty brown on its back, hindquarters and head. Black is also found on the underbelly, along the throat, the inner legs, above the eyes and below the chin. Males tend to have longer hairs along their throat and possibly on their shoulders. The hair is not considered a wool. The face is proportional to the body. The bridge of the nose is high set, giving rise to a quick slant downward towards the nostrils (aka Roman nose) (<u>Oklahoma State University</u> see also breed standards).

**Behavior:** The species is considered weather robust, but mostly because of their behaviors. Flocks will often seek shelter in temperatures wooly sheep species don't. These sheep are considered relatively active and protective. Ewes with young will often vigorously defend their young against predators. However, even ranged Barbados sheep are relatively docile when interacting with humans (Oklahoma State University).

**Reproduction:** This sheep species is highly proliferative, having an average of two ewes per parturition. They also naturally breed more than once per year as opposed to other sheep that are seasonal. The mortality rate of lambs is also lower when compared to other sheep. The lambs are sexually mature by seven months (Hair Sheep of Tropical America).

<u>Diet:</u> Wild: Grasses, grains and some shrubs Zoo: hay, herbivore pellets and access to salt lick.

<u>Conservation</u>: As of 2007, there are fewer than 300 pure breed individuals left in the US. Some breeders are working on preserving the purity of the species (<u>livestockconservancy.org</u>).

### <u>FYI:</u>

-Origin story: In the 1600s, the Barbados black-belly was created via a hybridization of a short-haired African sheep species that came with the slave trade and a prolific Northern European wooly sheep species. The African species fell into disfavor because of its low reproductive rates. The European sheep died out because the thick wool was disadvantageous in Barbados's tropical climate and prime grounds for parasites (<u>Combs 1983</u>).

- Bred mostly for its high prolific rates and meat (<u>Oklahoma State University</u>).

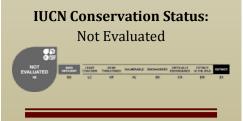


Range & Habitat: Found around the world, but the origin is Barbados. Prefer tropical climates.



**Lifespan:** up to 13 years in captivity, unknown years in the wild.

**Special Adaptations:** resistant to parasites, high proliferation rates



### Eastern Black-and-white Colobus (Guereza)

### Colobus guereza

Species Survival Plan

**Class:** Mammalia

**Order:** Primates

Family: Cercopithecidae

<u>Characteristics</u>: The eastern black-and-white colobus is a large monkey with long black fur and a u-shaped portion on the sides and back of long, white fur. Their body size ranges from 17 to 28 inches tall. The tail is also long and white. The tail is longer than the head and body combined at a length of 20-40 inches. (<u>Primate Info Net</u>) The monkey's face has a white ring around the eyebrows, chin, and cheeks. These colobus monkeys weigh 11-31 pounds and are one of the larger monkeys found in the range. The males weigh up to 1.19 times more than the females of the species. (<u>Animal Diversity</u>) This colobus monkey has a long thin nose and slightly drooped eyes which some people think give them a sad appearance.

**Behavior:** Guereza colobus monkeys live in small groups of 3-15 individuals. The group is normally one male and several females and juveniles. The eastern black-and-white colobus is most active during the day and sleeps during the night. While awake, they are feeding, socializing, and moving about in the canopy. (<u>Minnesota Zoo</u>) These monkeys communicate mostly through <u>vocalizations</u> between males of different groups. (<u>Arkive</u>)

**Reproduction:** Females of the species reach sexual maturity at 4 years of age, while males reach maturity at 6 years of age. The female will initiate sexual behavior with tongue smacking. The female can produce one young every 20 months. There is a 6-month gestation period for each young. At birth, the infant immediately grasps to the mother's stomach. (Encyclopedia of Life) The infants are completely white in color with pink faces as opposed to the black with white of the parents. (Hogle Zoo)

<u>Diet:</u> Wild: Primarily leaves and fruit. They get almost their entire water supply from dew and moisture of their diet, and water held in tree cavities. Zoo: Greens, leaf eater biscuits, vegetables, and fruits

<u>Conservation</u>: This species is listed by <u>IUCN Redlist</u> as least concern. Not much is known about population trends for the Colobus guereza, but the species is locally threatened in parts of its range. Major threats to the population include habitat loss and hunting. The Eastern Black-and-white Colobus is an SSP species.

### <u>FYI:</u>

Natural predators of these large monkeys are crowned hawk eagles, leopards, and chimpanzees.



Range & Habitat: The guereza has a central African distribution, extending from Nigeria, Cameroon and Gabon, across to Ethiopia, Kenya and Tanzania. They prefer forested habitats in a variety of climates.



**Lifespan:** up to 35 years in captivity, 20 years in the wild.

**Special Adaptations:** This monkey has adapted to have no thumb. The guereza has only four digits to easily swing on branches.



### **Long-tailed Chinchilla**

Chinchilla lanigera

### **Class:** Mammalia

Order: Rodentia

Family: Chinchillidae

<u>Characteristics</u>: Body length 8 ½ -15 in. Tail Length 3-6 in. Sexually dimorphic- female 800g; male 500 g. Black-tipped fur, dense and soft – 60 hairs per follicle, more than any other mammal. Thick fur prevents water and heat loss. Tail furry with coarse hair. Head broad; external, large ears; black eyes; cheek pouches. Fore and hind foot have four digits with stiff bristles around weak claws. Excellent hearing helps to detect predators and long tail provides balance for high-speed escapes. Grasping forelimbs and sharp nails make for agile climbing. Endothermic.

**Behavior:** Very Social. Have lived in colonies of over 100. Sit erect and hold the food in forepaws while eating. Can be hand-tamed to play and interact with owner. Primarily nocturnal with crepuscular activity peaks. Midday sun generally too hot but have been observed on sunny days sitting in front of holes, climbing and jumping on the rocks with amazing agility. Excessive heat escapes through large ears. Do not drink water but obtain it from dew on plants. Whiskers help navigate through cracks and fissures. Will express threats through growling, chattering teeth, and urination.

**Reproduction:** Opportunistic breeders. As the dominant sex, females very aggressive during estrus. Breeding season is six months depending on hemisphere. 2-3 litters per year. After 112 days gestation, 2-4 precocial young, born fully furred with eyes open, will nurse 7-8 weeks, eat solid food at 2 weeks and mature sexually by 6 months.

#### Diet:

Wild: Birds eggs, insects, leaves, grains, nuts Zoo: Commercial Chinchilla Chow.

<u>Conservation</u>: Critically endangered; only 10,000 left in wild. In addition to habitat destruction, although protected by law hunting for fur continues. Attempts at reintroduction into the wild have failed. Commercially bred animals are in no danger.

**FYI**: AKA Chilean, coastal, common, or lesser chinchilla Considered to be the most valuable pelt in the world selling for as much as 100,000.



Range & Habitat: Rocky crevices and holes in barren, arid mountains of northern chili.



**Lifespan:** up to 8-10 years in captivity, 1-5 years in the wild.

**Special Adaptations:** Adapts to poor eyesight by forming mental maps of the environment remembering fastest routes to safety.

IUCN Conservation Status: Critically Endangered

### **Cotton-Top Tamarin**

Saguinus oedipus



Species Survival Plan

### Family: Callitrichidae

<u>Characteristics</u>: Small bodies with long white hair on the crown of their head. The hair usually reaches down to the shoulders. Their face is almost bare, but are marked with very fine white hairs. Their backside is a brownish-gray and their fronts and arms are white. The tail is large and covered in the same brownish grey as the back, but gives way to a very dark brown towards the tip.

**Class:** Mammalia

**Behavior:** Cotton top tamarins are quadrupeds that live in groups of up to 13. They rarely leave the trees unless foraging amongst fallen leafs. Because they live among thick foliage, they have to primarily communicate via a complex array of sounds and scents.

**Reproduction:** There's usually one and sometimes two breeding pairs in a group. Pregnancy lasts about 6 months. The rest of the group help raise the young. This group is primarily composed of multigenerational siblings while secondarily being populated by migratory adults. If the dominant female is removed, the next oldest female becomes fertile (<u>Histerman et al 1987</u>). If a subordinate female is removed and placed with an unrelated male, she becomes fertile (<u>Ziegler et al 1987</u>). These subordinate individuals, whether old or young, male or female, can leave in hopes of forming or joining a new group (<u>University of Wisconsin</u>).

<u>**Diet:</u>** Wild: Insects and fruits with the occasional lizard (<u>University of</u> <u>Wisconsin</u>)</u>

Zoo: Marmoset diet, apples, kale, mixed vegetables, grapes and berries

**Conservation:** As of 2008 it is considered critically endangered (<u>IUCN</u> redlist). More than three fourths of its original habitat have been cut down (<u>waza</u>). They are also being captured for the illegal pet trade.

### FYI:

- In Colombia, if a child is being unruly or demanding, the parents will tell them not to be a tití or a bichichi. Spanish names for the cotton top tamarin.
- Sample of calls are found here (<u>University of Wisconsin</u>).
- When a group of tamarins comes into contact with another group, instead of physically fighting they will show their rear ends as a territorial display (<u>Pittsburgh Zoo</u>).



Range & Habitat: Dry deciduous and second growth forests. Live mostly in the understory



**Lifespan:** up to 24 years in captivity, 13 years in the wild.

**Special Adaptations:** Communicate mostly by sound and smell (<u>Snowdon et al 1982</u>)

### **IUCN Conservation Status:** Critically Endangered



### De Brazza's Monkey

Cercopithecus neglectus



#### **Class:** Mammalia

**Order:** Primates

Family: Cercopithecidae

<u>Characteristics</u>: De Brazza's monkeys are gray with black extremities and tail. They have a round head, with a long white beard, white muzzle, and a distinct orange crown. The thighs and rumps have white stripes. Legs are long, and the tail is non-prehensile. (<u>Arkive</u>) Male De Brazza's monkeys have a distinct blue scrotum. These monkeys are <u>sexually dimorphic</u> in size with the females weighing about 7 pounds less than the males. Males of the species weigh around15 pounds. They range in size from 15-25 inches in length. (<u>Animal Diversity</u>)

**Behavior:** These monkeys are known to be shy and inconspicuous. De Brazza's monkeys live in trees, but are commonly found in the <u>understory</u> near the ground rather than up in the canopy. They live in <u>polygynous</u> family groups of 8-10 individuals, but in some cases may live in smaller <u>monogamous</u> families. De Brazza's monkeys communicate through visual and <u>vocal signals</u> and mark their territory with saliva and scent markings and will protect their territory aggressively against other monkey species. (<u>Encyclopedia of Life</u>)

**<u>Reproduction</u>**: De Brazza's monkeys reach sexual maturity at 5-6 years old. There is a gestation period of 5-6 months. (<u>Lincoln Park Zoo</u>) The female will give birth at night to a single offspring. Twins are rare in the species. The infant will immediately cling to the mother after birth. (<u>Oregon Zoo</u>) The young are fully dependent on the mother for one year after birth.

#### **Diet:**

Wild: fruit, leaves, flowers, mushrooms, beetles, termites, and worms Zoo: Leaf eater biscuit, eggs, fruits, greens, and vegetables

<u>Conservation</u>: De Brazza's monkey is listed as least concern by <u>IUCN</u> <u>Redlist</u>. They are the most widespread forest monkey in Africa. There are some localized declines taking place across the range through deforestation of habitat for agricultural land and timber. It is also hunted for meat and as an agricultural pest. De Brazza's monkeys are an SSP species in breeding facilities throughout the country.

**FYI:** Named for Pierre Savorgnan de Brazza, an Italian explorer originally named Pietro Savorgnan di Brazza. The word guenon is French for "fright," referring to their tooth-baring grimace made when angry or excited.



Range & Habitat: Forested regions close to rivers and waterways, including dense swamp forest, lowland tropical forest, and low mountain forest.



**Lifespan:** up to 30 years in captivity, 20 years in the wild.

#### Special Adaptations: De Brazza's

monkeys freeze as a defense mechanism. They also have cheek pouches which allows them to store food while foraging and eat it later.





### **Domestic Ferret**

### Mustela putorius furo

### Class: Mammalia

Order: Carnivora

Family: Mustelidae

<u>Characteristics</u>: L. 13-16 in. Wt. max 5lbs. Long, slender body; short legs; black mask across eyes. 5 non-retractable 27 inch long claws per paw; 34 large canine teeth. . Sexually dimorphic - male larger. 7 fur colors- sable most common. Very high metabolism - eats about 10 times a day. Subject to distemper, rabies, parasites, diarrhea, colds and flu. An Albino, a characteristic favored by captive breeders, is easily picked out by predators because of poor camouflage.

