أطلس عالم الثدييات

Atlas of World Mamals

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الدكتور محمد وائل تيسير دعبول

ماجستير في علم الأحياء- مجاز في الباثولوجيا السريرية

أخصائي في التشخيص المخبري

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الفهرس

Mammals:

Mammals are animals with mammary gland, that is a class of vertebrate animals that produce milk for infants. They are also characterized by warm blooded bodies and the presence of hair or fur. The young usually come to live fully grown, but some may give incomplete birth where they remain in a special pouch in the belly of the mother until the growth is complete. This type of mammal is called follicular mammal. Australia is home to most marsupial mammals, although some marsupials are common in South America. There are also two species of mammals - platinum, duckbill, lading or hedgehog – which are the only mammals to lay eggs, both of which live in Australia. Otherwise, the rest of the mammals are placental mammals that spread throughout the world. The embryo in the choroid mammals is fed inside the mother's body by blood that passes through a filter called the placenta where babies are born at a more developed age than in other types of mammals.

Mammals have three characteristics: -they have breasts, -their skin with some exceptions (are covered with hair), and they breed with offspring. There are other characteristics found in mammals, although they are not competent to them only. Mammals range in size from the "shrew", a species that resembles a small mouse, to a huge blue whale. There are different ways of living for the different species, some living above the ground and some under the ground, some in the trees and some in water or in air. Mammals comprise about 5,500 species, divided into 1,200 class, 152 genera and 46 ranks. Cats and dogs are mammals, as well as farm animals such as cattle, sheep and horses. Mammals also include other animals such as anteaters, monkeys, giraffes, hippos and kangaroos. Man himself is also a mammal.

When it comes to looking for food, mammals live almost everywhere. Mammals such as monkeys and elephants live in the tropics, bears live in the Arctic, while mammals such as camels and kangaroos live in the desert. Certain species of mammals such as seals and whales live in seas and oceans. One group of mammals that can fly is the bat. Some mammals live near human communities. These include mice and rats, which often feed on household waste. Most wild mammals can only live in their natural habitats. Many mammals, such as the cheetah, warn humans and avoid places they live in.

The construction of each animal's structural and functional breasts is compatible with its own way of living. The main differences usually occur in the limbs and in the teeth. In some mammals, the legs are most suitable for running, in others for jumping and others for digging, climbing, swimming or flying. Teeth are used for nibbling or chewing or tear meat, mammalian teeth tell whether they are carnivorous or herbivorous on the whole. Because mammals are hot blooded and are coated with hair or fur, they can live in cold countries as they do in hot countries . To avoid freezing or overheating, their behavior is usually different. They are active in polar regions because movement increases the body temperature and polar animals have more dense fur. On the other hand, in tropical regions, for example, large mammals such as elephants and hippopotamuses have naked bodies with no hair to lose heat faster. Some mammals reduce their body heat by secreting sweat as humans do. Dogs that do not have sweat glands in their skin stretch their tongue and gasp for excess heat.

Mammals differ from other animals in five ways:

Mammals feed their young, feeding them with milk, while other animals do not.

Most mammals provide more protection and training to their young than other animals.

- ٣ Mammals are the only animals that have a growing hair. Growing hair is a persistent phenomenon in all mammals at some time of their live, although some types of whales grow hair even before they are born.

- ٤ Mammal animals are with hot blood, that is, their temperature remains constant even if the external temperature surrounding them has changed. Birds are also warm-blooded. Except for mammals and birds, almost all other animals do not have this characteristic.

٥- The size and development of the brain in mammals increases compared to other animals. Of all mammals, it is the human being that is characterized by a high degree of understanding.

Many mammals live in groups of individuals consisting mostly of fully grown male and female in addition to their offspring, as in apes. Some groups, such as wolves, may contain several individuals who are fully developed with their young. Another type of group includes one male and several fully grown females and their young as in zebras.