**Behavior:** Crepuscular –sleeps 18 hrs a day. Playful and fastidious. Can be trained to litter box, Will interact with cats, dogs or other animals. Inquisitive, likes to tunnel under anything. Seeks attention and responds to discipline. Likes to dance, wrestle, stalk, roll, bite and kick playfully, hopping in every direction. May cluck, screech, bark or hiss. Will hunt rabbits and other small game if used for ferreting. Have been known to kill pet birds.

**<u>Reproduction</u>**: During breeding season (March to August) male will mate with as many females as he has access to. Up to fifteen 6-12 gm kits, born altricial after 42 day gestation, are weaned at 3-6 weeks and reach sexual maturity at 6 months. At this time breeders let the kits go to new owners. Males do not participate in care. Reach adulthood at 1 year.

<u>Diet:</u> Wild: Strictly carnivore diet. Rodents, rabbits, reptiles, birds. Zoo: Commercial ferret food or cat food.

**Conservation**: Domestic ferrets, as common pets, are in no danger of extinction. The wild Black-footed Ferret was once thought extinct but has been located and reintroduced in Wyoming and is thriving.

**FYI:** Domesticated from European polecats 2000 years ago. Mustela putorius furo (Latin) means "weasel-like stinky thief." Sometimes used for hunts known as "ferreting." Can carry or cause domestic animal disease if not vaccinated. Male called a "hob;' female, a "jill."

Range & Habitat: Formerly European forests. Now found worldwide as a popular pets or working animals.

**Lifespan:** up to 6-10 years in captivity. Unknown in the wild.

### **Special Adaptations:**

Have been used successfully for research. Can be bred for a large variety of colors and patterns.

**IUCN Conservation Status:** Not Evaluated



### **Domestic Rabbit** Oryctolagus cuniculus domestic

### Class: Mammilia

**Order:** *Lagomorpha* 

Family: Laporidae

<u>Characteristics</u>: Wt. 2-20lbs (9 kg). Males heavier and taller than females. Vary tremendously in length, fur type, coloration and general appearance. Long ears; prominent eyes on sides of head; strong hind legs for locomotion and warning thumping. Sweat glands on front paws. Can adjust angle of hair to control amount of air through fur for warming or cooling. Front teeth grow duration of life.

**Behavior**: Live in colonies in complex burrow systems (warrens). Spend days underground foraging from evening until morning. Constantly alert, prepared to run from predators. Sociable and generally silent except for loud shriek or scream when terror stricken. A colony consists of 6-10 adult of both sexes; the strongest dominant male and dominant female preside over colony.

**<u>Reproduction</u>**: Breed 3-5 times yearly from January to June. Prepares underground nest of straw, vegtation and fur. After 28-31 days gestation 2-12 "kits" are born blind at birth with litle hair. Largest litter on record is 23 bunnies. Kits develop rapidly, eyes opeing after 12-14 days. Eat solid food and drink water in 3 weeks. Stop nursing about 6. Can reproduce at 6 months.

<u>Diet</u>: Wild: Fungi, plants, roots, tree bark, fruit, snails, worms. Zoo: Rabbit pellets.

**Conservation**: Currently no domestic breeds of rabbits are endangered because of popularity as pets and food. However, the IUCN lists at least 13 species of rabbits and hares as endangered, threatened or vulnerable.

### <u>FYI:</u>

-All domestic rabbits descended from the wild European Rabbit.

- -There are at least 45 distinct breeds of domestic rabbits.
- The largest warren known (2,080 entrances) contained 407 rabbits.

-Rabbits are more closely related to cattle and deer than they are to rats or squirrels.

-Rabbits provide benefits to some species with their burrowing helping new plants take root, providing shelter for other animals and providing good fertilizer with their feces.



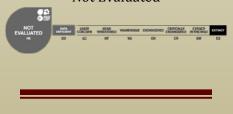
Range & Habitat: Every continent except Asia and Antarctica in dry areas near sea level with soft, sandy soil for burrowing, in grassy fields, or in forests.



**Lifespan:** up to 12 years in captivity, 6-8 years in the wild.

**Special Adaptations:** Small, flexible, fast moving, reproduce at rapid rate in large numbers, eat a variety of food.

**IUCN Conservation Status:** Not Evaluated



### Goeldi's Monkey (Callimico)

Callimico goeldii



### Class: Mammalia

**Order:** Primates

<u>Characteristics:</u> Goeldi's monkeys are very small primates. They are approximately the size of a squirrel. These monkeys are very dark in color, ranging in shades of black and brown. They have a mane-like appearance with longer fur near the head and neck. The Goeldi's monkeys have claws on all of their digits except the second. These small primates weigh only 22oz on average. They have a body length that is in the range of 8-12 inches. The non-prehensile tail is usually longer than the body. (Primate Info Net)

**Behavior:** The Goeldi's monkey lives in small family groups usually consisting of a breeding pair and other family members. These groups will grow up to 10 individuals in size. They are very social animals and will spend a great deal of time grooming and communicating with <u>vocalizations</u>, scent, facial, and body language. (<u>Animal Diversity</u>) This monkey forages in the understory of the forest and rarely goes up into the canopy. They are very agile and can <u>leap</u> up to <u>13 feet</u> between branches! (<u>Arkive</u>)

**Reproduction:** In the wild, mating occurs during the wet season of September through November. Females have a gestation of 145-152 days. The female will give birth to a single young twice a year. The mother will care for the newborn for 10-20 days, then the rest of the family group will assist the mother. The young Goeldi's monkey can forage and move by itself around seven weeks of age. Both males and females reach sexual maturity between 18 and 24 months old. (Encyclopedia of Life)

### **Diet:**

Wild: Fruit, insects, and small vertebrates (<u>Lincoln Park Zoo</u>) Zoo: Marmoset diet, fruits, vegetables, and greens

<u>Conservation</u>: Goeldi's monkey is currently listed as vulnerable by <u>IUCN</u> <u>Redlist</u>. There are no major threats immediately, but the area is in danger of becoming threatened due to development projects and logging in the rainforest. These marmosets are a yellow level SSP animal.

**FYI:** Predators of the Goeldi's monkey are bush dogs, coatis, tayra, puma, snakes, and birds of prey.

Goeldi's monkey is named after Emil August Goeldi, a Swiss zoologist and professor who lived and worked in South America.

Family: Callitrichidae



Range & Habitat: Upper Amazonian rainforests of southern Colombia, eastern Ecuador and Peru, western Brazil, and northern Bolivia.



**Lifespan:** up to 22 years in captivity, unknown in the wild.

**Special Adaptations:** Callimicos will live in groups with other species including tamarins, pygmy marmosets, capuchins, and other small to medium sized monkeys. This enables them to travel further and find more food.



### Grant's Zebra Equus quagga boehmi

**Class:** *Mammalia* 

**Order:** Perissodactyla



**Family:** Equidae

**Behavior:** Zebras are social animals that live in large <u>herds</u>. The herds migrate, graze, and even groom together. Plains zebras live in smaller family groups within the herd consisting of one male and several females with their young (<u>National Geographic</u>). Zebras are constantly wary of predators like lions or hyenas. The herd will adjust its speed to accommodate slower individuals and come to the aid of a zebra that is wounded.

**Characteristics:** Grant's zebras are a common subspecies of plains zebras. There are 6 distinct subspecies of plains zebra, but none are genetically different from the others. (IUCN) Zebras are best known for their unique striped pattern with black or dark brown and white or off-white colors. The stripes of a Grant's zebra cover the entire body including the legs and face. The mane is short and stands straight up. Grant's zebras can be up to

5 feet tall at the shoulder and weigh up to 800 lbs. (Buffalo Zoo)

**Reproduction:** Plains zebras reach sexual maturity from 2-3 years of age. There is a 340-390 day gestation period in captive breeding programs. The female will give birth to a single foal. The foal is <u>precocious</u> and can <u>run</u> within an hour of birth. The mothers are very protective for the first few weeks to ensure that the foal does not <u>imprint</u> on another individual or large object (<u>Princeton</u>).

### Diet:

Wild: Zebras are grazers and feed almost entirely on tall grasses (<u>Buffalo</u> <u>Zoo</u>).

Zoo: Hay and an adult/senior equine pelleted grain supplement

<u>Conservation</u>: Plains Zebras are abundant in Africa and breed particularly well in captivity. <u>IUCN Redlist</u> has Plains Zebras listed as least concern. There is a SSP breeding program for plains zebras. The zebra population is declining. Habitat loss and over-hunting are the main factors contributing to population decline. Two species of zebra are already extinct due to human factors.

**FYI:** A zebra's stripes are different for every individual, just like a human fingerprint. A foal can even identify its mother by her stripe pattern.

Range & Habitat: Found in parts of Zambia, DR Congo, Tanzania, Uganda, Kenya, Ethiopia, and Somalia. They live in mostly

grassland habitat.



Lifespan: up to 30 years in captivity, 20 years in the wild.

**Special Adaptations:** Zebras have striped fur in a <u>disruptive coloration</u> pattern. The stripes make it hard for predators to distinguish one individual from another, especially at dawn and dusk.



### Guanaco

### Lama guanicoe

### Class: Mammalia

### **Order:** Cetartiodactyla

<u>Characteristics</u>: The guanaco is the largest wild member of the camelid family in South America. Guanacos have a long slender neck, and thin long legs. Their thick wool coat is light brown or tan on top of the body, and white on the underbelly and legs. The head is a grey of black color but the lips and ears are white. Guanacos, like other camelids have large pads on the soles of their hooves. The pads help the guanaco to maneuver on rocky terrain. Guanacos measure in at 43-45 inches tall at the shoulders, or less than 4 feet. (<u>Arkive</u>) This camelid can weigh up to 265 pounds. (<u>San Diego Zoo</u>)

**Behavior:** Guanacos tend to live in herds or social groups throughout the year. During the breeding season the groups are broken up into family groups, male groups, and small solitary male groups. The family groups consist of one male with several females and young. In winter, females may leave to form female herds or they may remain in large mixed-sex herds of 500 individuals. Guanacos communicate visually and through vocalizations, especially <u>alarm</u> calls to warn of danger. Odor is also important for the males to mark their territory with dung piles. The males use their enlarged canines to chase, bite, and ram <u>opposing males</u> and intrusive <u>predators</u>. Another defense mechanism in guanacos is spitting up to 6 feet away from itself. (<u>Animal Diversity</u>)

**Reproduction:** Females can wait to become pregnant until environmental conditions are right. Guanacos have an 11 month gestation period and give birth to a <u>single young</u> every year. The newborns weigh only 33 pounds and can stand immediately after birth. (Encyclopedia of Life) Baby guanaco are called chulengos or guanaquitos. (San Diego Zoo) Infants will follow the other everywhere as soon as it can walk. The babies will only nurse for a few weeks after birth, then begin to forage. By 8 months of age, they are eating only solid foods. (Animal Diversity)

<u>Diet:</u> Wild: Grasses, shrubs, <u>lichens</u>, fungi, cacti, fruit, and flowers Zoo: Llama pellets and hay

**<u>Conservation</u>**: This species is considered to be Least Concern according to <u>IUCN Redlist</u> due to a wide distribution, presumed large populations and occurrence in numerous protected areas. Poaching and shearing practices severely threaten the population. Guanacos are likely to become extinct in 3 out of 5 countries in their historic range. 80 percent of the total population is utilized for meat or fibre, while only 20 percent of that is legal usage.

**<u>FYI</u>:** Guanacos are the ancestors of the domestic llama. They have 4x more red blood cells than a human to have more oxygen at high altitudes.

### Family: Camelidae



#### Range & Habitat:

Found in desert grassland, pampas, shrubland, and forest, the guanaco can be found at elevations up to 13,000 feet. They have a large range from north of Peru to southern Chile, including Argentina, Bolivia

and Paraguay.



**Lifespan:** up to 34 years in captivity, 20 years in the wild.

**Special Adaptations:** The split upper lip acts like fingers to draw food into the mouth.



# Guinea Pig

### **Class:** Mammalia

Order: Rodentia

Family: Cavidae

<u>Characteristics</u>: 13 recognized types. Males larger than females. Tailless, endothermic rodents with small, compact bodies, petal shaped ears, laterally positioned eyes and 20 continuously growing grinding teeth, wear coats of 13 different textures and 20 different colors. Sounds include chatters, wheeks, purrs, chutts, squeaks, whines, whistles, and chirps. Subject to respiratory and other infections if housed with other rodents as gerbils and hamsters.

**Behavior:** Very gregarious. Often "huddle" for warmth and security. Prefer low population densities. Active at dusk and dawn (crepuscular) and, when not sleeping, spend a majority of their time grooming, feeding, or investigating the local environment. Individuals remain motionless when threatened whereas groups will scatter.

**Reproduction:** Male guinea pigs reach sexual maturity at 56 to 70 days; females at about 67 days. Depending on housing and heavily influenced by humans, mating occurs at night 3 or 4 times a year and can be monogamous or polygamous. Males aggressive when competing for mates. After 60-70 days gestation 1-8 pups are born and weaned in 2-3 weeks. Cohabitating females may assist in lactating duties. Female provides limited care and pups usually survive on their own.

Diet: Guinea Pig pellets and veggies

**Conservation**: No natural predation. Domesticated from cavys and now popular as pets and food. Globally distributed. Also used in biomedical research on diabetes, TB, scurvy and pregnancy complications.

**FYI:** Cavia Porcellus is Latin for "Little Pig."

Domesticated descendants of a cavy species were brought to Europe from Andes by way of Guinea -hence the name Guinea Pig. Hosts too many parasites including mites, ticks, sucking lice, chewing lice, nematodes, and flukes. Fur can cause severe allergic reactions.



**Range & Habitat.** Worldwide as pets. Domestic guinea pigs are no longer found in the wild.

Lifespan: up to 14 years.

**Special Adaptations:** Docile nature, responsiveness to handling and feeding, and the relative ease of caring for them, makes for a popular pet which contributes to its survival.

**IUCN Conservation Status:** Not Evaluated



### Llama

### Lama glama

### **Class:** *Mammalia*

**Order:** Artiodactyla

<u>Characteristics</u>: Adult llamas are around 6 feet tall from head to toe. They have two hooved toes with a thick leathery pad on the bottom. They have long shaggy hair that can be brown, white, grey, or black in color. Like other ungulates (cattle, camels, deer, etc....), they have three stomachs and regurgitate food as cud for further chewing. They lack upper-front teeth (incisors) but will clip grass using their bottom incisors and hardened upper gums. They also have sharp upper teeth used for fighting (<u>ADW</u>).

**Behavior:** Llamas are social animals living in groups of up to 20 individuals with one dominant male. Domestic and wild groups will lay claim to a large area of ground and defend it vigorously. They will also designate an area for defecation, possibly as marking their territory. The groups use a variety of tactics to defend themselves against predation. They will first vocalize to the entire group of potential predators. They will then either flee or fight. When they fight, they are known to spit cud, kick and bite. The lead male will protect their groups in a similar fashion from other intruding males (<u>ADW</u>).

**Reproduction:** Mating usually occurs late summer, early fall. The act of mating induces ovulation within 24 to 36 hours. Gestation lasts 360 days. Llamas will give birth to one cría (Spanish for baby animal). The cría will be walking around an hour after birth and become independent from their moms by 4 months of age.

### Diet: Wild: Shrubs, grasses and lichens

Zoo: Hay, llama pellets, occasional treats such as fruits & vegetables. Access to salt licks.

**<u>Conservation:</u>** Not Evaluated.

### FYI:

- Llamas will accept other animals into their group and protect them vigorously. The zoo used to place baby camels with the llama for socialization.

- Domesticated cousins of the guanaco and vicuñas (<u>National Geographic</u>).
- Copulation can last up to 65 minutes (England et al 1971).

### Family: Camelidae



**Range & Habitat:** Peru, Bolivia, Chile & Argentina High Mountains



**Lifespan:** up to 20 years in captivity, 20 years in the wild.

### Special Adaptations: High blood hemoglobin content.

IUCN Conservation Status: Not evaluated



### **Mueller's Grey Gibbon**

### Hylobates muelleri muelleri

### Class: Mammalia

**Order:** Primates

<u>Characteristics</u>: Coloration varies from grey to brown with ring of bright fur around face. Top of head and chest darker than body. Length 17-25 in; wt 8-17 lb. Have buttock pads, long canine teeth, no tail. Basal part of thumb extends from wrist rather than palm, allowing extended range of movement. Long gibbon arms for brachiation through trees. Males and females similar in morphology.

**Behavior:** Diurnal, arboreal rain forest dwellers. Spend most of the day foraging in trees. Live in monogamous pairs in groups of three or four. Occasionally change partners. Males and females are social equals. Communication is through singing, grooming, and social play using gestures, facial expressions, and body posture. Defend family territory with long, loud singing, and chasing intruders. Physical violence is rare. Travel mostly in trees moving quickly by swinging from branch to branch extending long arms over head to hook hands onto branches. Walk upright with hands over head for balance on ground though prefer <u>brachiation</u> through trees. Not good swimmers, avoid open water.

**Reproduction:** Reproductive patterns not studied but thought to be similar to other gibbon species. Reach sexual maturity at 8-9 years with 2-3 years between births. Breed throughout the year. Single offspring after 7 month gestation will cling to mother night and day, beginning brachiation at 6 months. Weaned about 24 months. Males active in defending and grooming young (<u>Safe Project</u>).

### **Diet:**

Wild: Frugivores – preferring fruits high in sugar; immature leaves and insects.

Zoo: Monkey chow, leaf eater biscuits, fruits, and vegetables.

**<u>Conservation</u>**: Population trend decreasing from illegal pet trade and deforestation due to expansion of oil palm plantations and logging. Most common predators are arboreal snakes and avians. **SSP Species** 

### FYI:

AKA: Mueller's Bornean Gibbon, Mueller's Gibbon

### Family: Hylobatidae



Range & Habitat: Found on the Indonesian island of Borneo living in tropical evergreen and semi-evergreen rainforests.



**Lifespan:** up to 44 years in captivity, 25 years in the wild.

**Special Adaptations:** Ball and socket joints, thumb extension and long arms allow speed and agility in arboreal brachiation.



### **New Guinea Singing Dogs**

**Canis hallstromi** 

### **Class:** Mammalia

**Order:** Carnivora

<u>Characteristics</u>: New Guinea singing dogs are a small to medium size dog species. They have a wedge-shaped head and triangular, upright ears. These dogs have a soft, thick coat and a bushy tail. (<u>Living Desert Zoo</u>) The eyes of the singing dog are reflective and glow bright green in low light conditions. This is an unusual trait in canines. (<u>Zoo Miami</u>) On average, the New Guinea singing dogs are 17 inches tall at the shoulder and weigh about 25 pounds. Most often they are golden red or black and tan with white markings on the underside of the chin, feet, and tail (<u>NGSD Conservation Society</u>).

**Behavior:** New Guinea singing dogs are well known for their shy, elusive behavior. They most likely are solitary animals, not pack animals. These dogs are excellent climbers and diggers. They jump high into the air like a cat. New Guinea singing dogs get their name from the wide range of vocalizations they produce, especially their unique <u>howl</u>. Each dog has its own unique voice and the singing dogs will <u>howl together</u> in a group (<u>San Diego Zoo</u>).

**<u>Reproduction</u>**: Not much is known about wild singing dog reproduction. In captivity, females will have a gestation period of 63 days and give birth to 4 pups on average. Both parents participate in raising the young. Puppies spend a lot of their day sleeping and playing. The singing dog puppies are very playful with each other and the adults (<u>San Diego Zoo</u>).

<u>Diet:</u> Wild: small mammals, birds, and reptiles. If it moves, they will try to eat it (<u>San Diego Zoo</u>). Zoo: dog food and meat

<u>Conservation</u>: Not much is known about the status of the New Guinea singing dogs in the wild. Only a <u>few hundred</u> singing dogs are known to exist and most of those are in captive managed breeding programs. They had only been photographed once in the wild and were thought to be possibly extinct in the wild until another photograph, taken in 2012 emerged. (<u>National Geographic</u>) Although these animals are not officially evaluated, they are thought to be endangered and in need of conservation action. Threats to the singing dog population include inbreeding and habitat destruction.

**FYI:** Their taxonomy has caused a scientific hullabaloo for over 50 years. Originally classified in the 1950's as a wild dog species (*Canus hallstromi*), they were then transitioned to a domestic classification (*Canus lupus familiaris hallstromi*) and have now, finally, been reclassified as *Canis hallstromi* (San Diego Zoo).

---New Guinea singing dogs are the rarest dog species in the world!

### Family: Canidae



Range & Habitat:

Mountains and thick forests of Indonesia and Papua New Guinea. Most recently spotted in Mandala Mountains of West Papua,

Indonesia.



**Lifespan:** up to 15 years in captivity, unknown in the wild.

**Special Adaptations:** Singing dogs are extremely flexible for a canid. This helps them to hunt on steep, densely vegetated terrain.

### IUCN Conservation Status: Not Evaluated



### **Nigerian Dwarf Goat**

Capra hircus

**Class:** Mammalia

**Order:** Artiodactyla

Family: Bovidae

### **Characteristics:**

The Nigerian Goat can have a straight, short to medium hair with varying colors. The ideal height for this breed is 17" for Does and 19" for bucks. Breeding standards dictate that the ears standing up and the bridge of their noses are straight. Their bodies must also be proportional to that of other milking goats (Oklahoma State University). This breed of goats often still have horns, but are disbudded for herd safety.

### **Behavior:**

Nigerian Dwarf Goats are considered extremely docile. It has been noted that even breeding bucks are considerably tame. They integrate well with other goat populations (<u>Oklahoma State University</u>).

### **Reproduction:**

Females are fertile year round, but common practices is to breed an individual female three times during a two year span. Females can produce from three to four offspring per parturition more than once per year. Female kids have been known to be fertile around seven weeks. Male kids are fertile around three months (<u>Oklahoma State University</u>).

### Diet:

Wild: A variety of grasses, hay and grains. Zoo: Hay, straw, grains & goat pellets.

### **Conservation:**

Only 3500 individuals registered to the American Goat Society, but economic and social trends seem to be favorable for the breed.

### FYI:

- Nigerian goats produce up to four pounds (one to two liters) of 6-10% buttermilk a day.
- The difference between a pygmy goat and a dwarf goat are their body proportions. The Nigerian dwarf goat are proportional to that of common milking goats while the pygmy is more like "a beer keg with legs" (<u>Oklahoma State University</u>).



**Range & Habitat:** Found across the world on farms, prefer open areas, but need shelter during the winter.



**Lifespan:** up to 20 years in captivity, unknown in the wild.

**Special Adaptations:** Bred for milk and size.



### **North American River Otter**

Lontra canadensis



### **Class:** Mammalia

**Order:** Carnivora

<u>Characteristics</u>: The North American river otter is highly adapted for aquatic life. It has a long, smooth, streamlined body with short, powerful limbs. The species has webbed feet, and long claws for digging and hunting. They are mostly dark brown in color with a light tan on the muzzle. The average length of the otter's body is 22-32 inches and the tail is 12-20 inches in length. These otters can weigh 11-30 pounds (<u>National Geographic</u>) with the males being larger than the females by about 5 percent. They have a densely packed underfur and long guard hairs over the top to trap a layer of air for insulation (<u>Arkive</u>).

**Behavior:** North American river otters have a reputation as very friendly and <u>playful</u> animals. They live alone or in small <u>family groups</u>. Otters are very good swimmers and divers. They can also move quickly on land. (<u>Biokids</u>) River otters have been known to hunt at night, but are active at all hours of the day and night. Otters will den in riverside burrows, under rocks, in hollow trees, in undercut banks, or even in beaver and muskrat lodges. The otters communicate through <u>vocalizations</u> and scent-marking (<u>Arkive</u>).

**Reproduction:** Males and females will only be seen together during the breeding season. North American river otters reach sexual maturity at 2-3 years of age. The female otter will use <u>delayed implantation</u> to assure the young are born at the best time of year. Gestation is 2 months long, and the female will give birth to 1-6 offspring, but most often 2 or 3. The young are weaned at about 3 months old and will leave the mother's home at 6-12 months old (<u>Biokids</u>).

<u>Diet:</u> Wild: Amphibians, fish, turtles, crayfish, crabs, birds, eggs, small terrestrial mammals and sometimes aquatic plants. Zoo: Trout, meat, apple, carrot, and vitamin supplements

<u>Conservation:</u> North American river otters are thought to be of least concern according to <u>IUCN Redlist</u>. They have a very large range and the population is believed to be stable. There are several threats to the otter population including; hunting and trapping for furs, oil spills, water pollution, and degradation of aquatic habitats.

**FYI:** Otters have the densest fur of any mammal with up to 850,000 hairs per square inch.

They can stay underwater for up to eight minutes. (Denver Zoo)

### Family: Mustelidae



Range & Habitat: Found throughout most of North America near rivers, creeks, streams, coastal waters, swamps and lakes.



**Lifespan:** up to 21 years in captivity, 9 years in the wild.

**Special Adaptations:** River otters have an oily, waterproof coat, webbed toes, and small external ears for life in the water.



### **Anglo-Nubian Goat**

Capra hircus

**Class:** Mammalia

**Order:** Artiodactyla

Family: Bovidae

### **Characteristics:**

There are many variants of the Anglo-Nubian (Nubian for short in the U.S.) goat. The first artificial creation of these goats was achieved by cross breeding English goats with African and Indian goats. At first, the coat colors and patterns were either solid or parti-colored, but now any color or pattern is acceptable. The most distinguishing features of the Anglo-Nubian goat are its long, droopy ears and the long yet blunt nuzzle. They were first bred and maintained to have high meat content, tough hide and high, rich milk production (University of Ohio, Iowa Dairy Goats).