Wolves, lions and other predators all work together to get around the prey and bring it to other herd. Prey also benefits from collective life. For example, if a deer feels threatened, it warns the herd of an imminent danger. In other species, such as musk bulls, the group meets in a synergistic defense condition to protect against predators.

Some mammals spend most of their lives lonely in an isolation life, such as the Tigers and most other felines (except lions). Even these mammals may spend some time with individuals of their kind. Males and females meet together when mating, and the mother stays with youngsters until the time of weaning.

Settlement is a form of living behavior that some animals seek to settle in a particular area that they defend and protect, while other members of the

same species remain outside that settlement. Many mammals establish their settlements during the mating period, for example, the male seal establishes its settlement before beginning the intercourse, and then expels the other males outside the settlement in an attempt to collect as many females as possible. Mammals define the boundaries of their settlements in different ways. Hyenas, for example, use their solid residues, as well as odors produced by certain glands in their body, to show the boundaries of their settlements, while wolf herds use urine as a marker. Mammals usually defend their settlements with threats and intimidation, with real battles or quarrels, such as a group of barking monkeys shouting to keep other monkeys out of the settlement.

Mammals may be carnivores and herbivores or both. There are species that feed on carrion and dead animals, but with the exception of some species that eat special food such as Australian koala bear and lazy bear, which eat only a certain type of foliage, most mammals eat what they can find if they need to.

The gut in herbivores is usually much longer than in carnivores since vegetarian food is more difficult to digest. Some mammals have a multi-section stomach that decomposes food more easily.

Humans have always hunted other mammals. In various times, people ate the meat of wild mammals and used their skins to make clothes. They also used their bones, teeth, horns and hooves to make tools and ornaments. People have learned to domesticate certain types of beneficial mammals. Hunters have raised dogs for the purposes of guarding and protecting cattle. Some people have domesticated the first generations of cattle, goats and sheep. Since then these animals have supplied humans with meat and other products. Camels, elephants, goats, lamas, elk and sometimes dogs were used for the same purpose. Some mammals - especially cats, dogs, rodent rats and rabbits - are common pets. Certain

types of these animals used in Scientific research, such as trying new drugs in rats, mice, dogs, guinea pigs and monkeys. Despite the availability of pet mammals, people still hunt wild mammals, such as antelopes, deer, rabbits and squirrels, to benefit their meat and skins. Whales are hunted for meat, oil, and calves for their skins. Wild mammals such as beaver, muskrat, otter, etc. are hunted for fur. Elephants, hippos and walruses are hunted for their ivory canines. Wild mammals are also a source of pleasure. Many people travel to public and private parks to see bears, deer, lions and other mammals in their natural environments. Other people go to zoos to see attractive animals. Even in big cities, people can see and enjoy some wild mammals, such as squirrels.

The blue whale, one of the largest creatures that ever lived, is a mammal. It is approximately 30 meter long and weighs over 200 tons. The smallest mammal is Thailand's curved-nosed bat, about the size of a bumblebee, weighing only about two grams.

Some mammals live for long periods. For example, elephants live about 60 years, and some people live until they reach the age of one hundred years or more. On the other hand, many rats and shrews live for less than a year.

Most mammals are herbivores. Vegetable food is usually hard and causes corrosion in the teeth, but herbivores have special teeth to resist corrosion. In many plant-eating mammals such as cattle, elephants and horses, the upper teeth are crowned, and therefore erode slowly, while in beaver, mice and other rodents, the front teeth grow continuously, preventing erosion.

Some mammals are called carnivores, because they feed on animal meat. Many of these mammals are fast-moving and can catch, prey, and stab with long, pointed tusks. Mammals such as tigers, lions and wolves do

not chew their food well but swallow large chunks of it at once. Dolphins, seals and other fish-eating mammals also use their teeth to grab prey and swallow them at once. Some carnivorous mammals feed on the remains of animal carcasses rather than hunting live prey. Hyenas are particularly well-suited for such meals and have a powerful jaw that can even crush large bones.