### **Behavior:**

Anglo-Nubian goats and goats in general are often inquisitive eaters, meaning they will eat anything and may choke (<u>The Encyclopedia of Applied Animal Behavior and Welfare</u>).

### **Reproduction:**

Females go into heat every 3 weeks, thus mating occurs year round. Gestation lasts approximately 141 to 145 days (<u>The Encyclopedia of</u> <u>Applied Animal Behavior and Welfare</u>).

### **Diet:**

Wild: A variety of grasses, hay and grains. Zoo: Hay, straw, grains & goat pellets.

**<u>Conservation:</u>** None. Domesticated.

### <u>FYI:</u>

- Birthing of baby goats is called kidding.
- Nubian goats produce up to 1500 gallons per year, that's a little more than 4 gallons a day!
- Their milk is popular in the production of goat cheese since its fat content is higher than most other goat species.
- Its name fits the goat's origin. Anglo= England or of English origin, Nubian= An ancient nation from Northeast Africa in what is now known as southern Egypt and Sudan.



Range & Habitat: Found across the world on farms, can stand some cold, but need warm structures with hay as bedding.

**Lifespan:** up to 15 years in captivity, 12 years in the wild.

**Special Adaptations:** Bred for meat, hides and milk.

### IUCN Conservation Status: Not Evaluated



### Patagonian Cavy (Patagonian Mara)

### Dolichotis patagonum

### Class: Mammalia

**Order:** Rodentia

**<u>Characteristics</u>**. The Patagonian mara is a distinctly unusual looking rodent that is about the size of a small dog. They have long ears with a body resembling a small deer. The snout and large dark eyes are also unusual for a rodent. The back and upper sides are brownish grey with a darker patch near the rump. There is one white patch on either side of the rump and down the haunches. Most of the body is a light brown or tan color. They have long, powerful back legs which make them excellent runners. The back feet are a hoof like claw with three digits, while the front feet have four sharp claws to aid in burrowing (Encyclopedia of Life).

Behavior: The Patagonian mara is just as unusual in behavior as it is in appearance. These rodents are active during the day and spend a large portion of their time sunbathing. If threatened by a predator, they will escape quickly by galloping or stotting away at speeds over 25 mph. The cavy can be found in breeding pairs that rarely interact with other pairs (<u>Arkive</u>). During breeding season, maras form large groups called settlements, consisting of many individuals sharing the same communal dens. Some large dens are shared by 29-70 maras (Animal Diversity).

**Reproduction:** This species is strictly <u>monogamous</u> and usually bonded for life (BBC Nature). The female has an extremely short estrous, only 30 minutes every 3-4 months. The gestation period is around 100 days in the wild. Litters of maras range in size from 1 to 3 pups. The mother will visit the den for about an hour at a time, because she must split time with other nursing mothers in the same den. Pups are weaned at 75-78 days of age. At first, the pups will stay close to the den. They will then begin to follow the parents. Most young leave when they are weaned (Animal Diversity).

**Diet:** Wild: Grasses, other shrubs and plants, and cacti Zoo: Fruits, vegetables, greens, monkey chow, rodent pellet, and hay.

**<u>Conservation: IUCN Redlist</u>** of endangered species lists the Patagonian cavy as near threatened. They justify this classification because populations are declining at a rate close to 30 percent over 10 years. Major threats to the population include habitat loss, introduction of other herbivores, and hunting.

**FYI:** In the monogamous pair, the male fiercely defends the female. He follows and guards her wherever she goes.

Females usually aggressively reject interloping pups by lunging, chasing, biting and shaking, or throwing them away from her. Some pups make frequent attempts to steal milk and many have tattered and damaged ears from these fierce rejections (Animal Diversity).

### Family: Caviidae



Range & Habitat: The species occurs in lowland habitats, including forest and creosote bush flats in northwestern Argentina.





Lifespan: up to 14 years in captivity, unknown in the wild.

**Special Adaptations:** This species has evolved to be monogamous to take advantage of the very short estrous period.



### **Prevost's Squirrel**

Callosciurus prevostii



**Class:** Mammalia

Order: Rodentia

### **Characteristics:**

Prevost squirrels (aka tricolor squirrel) have a rust brown color from close to the bottom of their mouth across their forearms to their under carriage and lower back legs. Their tail, back and crown of their head and muzzle is black. Dividing the rust and black color is a single white/gray line that goes from its black nose to the upper part of the hind leg.

### **Behavior:**

These squirrels are diurnal, meaning they prefer the daytime and are most active at dusk and dawn. They are solitary animals with occasional communications with one another. They often nest in tree cavities or among leafs (<u>ADW</u>). They will often cache their food for later consumption (<u>Becker et al 1985</u>).

#### **Reproduction:**

At age one, they become sexually mature. Breeding occurs year-round but will breed more frequently depending on the amount of rain received. After a 40-day gestation period, the female will give birth to one to four young (average liter size of 1.8). (Walker 1999).

#### Diet:

Wild: They primarily feed on seeds and fruits, but will also eat insects. Zoo: Apples, Carrots, rodent chow, grapes, peanuts, bananas and chopped green.

#### **Conservation:**

There is a suspected decline in their population size due to deforestation.

#### FYI:

- They are important to the dispersal of seeds since they are known to cache or drop seeds away from the parent tree (<u>Becker et al 1985</u>).



Family: Sciuridae



**Lifespan:** up to 21.1 years in captivity, unknown years in the wild.

Special Adaptations: -Arboreal -Reproduce more than once a year

#### **IUCN Conservation Status:**



### **Red-flanked Duiker**

Cephalophus rufilatus

### **Class:** Mammalia

**Order:** Artiodactyla



### Family: Bovidae

### **Characteristics:**

Red-flanked duikers (pronounced dy-ker) are actually tiny antelopes. They are one of 21 duiker species. Both sexes have horns and live in pairs. <u>Red-flanked duikers</u> have a rounded back, reddish brown body and dark black legs. The head and neck have tufted black hairs that will stand up when the animal is excited.

### **Behavior:**

Duikers are quite solitary, territorial and males are combative with other males. Red-flanked duikers are diurnal, meaning active during the day. They are a shy and elusive antelope that live in savannah woodlands and mark their territories with scent glands near their eyes and within their hooves. Scent marking seems a strong trait in this animal. They spend their days hiding under fallen trees trunks or under bushes, rarely leave the protection of forest cover, and usually will remain near water sources.

### **Reproduction:**

Red-flanked duikers reach sexual maturity at around nine months, but because of the time it takes to it takes to find a mate and develop a relationship they usually breed first around two years old. Males will display to find a mate by curling their lip, strutting diagonally and grooming. Females are only in heat for 12-24 hours. Their gestation period is 32-35 weeks and often only have one young.

#### **Diet:**

Wild: fallen fruits, seeds, flowers, leaves and branches, fungi and shoots. They have even been seen occasionally eating a small bird or mammal. Zoo: Herbivore pellets, carrot, sweet potato, greens and hay

### **Conservation:**

While their populations appear to be steady, they do rely on healthy, nonfragmented forests. They are one of the primary targets of bushmeat trade and sought out by trophy hunters.

### FYI:

The name duiker means "<u>diving buck</u>" referring to their quick leaps into dense cover when surprised.



Range & Habitat: Savannah woodlands of west and central Africa



**Lifespan:** up to 15 years in captivity, 5-7 years in the wild.

### Special Adaptations: Info.



### Red Panda (Western)

Ailurus fulgens fulgens

### Class: Mammalia

**Order:** Carnivora

<u>Characteristics</u>: Red pandas are a similar size to domestic cats. They can grow to a length of 20-25 inches long with tails 11-19 inches long and weigh 6-14 pounds (<u>National Geographic</u>). They are known for their distinct red color on the back and the extremely bushy, red and white ringed tail. The face color changes with age, beginning more white and gaining more red through the years. Their underbellies tend to be darker to blend in with the canopy for predators looking upward. Red pandas have that soft, dense fur covering the entire body, including the feet. This keeps them warm at high altitudes and prevents slipping on snowy and icy terrain (<u>National Zoo</u>).

**Behavior:** The red panda is a shy, solitary animal. They are alone most of the time in the wild, except to breed. They are mostly nocturnal creatures, being most active at night and dawn and dusk. Red pandas spend a majority of their time high in the trees and will even sleep in the trees. Red pandas communicate with others of their species with scent glands, visual cues, and a variety of calls. (San Diego Zoo)

**Reproduction:** Red pandas reach maturity at 18-20 months of age. The female is only fertile for one or two days per year. There is <u>delayed</u> implantation to assure that the cubs are born at the most successful time of year. Females most often give birth to two young but the litter size ranges from 1-4 young. Red pandas are born with <u>gray and tan fur</u> and their eyes and ears are shut. At 2-3 weeks, the eyes and ears will open and at 13-22 weeks they will stop nursing and the fur will start to change to red. By 5 months of age, the cubs are almost fully grown. (San Diego Zoo)

### Diet:

Wild: Bamboo, fruits, flowers, acorns, roots, eggs, small mammals, and insects. Zoo: leaf-eater biscuits, bamboo, and various produce.

**Conservation:** IUCN Redlist classifies the red panda as vulnerable. There are less than 10,000 individuals in the wild, and the population is declining. Red panda populations are greatly threatened by habitat loss, poaching, and inbreeding dangers. Deforestation for logging, housing, and agriculture is destroying the habitat of the red panda. Red pandas are part of the species survival plan in zoos.

**FYI:** Red pandas are also called lesser panda, red cat-bear, and firefox. Red pandas have their own unique taxonomic family, but are most closely related to raccoons and their relatives, not to giant pandas.



### Family: Ailuridae



### Range & Habitat:

Red pandas are found in bamboo and temperate forests in parts of Nepal, India, Bhutan, Myanmar, and southern China. They are usually found in high elevations in cold mountain areas.



**Lifespan:** up to 15 years in captivity, 10 years in the wild.

**Special Adaptations:** Red Pandas have a specialized wrist bone that acts as a "<u>false thumb</u>" to help them grip bamboo shoots.



### **Red Ruffed Lemur**

Varecia rubra



### **Class:** *Mammalia*

**Order:** Primates

Family: Lemuridae

<u>Characteristics:</u> The red ruffed lemur gets its name from its long rust red colored fur covering most of the body. They have a patch of white fur on the nape of the neck while the face, hands, feet, belly, and tail are black (<u>Encyclopedia of Life</u>). Red ruffed lemurs are large in size at about 2 feet of body length and 1.5 feet of tail. Females are usually larger than the males. The red ruffed lemurs weigh 7-8 pounds. (<u>Animal Diversity</u>)

**Behavior:** Lemurs remain in the trees, rarely descending to the rainforest floor. They live in family groups of 2-16 individuals that are mostly female. (Maryland Zoo) Red ruffed lemurs are awake during the day. Annually, ruffed lemurs spend an average of 28% of their time feeding, 53% resting, and 19% traveling with females resting less and feeding more than males. (Primate Info Net) The lemurs spend time socializing by grooming each other and vocalizing. They use at least 12 different <u>calls</u> to <u>communicate</u> with each other.

**Reproduction:** Female red ruffed lemurs build well-hidden nests high up in the trees. They usually give birth in the spring after a 102-day gestation. Red ruffed lemurs give birth to litters of up to six infants, but 2-3 is more common. When they are born, the infants cannot even grasp on to the mother. The infants will leave the nest after 1-2 weeks. The infant mortality rate in red ruffed lemurs is very high with only 35 percent surviving past 3 months of age. (Duke Lemur Center)

#### Diet:

Wild: Mostly fruit, nectar, and pollen. Sometimes leaves and seeds Zoo: Fruits, vegetables, greens, and leaf eater biscuits

**Conservation:** According to <u>IUCN Redlist</u>, the red ruffed lemur is critically endangered. The population has been reduced by over 80 percent over the last 24 years. The two major threats to the population are illegal logging in the area and hunting. These lemurs are part of the SSP in captivity.

**FYI: -**Red ruffed lemurs are the largest member of the lemur family. -Since humans arrived on Madagascar, at least 15 species of lemur have gone extinct! (<u>Woodland Park Zoo</u>)

-The Malagasy people of Madagascar believed lemurs contained the souls of their ancestors and therefore are considered sacred (<u>San Diego Zoo</u>).



### Range & Habitat: They can only be found in a small portion of Northeast Madagascar. They are only found in tropical, moist, lowland forest.



**Lifespan:** up to 20 years in captivity, 15-20 years in the wild.

**Special Adaptations:** They have a specialized claw on the second toes of their hind feet for brushing through long fur.



## Red-necked Wallaby (Bennett's Wallaby)

Macropus rufogriseus



**Order:** *Diprotodontia* 

<u>Characteristics:</u> Red-necked wallabies get their name from the red fur on the back of their neck. They are also differentiated from other wallabies by the white cheek patches and larger size compared to other wallaby species (<u>Bioweb</u>). The red-necked wallaby's body fur is grey to reddish in color with a white or pale grey belly. Their muzzle, paws and toes are black (<u>Australia</u> Zoo). Wallabies look like smaller kangaroos with their large hindquarters, short forelimbs, and long, muscular tails. The average size of this species is 27-32 inches in the body with a tail length of 20-28 inches. The females weigh about 25 pounds while the males weigh significantly more at 40 pounds. The females differ from the males of the species in that they have a forward opening pouch (<u>Sacramento Zoo</u>).

**Behavior:** Red-necked wallabies are most active at dawn and dusk to avoid the mid-day heat. In the heat, they will lick their hands and forearms to promote heat loss. (Animal Diversity) These wallabies are generally solitary but do forage in small groups. The males will have boxing matches with one another to determine social hierarchy within populations. They can often be seen punching, wrestling, skipping, dancing, standing upright, grabbing, sparring, pawing, and kicking. All members of the kangaroo and wallaby family travel by hopping. Red-necked wallabies can hop up to 6 feet in the air. At slower speeds, the wallabies will move using all <u>4 limbs and their tail</u>. Wallabies are also excellent swimmers (<u>San Diego Zoo</u>).

**Reproduction:** Red-necked wallabies are marsupials and therefore keep their young in a <u>forward facing pouch</u> for the first 9 months after birth. There is a very short gestation period of just 30 days, followed by the long pouch time. Only one offspring is born at a time, but a female may have a joey outside of the pouch, a developing infant in the pouch, and a blastocyst inter-utero all at the same time. The female will mate again right after birth, but will delay implantation until the pouch is no longer occupied by a joey. The joey will be weaned at 12-17 months (<u>Toronto Zoo</u>).

<u>Diet:</u> Wild: Grasses and leafy plants (<u>San Diego Zoo</u>) Zoo: Vegetables, greens, alfalfa pellets, wallaby pellets,

<u>Conservation: IUCN</u> lists this species as least concern. Bennett's wallabies are thought to have a wide distribution and can thrive in many different habitats. There is an especially large population in Tasmania. There are no known threats to this wallaby population and the population size is thought to be stable.

**FYI:** Females have the ability to produce two different kinds of milk; one for a pouched young, and another for a joey outside of the pouch. (<u>Toronto Zoo</u>)

#### Family: Macropodidae



Species Survival Pla

Range & Habitat: Flat, high-ground eucalyptus forests near open grassy areas in Tasmania and South-eastern Australia.



**Lifespan:** up to 15 years in captivity, 15 years in the wild.

**Special Adaptations:** The wallaby has a long, heavy tail to help them maintain their balance while hopping and for support when standing upright.



## **Reeves' Muntjac**

Muntiacus reevesi

#### **Class:** Mammalia

**Order:** Artiodactyla

#### Family: Cervidae

#### **Characteristics:**

Muntjacs include 12 species of deer native to South Asia and are the oldest known deer species. Remains can be seen in the fossil record 15 to 35 million years ago. They have both antlers and tusks—elongated canines. They are placed within a group loosely known as "fanged deer" which include musk deer, water deer, muntjac and tufted deer. Muntjac have excellent sight and hearing.

#### **Behavior:**

Like all fanged deer, the Reeves's or Chinese muntjac are small, shy, and flighty. They are known for making a sharp, barking sound as their alarm call. Because of this unique call, they are nicknamed "<u>barking deer</u>." They require large amounts of cover and are often located close to water sources.

They are crepuscular, meaning most active at dawn and dusk. Both males and females are solitary and territorial and will scent mark their territories with <u>preorbital</u> (in front of the eye) glands. The male's territory often overlaps with the females nearby.

#### **Reproduction:**

Reeves's muntjac commonly make their barking sound during breeding season. They become sexually mature between 6 to 12 months old and males will normally mate with the females near their territory. Females give birth to one or two young after a seven month gestation period and the young are weaned at around two months. Mom kicks them out shortly before she is ready to breed again.

#### Diet:

Wild: grasses, leaves, fruits, seeds, tender shoots and bark Zoo: apples, carrots, sweet potatoes. Alfalfa and mixed greens

#### **Conservation:**

They are at low risk for population decline and are even considered pests to gardeners and foresters as they breed year round.

**<u>FYI</u>:** Sometimes jokingly called "vampire deer" because of the males' elongated canines.



#### Range & Habitat:

Native to the deciduous and tropical forests throughout southern China and Taiwan. Introduced to <u>Great Britain</u> for hunting and have even made it into southern France.



**Lifespan:** around 20 years in captivity, up to 17 years in the wild

**Special Adaptations:** Preorbital scent glands, both antlers and tusks



## **Ring-tailed Lemur**

Lemur catta



#### Class: Mammalia

**Order:** Primates

<u>Characteristics</u>: Ring-tailed lemurs are best known for their long, thick, black-and-white striped tails that can measure over 2 feet in length. The ring-tailed lemur's body is usually a light reddish gray or light gray color with darker rumps. They have white bellies, hands, feet, ears, and faces. They usually have dark brown or black patches around light brown eyes. Males and females tend to be similar in size with captive lemurs weighing slightly less than 6 pounds on average. (Primate Info Net) Their bodies are about 18 inches from head to rump. (National Geographic)

**Behavior:** Ring-tailed lemurs usually form large family groups, called troops, with up to 30 individuals. Each group has a well-developed social hierarchy with the alpha female at the top. Females will stay with the same group for a lifetime, but males will migrate to different groups. Ring-tailed lemurs use constant <u>vocalizations</u> to keep group members together. These are the most terrestrial of lemurs, spending a majority of their time walking on all fours on the ground. (Duke)

**<u>Reproduction</u>**: In family troops, the females will usually all come into estrous within 2 weeks of each other. This will lead to a high level of synchronized births within the troop. The gestation period for the ring-tailed lemur is 4 to 4.5 months. Most often the female gives birth to a single young, but twins are possible. The young grasp to the female's underside for about 2 weeks, then move to cling to the mother's back. The young are weaned at 5 months of age. Females are responsible for most of the <u>offspring's care</u>. (Animal Diversity)

<u>Diet:</u> Wild: Fruit, leaves, flowers, bark, sap, insects, and small vertebrates. (<u>Arkive</u>)

Zoo: Leaf-eater biscuit, fruits, vegetables, and greens.

<u>Conservation: IUCN Redlis</u>t of endangered species currently lists the ringtailed lemur as endangered. The lemur population has decreased for this species by greater than 50 percent in 36 years and is still decreasing. Major threats to ring-tailed lemur populations include habitat loss and hunting. The forested habitat where this lemur lives is constantly being converted to livestock pastures. Ring-tailed lemurs only exist in a few protected areas. The AZA also participates in the SSP for ring-tailed lemurs, and they are very successful captive breeders.

**<u>FYI</u>:** The ring-tailed lemur is the most common primate in captivity with over 2,500 lemurs in zoos alone. They are also the most researched lemur species.

#### Family: Lemuridae



Range & Habitat: Found in the dry forests and bush of southern and southwestern Madagascar exclusively.



**Lifespan:** up to 35+ years in captivity, 19 years in the wild.

**Special Adaptations:** Males have a specialized scent gland on their wrists that they use in "<u>stink</u> <u>fights</u>" with other males.



## **Rock Hyrax**

Procavia capensis



Class: Mammalia

Order: Hyracoidea

Family: Procaviidae

#### **Characteristics:**

While it may look like a rodent, it's not! In fact, the hyrax is such a unique mammal it is put in an order all by itself. It is a small, compact, tailless animal that some think resembles the guinea pig in body shape. It has brown fur with a lighter underbelly, fleshy, rubbery feet good for gripping rocks and a gland on its back that may be a different color than the rest of the fur and secretes a characteristic odor, which they use to mark rocks (Arkive). They are also known as rock dassies.

#### **Behavior:**

As the name implies, rock hyrax live on rock outcroppings and are excellent climbers. They do not dig burrows and are very adaptable to their habitats and can live at altitudes up to 14,000 feet. They live in colonies that usually consist of a breeding male, several females, and their offspring. They have a variety of <u>loud vocalizations</u> which they emit to establish territory, warn of predators, etc. In the morning, hyrax will sit on the rocks and warm themselves in the sun before becoming quite active. They have a third eyelid which protects the eye from the sun and dust (<u>San Diego Zoo</u>).

#### **Reproduction:**

While groups may live in the same vicinity, a single male defends a territory containing a "harem" of females and their young. The female gives birth to 1 -3 young following a 7-8 month gestation period, which is extremely long for a small mammal.

#### Diet:

Wild: Mainly plant material, but will also eat bird eggs, insects and lizards Zoo: Leafeater biscuits, carrot, greens, sweet potato, herbivore diet

#### **Conservation:**

Widespread in Africa, their numbers appear stable.

#### FYI:

The hyrax's closest living relatives are believed to be the elephant, dugong and manatee, meaning at some point they may have shared a common ancestor, and the fossil record indicates there was at one time a hyrax the size of an ox (African Wildlife Foundation).



Range & Habitat: Rocky areas and outcroppings



**Lifespan:** up to 15 years in captivity, 10 years in the wild.

**Special Adaptations:** Moist, rubbery feet allow them to grip on to the rocks they climb.



## Serval

#### Leptailurus serval

Species Survival Plan

#### **Class:** Mammalia

**Order:** Carnivora

Family: Felidae

#### **Characteristics:**

The serval is 23 to 36 inches long and 17 to 24 inches tall at the shoulder. Males are slightly larger than females but otherwise have identical body shape and coloring. A medium-sized cat that is slender with long legs, a short tail, small head, long ears and an extra-long neck. The coat is tan with black spots of varying size and shape (<u>San Diego Zoo</u>).

#### **Behavior:**

Servals are solitary and prefer to live in the tall grass and reed beds along rivers and streams that run through savannahs and forests. Because of their habitat close proximity to water, they actually like to play in the water. They are <u>extremely agile</u> and are great at jumping and climbing (<u>Animal Diversity Web</u>).

#### **Reproduction:**

As solitary animals, servals only come together to breed and males will mate with many females. Mating occurs most often in the spring and after a gestation period of 10 to 11 weeks, servals give birth to 2 to 3 kittens. The kitten are weaned at around 5 months old and stay with mom for about one year (<u>Animal Diversity Web</u>).

#### **Diet:**

Wild: Rodents, small birds, fish, reptiles, amphibians Zoo: Feline diet, bones

#### **Conservation:**

People in Africa often confuse servals as "baby cheetahs" because of the spotted coat which has led to a high level of poaching for their pelts. They have also historically been captured for sell on the black market pet trade. Farmers also consider them a threat to poultry. Because of the threats they face, they are rarely seen near large human population areas (African Wildlife Foundation). However, because of the size of their native range they are classified as Least Concern by IUCN.

#### FYI:

Servals are built for height rather than speed. The elongated neck allows them to see over the tall grasses in which they live while the long legs are "spring loaded" to jump and catch unsuspecting prey (<u>Arkive</u>).



Range & Habitat: Tall grasses, reeds of savannahs and forests along waterways; mostly south of Sahara desert



**Lifespan:** up to 20 years in captivity and 10 in the wild.

**Special Adaptations:** Can jump 10 feet in the air and catch a bird in flight (<u>see video</u>)



## Sardinian (Sicilian) Donkey

Equus africanus asinus

**Class:** Mammalia

Order: Perrisodactyla

Family: Equidae

#### **Characteristics:**

The Sicilian Donkey (aka Sardinian or miniature donkey), are similar to other donkey breeds in their proportions. Like other donkeys, they have tall ears with a bushy-tipped tail (Like a cow). They differ in that a usual African donkey is 56" tall at the shoulder while the Sicilian Donkey stands at a mere 34". Sardinian donkeys are mostly gray with a white undercarriage. Their mane is darker black. They also have a black stripe connecting the two front shoulders. The thickness of their fur can vary (Lifestock Conservancy and Oklahoma State University).

#### **Behavior:**

Livestock Conservancy and Oklahoma State University consider the Sardinian donkey docile, although it is known to be stubborn when frightened. It is rather intelligent and can be trained to do behaviors.

#### **Reproduction:**

The gestation period lasts for 11 to 13 months, giving birth to usually one foal. Within minutes the foal is able to walk. The foal lives primarily on milk until it is weaned 4 to 6 months after its birth.

#### Diet:

Wild: Diverse plants, but primarily eats hay, grains and grass Zoo: Grains, grasses and mineral lick

#### **Conservation:**

The <u>Livestock Conservancy</u> considers the Sicilian as recovering in the USA, but are almost extinct in the Mediterranean due to crossbreeding.

#### **FYI:**

- The wealthy romans of ancient times used to bathe in donkey milk with the thought that the milk's properties would keep them young.
- The donkey's milk is considered to be the most homologous to human milk in sugar/fat ratios.
- The smallest Sardinian donkey was recorded at 26".
- A mule is the result of breeding a male donkey with a female horse.
- A male donkey is called a Jack and a female donkey is called a Jennet.



Range & Habitat: Found domestically around the world.



Lifespan: up to 35 years in captivity.

**Special Adaptations:** Small, docile, sure-footed and intelligent.

**IUCN Conservation Status:** Not Evaluated



## Sloth Bear

#### **Class:** Mammalia

**Order:** Carnivora

Species Survival Plan

Family: Ursidae

**Range & Habitat:** Most common in lowland forests of India and Sri Lanka. Some bears in Nepal, and Bhutan



**Special Adaptations:** Sloth bears lack upper incisors which allow them to easily suck up insects.



Characteristics: Sloth bears are unique looking bears. These are mostly black bears with a V or Y whitish cream marking on the chest. The fur is long and shaggy. The long muzzle is also pale in color, mostly due to lack of fur in the area. Sloth bears have very long, flexible lips that are adapted for their diet of insects. They have very long claws for digging. Sloth bears are sometimes also called honey bears or lip bears. (Arkive) This species has the ability to close its nostrils so ant, termites, dirt, or bees do not get into the nose. These are medium size bears at about 5-6 feet long, 2-3 feet high at the shoulder, and weigh 120-310 pounds. (National Zoo)

**Behavior:** Sloth bears are solitary creatures, living alone except during breeding season. They are generally nocturnal, especially when living in an area near humans. These bears have been seen <u>climbing high up trees</u> to knock down a honeycomb. (<u>National Geographic</u>) Sloth bears will stand on their hind legs and vocalize if threatened. They are not afraid to defend themselves against tigers, leopards, or humans. (<u>Animal Diversity</u>) These bears use their long claws to <u>tear into termite mounds</u>, then <u>suck in</u> to vacuum up all the insects within. (<u>Arkive</u>)

**Reproduction:** Sloth bears only come together during breeding season. The female uses delayed implantation to decide the best time for her pregnancy and birthing. The female will then remain in a den for 6-7 months until she gives birth. The most common number of cubs is 2. After the mother and cubs leave the den, the cubs will <u>ride on the mother's back</u> and cling to her long fur. No other bear species does this. As they grow, the cubs will begin to walk on the ground. The female nurses the cubs for one year and they will stay with mom for up to 2.5 years. (<u>San Diego Zoo</u>)

<u>Diet:</u> Wild: Fruits, ants, termites, honeycombs, and other insects Zoo: Omnivore diet, dog food, beef bones, eggs, vegetables, fruits, honey

<u>Conservation: IUCN Redlist</u> of endangered species considers sloth bears to be vulnerable. Population estimates suggest less than 20,000 sloth bears remain in the wild after a 30-49 percent decline in the last 30 years. This decline is mainly due to habitat loss, poaching, trade, and lack of conservation efforts.

**<u>FYI</u>:** The character Baloo in *The Jungle Book* is based on a sloth bear. (<u>National Zoo</u>)

## **Snow Leopard**

Panthera uncia



**Class:** Mammalia

**Order:** Carnivora

Family: Felidae

#### **Characteristics:**

The snow leopard is well adapted to its <u>alpine</u> and sub-alpine environment. Its paws are large, effectively acting as snow shoes. Its coat is thick year round with some hairs being 5 inches long. Its nose and sinuses are arranged so that the air is warmed before passing into its lungs. The <u>pattern of its coat</u> often matches the grey colors of the Himalayan landscape. Its tail and legs are well adapted for scaling high rocky cliffs. The tail is long so as to help the snow leopard achieve better balance. The hind legs are longer than its front legs, making it possible for snow leopards to jump 30 feet into the air (<u>Snow Leopard Trust</u>).

#### **Behavior:**

Snow Leopards are reclusive, often living on their own except for during the breeding season. Because they are so elusive, it's hard to know the exact number of Snow Leopards left in the wild. The easiest time to spot them is when they are most active, which is around sunset and sunrise. The altitude at which these cats can be found depends upon the location of its prey, meaning they will be high in the mountains during the summer and lower during the winter (<u>Snow Leopard Trust</u>).

#### **Reproduction:**

Snow Leopards come together to breed from January to March. The male will stay with the female for about a week before going out on his own again. After a gestation period of 93 -110 days, litter size ranges from 1 to 5 (but usually 2 to 3). Cubs will stay with mom for 18 to 22 months.

#### Diet:

Wild: Opportunistic hunters: goats, birds, mice, and pika (<u>Schaller et al.</u> <u>1988</u>).

Zoo: Feline diet, varying meats, bones

#### **Conservation:**

Snow leopards are an endangered species. The main reason for their decline is human activity such as poaching, retribution killings, loss of habitat, and insufficient resources to enforce Snow Leopard Protection (Fading Footprints).

#### <u>FYI</u>

- Snow Leopard have a call that sounds like they are yelling, "Help!"



#### Range & Habitat:

Rugged mountains near cliffs, slopes and rocky outcroppings in Northern China, Kazakhstan and Mongolia



Orange: definite range Yellow: Probable range (<u>IUCN</u>)

Lifespan: Wild: 10 to 13 years Captive: 22 years Special Adaptations: Thick fur, large paws, long tail make it perfectly adapted to harsh, cold environments IUCN Conservation Status: Endangered



## **Vietnamese Potbelly Pig**

Sus scrofa domesticus

**Class:** *Mammalia* 

**Order:** Artiodactyla

Family: Suidae

#### **Characteristics:**

The Vietnamese potbelly (also known as potbellied) pig has black skin with sparse hair which doesn't shed much. Their skin is loose as indicated by their wrinkles. They have a descended belly. A purebred potbelly will have a straight tail. They usually weigh 100 pounds, are 3 feet long and 15 inches tall at the shoulders (pigs intended for meat usually weigh 600 – 1500 pounds). All pigs have a rostral bone to support the rostral disc (aka flat snout). They also have a <u>carpal gland</u> (a gland located on the back of the front hooves), which is thought to serve for marking territory (<u>Isuagcenter.com & Oklahoma State University</u>).

#### **Behavior:**

Pigs are highly intelligent animals and potbellies can be trained much as you would a dog. They are quite devoted companion animals (<u>CPPA</u>). Spayed or neutered Potbelly pigs are relatively docile, clean animals. Fertile females can be moody (PMS) while unneutered male pigs (boars) produce foul smells and can become aggressive in the presence of females. They will often rut with their snout among leaves and dirt for food items such as insects and roots (<u>Oklahoma State University</u>).

#### **Reproduction:**

A neutered male is called a "barrow," an intact male is a "boar," a female that has never had babies is called a "gilt" and a female that has given birth is a "sow." Females are polyestrus, with an average menstrual cycle of 21 days with ovulation occurring on the latter end of the cycle. Gestation lasts approximately 114 days and will produce an average of six piglets. These piglets are sexually mature by five to seven months (Oklahoma State University, Sea World, and Isuagcenter.com).

#### Diet:

Wild: Plant material, vegetables, fruits, fungi Zoo: Hog chow, apples, carrots, greens, hay

<u>Conservation</u>: None. Most commonly bred for pets and zoological collections.

**FYI:** The first large wave of potbelly pigs into the United States came when they were imported from Europe for North American zoos in the mid-1980s (<u>National Geographic</u>).

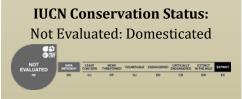


**Range & Habitat:** 



**Lifespan:** up to 20 years in captivity, 12-15 years in the wild.

**Special Adaptations:** Bred to be a pet, they are often smaller than the common pig.



## White-handed Gibbon (Lar Gibbon)

Hylobates lar



#### **Class:** Mammalia

**Order:** Primates

Family: Hylobatidae

<u>Characteristics</u>: White-handed gibbons vary greatly in appearance. Their coat colors range from dark gray, black, or brown to very light cream and brown colors. They do not have hair on the face, and the face is surrounded by white fur. The hands and feet are also white. White-handed gibbons do not have tails and they are considered apes. Males and females are similar in size with males weighing slightly more. The body length ranges from 16.5 - 23 inches. Males weigh 11 – 17 pounds and females usually weigh 10 – 15 pounds. (Encyclopedia of Life)

**Behavior:** Lar gibbons move through the trees using <u>brachiation</u>, but also move through the trees and on the ground by walking, hopping, running, climbing, swinging, bridging and leaping. These gibbons spend most of their time in the canopy, and rarely descend to the understory or forest floor. Lar gibbons spend their days feeding, resting, traveling, socializing, and <u>vocalizing</u>. (Primate Info Net) Lar gibbons live in groups consisting of a mated pair and their offspring. These gibbons are generally considered <u>monogamous</u>, but may occasionally change pairs in a lifetime. (Arkive)

**<u>Reproduction</u>**: Females of this species reach sexual maturity at about 9 years of age. White-handed gibbons can breed year round, but only produce one young every 3-4 years. The gestation period in this gibbon is about 7 months. Females usually give birth to a single young. (<u>Encyclopedia of Life</u>) The offspring is nursed for about 2 years and will reach adult size around 6 years of age. Most parental care comes from the female, but the male and other group members may help occasionally. (<u>Arkive</u>)

<u>Diet:</u> Wild: Mostly fruits, some leafy plants, flowers, and insects. (<u>Animal</u> <u>Diversity Web</u>)

Zoo: Leaf eater biscuits, monkey chow, eggs, fruits, vegetables, and greens.

<u>Conservation</u>: According to the <u>IUCN Redlist</u>, Lar gibbons' population has declined by more than 50 percent in the last 45 years. This decline is mostly due to hunting and habitat loss from deforestation. This species is protected in all of the countries in its range and is found mostly in protected areas. Lar gibbons are part of the SSP in zoos around the country.

**<u>FYI</u>** Lar gibbons will ward off other groups of gibbons with their calls. Each gibbon species has a different "great call" which is a duet between a mated pair.



Range & Habitat:

Found in tropical rainforests of southern and Southeast Asia, in the countries of China, Myanmar, Thailand, Malaysia and Indonesia.



**Lifespan:** up to 50 years in captivity, 30 years in the wild.

**Special Adaptations:** Elongated arms, hands, and feet help the gibbons to swing through the trees with ease.



#### Yak Bos grunniens/mutus

#### **Class:** Mammalia

**Order:** Artiodactyla

<u>Characteristics:</u> Yaks are incredibly large terrestrial mammals. Females usually weigh 650-800 pounds, with the males reaching weights up to 2,200 pounds. Male yaks can be up to 11 feet long and stand 7 feet tall (<u>Animal Diversity</u>). Wild yaks have very long, thick blackish brown fur covering most of the body, including the tail. They have long upward curving horns that are grayish white in color and can be up to 3 feet long. Yaks have large lungs and a high red blood cell count to breathe better at high elevations. The yak has often been described as a bulky, sturdy animal (<u>Encyclopedia of Life</u>).

**Behavior:** Wild yaks are herd animals, living in herds from 10-30 individuals and sometimes up to 200 yaks. Yaks will spend most of the day **grazing**. Females and males usually live separately except during breeding season. Yak will migrate to lower elevations during the winter, but do not tolerate warm temperatures well. If threatened, yaks will run away or they will snort and charge as a threat display (<u>Arkive</u>).

**Reproduction:** During mating season, males will compete violently for access to females. Yak individuals reach sexual maturity between 6-8 years of age. In the wild, females will give birth to one calf every other year. The gestation period for yaks is about 9.3 months. The young can stand and walk within hours after birth. The calf will be weaned around one year of age, but will not reach full size until the age of 6-8 years. Female yaks care for the young (Animal Diversity).

<u>Diet:</u> Wild: Grasses, mosses, and lichens Zoo: Hay

<u>Conservation: IUCN Redlist</u> lists the wild yak as vulnerable. The population has decreased greatly in the last 30 years. The number of individuals is believed to be as low as 10,000 individuals. Poaching is considered the most serious threat to the yak population. Other general human disturbances are also a threat. Humans are shrinking the range of the wild yak very quickly. They are already regionally extinct in Bhutan and Nepal.

**<u>FYI</u>**: Unlike other bovids, the yak and its manure have little to no detectable odor, and their wool is odor resistant.

#### Family: Bovidae



Range & Habitat: Limited to the Tibetan plateau, mostly found in alpine tundra and cold desert regions at high elevation.



**Lifespan:** up to 28 years in captivity, 25 years in the wild.

**Special Adaptations:** Yaks are well adapted to cold climates with very thick fur and a low number of sweat glands to reduce heat loss.



# **Class: Reptilia**

• Snakes, lizards, tortoises, crocodilians, tuatara, etc.

## **African Pancake Tortoise**

Malacochersus tornieri

Class: Reptilia

Order: Chelonia

Family: Testitudinidae

#### Characteristics:

Brown with radiating yellow markings on shell. Although 1½ up to7 inches in length, most are smallish. Females larger than males but have a less distinct rayed pattern. Males have longer, ticker tails. Both have small, flat, flexible 1 inch high shell. Numerous openings in bones enhance flexibility - much like juvenile tortoises of other species. Flexible bridge between plastron and carapace allows it to be flattened as it seeks shelter in rock crevices.

#### **Behavior:**

Spends time climbing among boulders and rocky hills for shelter using legs to wedge inside rocks when threatened. Emerges about one hour at a time basking and feeding in early AM. Does not live far from protection and can find known shelters quickly. Known to be the fastest tortoise in the world. After squirming into the rocks, they inflate themselves, making it near impossible to pull them out. If they fall on their backs, they can flip over quickly.

#### **Reproduction:**

Breeds in January and February in the wild and year round in captivity. Combat between males prior to breeding thought to stimulate mating and improve fertility. Female lays one or two eggs at a time in loose, sandy soil and may produce more eggs every six weeks over the season. Incubation period 4-6 months. Hatchlings  $1\frac{1}{2}$  -2 in. long.

#### Diet:

Wild: Herbivores. Grasses and fallen fruits. Zoo: Greens, veggies, Tort pellets

#### **Conservation**:

ICUN- Vulnerable. Low reproduction and pet trade are major threats. Tanzania has reduced number of exports and the European Economic Community has banned imports.

#### FYI:

AKA: Softshell Tortoise, Crevice Tortoise, Tornier's Tortoise Swahili name: Kobe



Range & Habitat Kenya and Tanzania in scrub brush, on rocky hills, or on kopjes (outcroppings).



**Lifespan:** up to 50 years in captivity, 35 years in the wild.

**Special Adaptations:** Flat shell and extreme agility allow it to flip back over quickly when climbing hills and rocky boulders.



## **African Spurred Tortoise**

Centrochelys sulcata

**Class:** Reptilia

**Order:** Testudines

Family: Testudinidae

#### **Characteristics:**

Also known as the Sulcata tortoise, grooved tortoise, spur tortoise and Africa spur thigh tortoise. African spurred tortoises are the largest tortoise on the mainland of Arica and is the third largest tortoise species in the world. They have a broad, oval <u>carapace</u> that can reach a length of 24-30 inches and they weigh over 100 pounds. The largest one ever recorded weighed 240 pounds! They can be identified by the well-defined spurs on the back of their rear legs. The growth rings on their scutes (shell scales) have prominent serrations which become more defined with age. They have well defined claws for digging deep desert burrows.



**Range & Habitat:** 

**Behavior**:

African spurred tortoises can be found in the hottest, driest areas of Africa. They do not hibernate but will burrow to avoid inclement weather as they cannot tolerate damp cold. They prefer areas with high illumination and constant warmth. These tortoises are very aggressive toward one another, from the moment they hatch, and get more aggressive during breeding season. Males will often ram into each other and try to flip one another over. (Arkive)

#### **Reproduction:**

Mating can occur at any time, but in the wild is most common after the rainy season, between September and November. The female may dig several nests before deciding on a nesting site in which she lays a clutch of 15 to 30 eggs. The eggs will incubate underground for about eight months.

#### **Diet:**

Wild: herbivores-plants and grasses, a diet very high in fiber Zoo: vegetables and hay. In fact, fruits or protein rich foods can make them sick

#### **Conservation:**

Sulcatas are considered vulnerable because of the illegal pet trade and also because people in Africa eat them.

#### <u>FYI:</u>

African spurred tortoises are crepuscular, meaning they come out during dawn and dusk, when temperatures are optimal. The rest of the time they hide in their underground burrows. They will share their burrows with other animals.



**Lifespan:** over 150 years in captivity and around 50+ in the wild.

#### **Special Adaptations**

Sulcatas are important in promoting vegetative growth around their burrowing sites. Seeds germinate after going through their intestines and their moist manure literally grows a garden around their burrows.

IUCN Conservation Status: Vulnerable



## **Aldabra Giant Tortoise**

#### Geochelone gigantea

#### **Class:** Reptilia

Order: Chelonia

<u>Characteristics</u>: Dark gray to black domed shell (carapace) averaging almost 4 ft. in length. Males in the wild can weigh more than 500 lbs. Males in captivity will weigh well over 700 lbs. Stout legs partially covered with big scales. Club-shaped feet with powerful claws. Short tail with claw-like spur on the tip. Long neck to aide in browsing on woody plants and branches up to 3 feet from the ground. Females smaller than males, averaging about 330 lbs.

**Behavior:** Active primarily in early morning and late evening and spend remainder of day resting in shady areas, shallow pools or mud holes. While resting they lie with the underside of their shell (plastron) on the ground and their head and limbs slightly retracted. When threatened, their head and limbs are pulled into the shell. Aldabra tortoises are found both individually and in aggregate herds.

**Reproduction:** Breeding occurs from February to May. Females lay clutches of 9 to 25 rubbery 2-inch diameter eggs in a shallow, dry nest. Less than half of the eggs are fertile. Incubation period is temperature dependent. In warm temperatures, eggs hatch in 3.5 months but in cooler temperatures incubation can be up to 8 months. After females lay their eggs there is no parental involvement. The young hatch as 3-inch long tortoises and dig out of the nest on their own. Females can produce a second clutch within the same breeding season.

<u>**Diet:</u>** Wild: Primarily vegetarians (herbivores). Low-growing grasses or plants or taller shrubs. Occasionally supplement with small invertebrates or carrion. They obtain most of the water from food sources.</u>

Zoo: Apples, bananas, carrots, celery, spinach, zucchini and vitamins.

<u>Conservation:</u> Giant tortoises were common on the islands in the western Indian Ocean with no significant predators or competitors for food until the 1600s when increasing numbers of explorers and settlers visited the Seychelles Islands and removed or killed them in large numbers. By 1840 the only giant tortoises surviving in the wild in the area were on the Aldabra atoll. Aldabra tortoises were saved by appeals for conservation from prominent scientists of the time including Charles Darwin. Today the Aldabra atoll, now a World Heritage Site, is home to some 150,000 Aldabra Giant Tortoises. Captive breeding programs are active in conservation parks in Mauriitus and Rodrigues. International trade in the species is controlled by CITES (Convention of International Trade in Endangered Species of Wild Fauna and Flora).

**<u>FYI</u>**: One of the world's largest species of tortoises and one of the longest living animals on the planet. From the 17<sup>th</sup> to 19<sup>th</sup> centuries tortoises were frequently captured and stored on board sailing ships to serve as fresh meat for the crew.

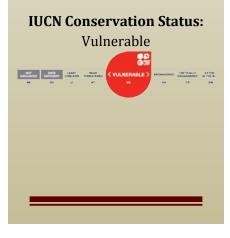
#### Family: Testudinidae



Range & Habitat: Aldabra Atoll, part of Seychelles Islands off east coast of Africa and north of Madagascar. Lives in grasslands, scrublands, swamps.



#### Lifespan: Lifespan in wild is unknown but estimated to be more than 100 years. Age is difficult to verify because they tend to outlive their human observers.



## **American Alligator**

#### Alligator mississippiensis

#### **Class:** Reptilia

Order: Crocodylia

Family: Alligatoridae

<u>Characteristics</u>: The average size of an adult female American alligator is 8 feet while a male averages 11 feet. They can weigh up to 1,000 pounds. They have a long snout and the eyes and nostrils are located on top so they can see and breathe while their body remains under water. The easiest way to distinguish between a crocodile and an alligator is to look at the jaw. In an alligator, the fourth tooth on the lower jaw fits perfectly into a socket in the upper jaw and is NOT visible when the mouth is closed. This is not the case in crocodiles. They have incredibly powerful jaws and the teeth are replaced as they wear down. Alligators can go through 2,000-3,000 teeth in a lifetime.

**Behavior:** Female alligators usually remain in a small area while males can have territories up to two square miles. The young will remain in their mothers' areas until they are three years old and then will leave in search of food or are driven out by the large males. Alligators undergo a sort of dormancy when they weather is cold. They will excavate a "gator hole" along a waterway or dig tunnels in areas where water fluctuates. These hollows provide them protection against hot and cold weather and are often used by other animals once the gator has left. Alligators do not have salt glands so they can only tolerate salt water for a brief time (<u>National Zoo</u>).

**Reproduction:** Both males and females reach sexual maturity around 10-12 years, or when they reach about 6 feet long. They breed at night in shallow water and breeding season is from April-May. After mating, the female builds a nest on land out of vegetation in June or July where she lays up to 90 (average is 30-50) eggs that will hatch in late August and will <u>"chirp"</u> to let mom know they are hatching and she will then remove the nesting material from around the eggs.

<u>Diet:</u> Wild: Carnivores-turtles, fish, snail, invertebrates, birds, frogs, mammals, snakes, lizards Zoo: fish and

<u>Conservation</u>: Alligators have made an amazing comeback in the U.S. and have been upgraded to Threatened. In some places, hunting is allowed although highly regulated.

**FYI:** Alligators have temperature-dependent sex determination meaning the temperature of the nest determines the sex of the hatchlings. Above 93° F are male and below 86°F are female.



Range & Habitat: Found in slow-moving freshwater rivers from North Carolina to the Rio Grande in Texas

**Lifespan:** average 50 years in captivity, 30 years in the wild.

**Special Adaptations:** Stealthy predators well adapted to aquatic life

#### **IUCN Conservation Status:**

Least Concern; considered threatened in the U.S.



## **Ball Python**

**Python regius** 

#### **Class:** Reptilia

**Order:** Squamata

<u>Characteristics</u>: The smallest of all pythons. Male grows only to 3-4 feet whereas female is larger at 4-4.5 feet. Flat head, round eyes, square, boxy snout and heavy jaw muscles that make sides of head bulge outwards. 100-150 sharp teeth curve toward the back. Neck narrow with stout trunk. Black and pale stripes run along face partly masking eyes. Adult body has large spots of brown outlined in black and white. Yellow and green spots on young outlined in black and white.

**Behavior:** Good climber though usually seen on the ground. Kills prey by wrapping in constricting coils or pressing against burrow walls. Known as picky eaters, tend to fast and become inactive in cool weather as bodies are not warm enough to digest food. Hisses loudly and coils into tight ball when threatened with head and neck tucked away into middle. Hide in mammal burrows and other underground places. Eats weekly and sheds monthly with proper humidity. Captive adults rarely bite.

**<u>Reproduction</u>**: Sexually mature at 5 years, female breeds once every two or three years. Egg bearing female turns darker in color and after laying 4 to 10 leathery-shelled eggs will coil around them fasting for the 80 day incubation period with only infrequent searches for water. Precocial hatchlings are left by female to fend for themselves.

#### Diet:

Wild: Hunts rats, gerbils, jerboas, shrews Zoo: Mice/Hoppers weekly.

<u>Conservation</u>: IUCN Status: Least Concern. Exportation for pet trade lowering numbers of certain populations to the point they may become extinct in those regions. Worldwide Habitat destruction and hunting skins for tourist products is also contributing to their decline.

**FYI:** -Considered good pets because of small size and placid nature. Oldest known lived to be 47 years in a Pennsylvania zoo -Common name refers to the tendency to curl up into a ball when stressed or frightened.

-AKA "Royal Python" based on the story that Cleopatra wore one on her wrist.

-Considered symbolic of the earth by the Igbo people of Nigeria because they travel so close to the ground.

#### Family: Pythonidae



Range & Habitat: West Africa east to Nile River in dry grassland, savanna and at



**Lifespan:** up to 30 years in captivity, unknown in the wild.

#### **Special Adaptations:**

Hones in on prey in utter darkness through heat seeking nerves in upper jaws coupled with ability to see well in darkness.

#### **IUCN Conservation Status:**



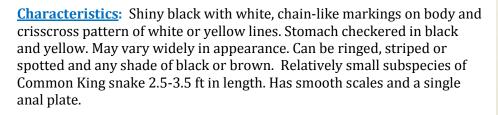
## **California King Snake**

#### Lampropeltis getual californiae

#### **Class:** Reptilia

Order: Squamata

Family: Colubridae



**Behavior:** Non-venomous species that loops around, constricts and squeezes prey until it suffocates. Generally diurnal but will become nocturnal if too hot. Will refuse to eat frozen items which can cause frostbite. Solitary except in hibernation. May excrete musk and fecal contents when handled which occurs more often in females. Hides under logs or stones and will hide head, hiss, rattle tail or roll into a ball when disturbed. Sheds 4-6 times per year though juveniles may shed monthly. Snakes in shared enclosures may try to eat one another.

**<u>Reproduction</u>**: Oviparous internal fertilization animal referring to laying eggs vs live birth. Mating begins in Spring with males competing for females by vibrating uncontrollably. 8-13 inch hatchlings emerge in 40-65 days from a clutch of 5-12 eggs. Stripied, spotted or banded coloring often occurs within offspring from same clutch of eggs.

#### Diet:

Wild: small mammals, turtles, birds, eggs, lizards, frogs, other snakes. Zoo: Mice

**<u>Conservation</u>**: IUCN status and CITES Appendix not listed. Common in natural habitat but considered invasive species in Europe introduced by accidental or deliberate release of individuals bred in captivity.

**FYI:** -Scientific name means "Shiny Skin." AKA: Chain Snakes, Chain Kings. -The "King" in the name refers to hunting and consuming other snakes, including venomous snakes that are indigenous to their habitat. -In the presence of a king snake, a rattler will neither strike nor rattle but will lie with head low and raise center part of body in a loop with which it will strike heavy blows to the king snake.

-Benefits of snakes include controlling rodent and frog populations, killing rattlesnakes.



**Range & Habitat:** Forest, woodlands, chaparrals, grasslands, marshes, farmlands,

deserts, and suburban areas



**Lifespan:** 15-20 years in captivity, unknown in the wild.

Special Adaptations:

Natural immunity to venom of poisonous snakes



### **Corn Snake** Pantherophis guttatus

#### Class: Reptilia

**Order:** Squamata

Family: Colubridae

<u>Characteristics</u>: L: 24-27 in. Wt: About 2 lbs. Usually orange or brownish yellow. Coloration reflects the environment. One lung, no limbs or pelvis, a single row of belly scales as wide as body- each scale corresponding to a single vertebra. Brain case is the only rigid part of skull. Sheds skin every one to three months.

**Behavior**: Slow and docile. Will not attack; will stand ground when surprised. Vibrates tail or eject feces and foul smelling liquid in selfdefense. Kills active prey by constriction- biting and strangling. Swallows food whole, head first. Hibernation varies with climate. Diurnal during spring but nocturnal during summer. Feeds only every few days. Consumes animals considered as pests to humans

**Reproduction:** Sexually mature at 18-36 months. Mates from March to May. Male follows female for hours before crawling over her back. Oviparous. Deposits clutches of 10-30 eggs hatching July-September. 10-15 inch precocial hatchlings must fend for themselves immediately after birth. First shed occurs in 7-10 days.

#### **Diet:**

Wild: Small mammals, birds' eggs. Zoo: Pinkies or baby mice.

<u>Conservation</u>: Not endangered though listed in Florida as a Species of Special Concern because of habitat loss, capture for pet purposes and being killed mistakenly as copperheads.

**FYI:** -There are 2,700 snake species total.

-Exceeding variation of colors in captive snakes resulting in lack of camouflage may contribute to loss in the wild.



Range & Habitat: South East United States and all continents but Australia in grassy areas, fields, farms, along waterways.



**Lifespan:** up to 20-25 years in captivity, 6-8 yrs years in the wild.

#### **Special Adaptations:**

Quadrate bone allows jaw to unhinge temporarily for consuming larger prey.

#### **IUCN Conservation Status:**



## **Crested Gecko**

Correlophus ciliatus

**Class:** Reptilia

Order: Squamata

**Characteristics:** Length 8 to 9 inches. Rows of soft, spiny scales, called crests run from wedge shaped head over large eyes down body to base of tail. Webbed legs and digits. Toes with small claws and tip of tail covered in small hairs called setae. Hair-like projections, resembling eyelashes found above eyes. They must their long tongues to moisten eyes and remove debris from their eyes since they lack eyelids. Prehensile tail aids in climbing and can be shed to deter predators. Lost tail will not grow back but the loss isn't as harmful to this gecko as to other geckos. Many colors including grey, brown, red, orange and yellow occur naturally along with spots, straight stripes and tiger-like stripes.

**Behavior:** May change color throughout the day having a duller color while sleeping. Typically solitary animals. Can be handled once acclimated but if stressed or not handled gently may drop tail. Arboreal and will climb smooth, vertical surface with use of pads on toes. Pad on tail helps jumping from branch to branch. Very vocal and may make barking or squeaking noises. Primarily nocturnal and spends daylight hours sleeping in a secure spot in a tree.

**Reproduction:** Breeds readily in captivity. After breeding once, female lays 2 eggs every 4-6 weeks for upwards of 8-10 months. Eggs hatch in 60-150 days and heat determines sex of the embryo. Newly hatched will not eat until after first shed (3-5 days) relying on yolk sack for nutrition. After 8-10 months female goes through a "cooling" cycle usually prompted by winter changes in temperature. If cooling cycle is not controlled female will lay eggs continuously, even to death.

**Diet:** Wild: Omnivores and Frugivores eating insects, nectar, fruit. Zoo: Powdered gecko food.

**Conservation:** Long believed extinct, this species was rediscovered in 1994. Now extremely popular in the pet trade, permits for export have been discontinued except for breeding and study in the US and Europe. Other than black market trade, the largest threat is the Little Fire Ant recently introduced to New Caledonia. The Fire Ants prey on geckos in great numbers and also compete for arthropods.

**FYI:** AKA: Eyelash gecko or Guichenot's giant gecko. "Eyelashes" are actually spines used to protect their eyes. Have a network of hairs on the bottom of each finger to allow them to walk and climb on very smooth surfaces. Have specialized eyes to see in the dark. Their pupils are vertical, slit-shaped with slightly lobed edges and can see color.

#### Family: Diplodactylidae

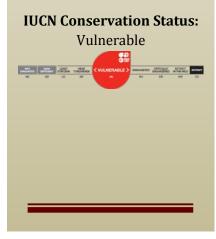


Range & Habitat: Rain forest canopies of New Caledonia islands east of Australia.



Lifespan: 15-20 years in captivity.

Special Adaptations: Prehensile tail with shedding capability for deterring predators.



## **Leopard Tortoise**

Stigmochelys pardalis

**Class:** Sauropsida

Order: Chelonia

Family: Testudinidae

#### **Characteristics:**

The leopard tortoise is the fourth largest tortoise species in the world. They get their name from their color pattern on the elevated <u>carapace</u>, or shell. The rings of yellow, tan, and brown resemble leopard spots. These tortoises can reach up to two feet in length and weigh up to 80 pounds (<u>National Zoo</u>). Tortoises lack ears, but can sense vibrations from the surrounding environment. They also lack teeth, but have a sharp beak for tearing into foods. These tortoises are well adapted to hot, arid areas (<u>Maryland Zoo</u>).

#### **Behavior:**

Leopard tortoises are considered crepuscular. They try to seek shade and avoid activity during the hottest parts of the day in the savannah sun. They spend most of their time grazing on grasses (Maryland Zoo). If threatened, a leopard tortoise has been known to poop on its predator. Males <u>compete</u> for females during mating season by pushing each other until one is flipped upside down (<u>National Zoo</u>).

#### **Reproduction:**

Females will dig a nest about one foot deep and will lay up to 30 eggs in the nest. The eggs will hatch about 18 months after they are laid. Neither the male nor female are involved in parenting the offspring.

#### Diet:

Wild: grasses and succulents (prickly pear cactus) Zoo: mixed greens, sweet potato, apple, carrot, tomato, oranges, clovite, hay, tortoise pellet.

#### **Conservation:**

Leopard tortoises are listed as least concern by <u>IUCN Redlist</u>. They are not an SSP species. They are believed to be abundant in Africa, and have a very large range. Leopard tortoises are the most common tortoise in Africa.

#### FYI:

Tortoises, turtles and terrapins are differentiated by where they live. Tortoises usually live completely on land, while turtles live predominantly in water. Terrapins are found both on land and in water.



#### Range & Habitat:

Leopard tortoises are found in sub-Saharan Africa, from Sudan south to the Cape Province of South Africa. They are often found in savannah grasslands (<u>Reptile</u>



**Lifespan:** over 100 years in captivity, up to 100 years in the wild.

**Special Adaptations:** Leopard tortoises have the ability to pull their entire body inside the shell for defense against predators.



## **Northern Blue-tongued Skink**

Tiliqua scincoides

**Class:** Reptilia

**Order:** *Quamata* 

Family: Scincidae

#### Characteristics:

Largest of lizards at 17-24 in. Wt. 10-18 oz. Long body, large head, small legs with delicate toes. Tail shorter than body, tapering to a point. Colored with dark and orange bars on light brown background. Faint eyes stripes and cobalt-blue tongue. Skin consists of overlapping scales containing small plates of bone. Eardrums are sunken into cavities on sides on head. Skin is shed in pieces. Not sexually dimorphic.

#### Behavior:

Diurnal. Spends day searching for food and basking in sun maintaining a temperature of 30-35 C. Shelters at night in hollow logs, rocks or debris. Stays buried in shelter in cold weather. Ingests small stones to help digest food. When threatened may stand its ground, puff up, hiss, and stick out its blue tongue to startle a predator. Has powerful, painful bite even without well defined teeth. Can make a hasty retreat but if grabbed by rear will shed tail which will eventually grow back.

#### **Reproduction:**

Mating takes place in spring. Female is ovoviviparous carrying eggs which hatch in the body; 5-20 hatchlings are delivered live after 4 months gestation. Young are precocial and disperse within a few days. Newly hatched averge 4 in long and weigh about .5 oz. If they can find enough to eat, they grow quickly reaching adult size in less than a year.

#### Diet:

Wild: animal and plant materials including insects, snails, flowers, fruits and berries.

Zoo: greens, veggies, dog food, vitamins

#### **Conservation**:

Not endangered. Predators include Tasmanian devil, native cat, dingoes, kookaburras, other carnivores. Welcomed in gardens for keeping down snails and plant eating insects. Often fall prey to suburban cats, dogs, garden chemicals and lawn mowers

#### <u>FYI</u>:

Not recommended as pets as they require very specialized diets and environment. Thought to mimic poisonous Death Adder as both share similar coloration and the short legs gives the impression of a snake.



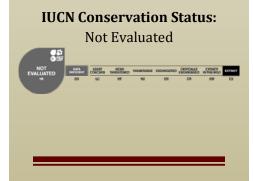
Range & Habitat: Australia in semi-desert, mixed woodlands and scrub lands.



**Lifespan:** 15-20 years in captivity, unknown in the wild.

#### **Special Adaptations:**

Sheds tail to escape predators. Movable, transparent lower eyelid to protect from dust.



## **Red-Tailed Boa Constrictor**

**Constrictor constrictor** 

Class: Reptilia

**Order:** Squamata/Serpentes

Family: Boidae

#### **Characteristics:**

A long slender body that averages 8 feet in length with some reportedly reaching up to 15 feet. The colors of the body are alternate between large, light brown patches with a ruddy brown to dark brick red in between each patch. The position of these colors switch towards the tail (<u>Bartlett et al 2001 p. 4</u>). These snakes possess a row of shot, sharp teeth that are used in the initial capture of its prey and facilitate ingestion of the prey item.

#### **Behavior:**

Boa constrictors in general kill their prey item via constriction. This constriction is not to cause suffocation as previously thought but rather to <u>cease blood flow</u>. They are able sense when the prey item has died based upon their <u>heart beat</u>. Once they've consumed their food, they don't need to feed for two weeks because of their low metabolic rate. In order to grow, boa constrictors must shed their skin. During shedding, they become sedentary because their sight becomes cloudy.

#### **Reproduction:**

Like most snakes, red-tailed boas have internal fertilization. Unlike most snakes, they don't lay eggs but give birth to an average of 25 live offspring after an 8 month incubation period. Males tend to breed with more than one female during the breeding season (<u>O'Shea 2007</u>).

#### **Diet:**

Wild: Any animal they can catch and fit into their mouth, but principally feed on small mammals and birds. Zoo: Rats, mice and chicks.

#### **Conservation:**

Not evaluated: Pet trade, used for skin and food.

#### FYI:

May help to decrease the spread of leishmaniasis (<u>Animal</u> <u>Diversity Web</u>).



**Range & Habitat:** From Mexico down to Northern Argentina and Chile. Wet forests to dry grasslands



**Lifespan:** Wild: 20 years Captive: 30 to 35 years

#### **Special Adaptations:**

-limbless, lack heat sensor pits -un-hinging jaw -sensitive underside

IUCN Conservation Status: Not evaluated