Some mammals such as bats and flies feed on insects and are called insect eaters. These animals have teeth that enable them to cut off and remove the hard outer parts of the insect's body, thus exposing the soft inner parts of the insect and thus becoming ready for animal food. Other insectivores, such as butterflies, anteater, urchin ants, nematodes, and bengolines, all have weak or no teeth at all. These mammals feed on ants, picking up these insects with their long sticky tongues and then swallowing them without chewing.

Some mammals feed on plants and animals. These mammals have teeth that enable them to grind plants and cut meat, including bear, pig, opossum, and humans. Some mammals change their food according to the different seasons; for example, the American skunk is fed with fruits, seeds and insects in summer, while it is fed with rats and mice in winter.

predator mammals rely mainly on their sharp teeth to catch and kill their prey. Most of these predators also have claws that they use to catch their prey victims. Isolated predators usually track their prey by stealthily sneaking and hiding, aided by their skin, whose colors are mixed with things that surround them so that they are hard to discern. After the predator stealthily descends to the prey, he quickly leaps into the last jump to catch it before escaping. Mass hunters such as dogs and African wolves usually trace hunting prey until they are exhausted and easily hunted.

Most mammals try to avoid predators by fleeing. Ungulates mammals such as gazelle and impala can run long distances, while rabbits, mice and many other small mammals rush to their burrows or other hiding places. The young antelopes and the young rabbits avoid predators with complete immobility, and this method of defense is successful, as most predators rely on vision and tracking movement. American opossums resort to this method, but at a more advanced pace.

Some mammals have special ingredients that protect them from their enemies. For example, the bony shield of armored animals and scales in the Bengolin protects them from sharp-clawed predators. Similarly, the thick skin of both elephants and rhinos performs the same purpose. Sharp hard spines also help hedgehog , hedgehog ants and porcupines and protect them from most of their attackers. Animals such as American skunk and others release a stinking liquid when they are in danger, which prevents predators from approaching them again. In most species of prey, protection is through the colors of the body that interfere with the colors of the surrounding environment. In some species the body cover changes seasonally to match the color of the environment in which the animal lives in. In the Arctic hares, the body's cover is brown in summer, and in winter the color turns white to help it hide in the ice.

Mammals that live and move on the ground walk on four legs. They move by lifting one front foot and then the opposite rear foot, then lifting the other front foot and the opposite rear foot. At high speeds, most four-legged mammals jog, lifting one of their front foot with the opposite rear foot at the same time. Few species such as camels, elephants and giraffes run instead of jogging. Some mammals are characterized by lifting both feet on one side of the body at the same time. At maximum speed most ground mammals jump, and during the jump only one foot is on the ground, but at certain moments during the jump all four feet are in the air.

Rabies and kangaroos are ground mammals that move by of jumping. These animals have strong rear legs, and also have a long tail used to maintain balance.

For mammals, who live in forests and spend most of their time on trees, these tree animals have special features of the body that enable them to move between trees. For example, monkeys use their hands and legs to grasp the branches of trees. Many monkeys living in Central and South America have a clutch tail that can circumvent tree branches for support. Other mammals have an astringent tail, such as kangak, opossum and flanger. Some types of ant eaters, bingolins and porcupines also have a clutch tail. Other animals, such as squirrels and tree flies, have sharp, arched claws that help them climb trees. Lazy tree climbers have claws so long and curved that the animal cannot walk upright on the ground. These mammals spend most of their lives hanging on tree branches upside down.

In water: dolphins, sea pigs, manatees and whales are mammals that spend their entire lives in the water. These animals have a streamlined body and a strong tail, both move up and down to push the animal firmly through the water. The front ends take a paddle-like fin shape used for balance purposes and rotation. These animals have no rear limbs. Many mammals spend most of their lives - but not all - in water. Some of these animals, such as hippopotamus and walrus, swim by moving their front and back ends. Other species use mainly their front ends, such as platypus, polar bears, fur seals, and sea lions. There are other mammals whose backs are used only for swimming, such as beaver and hairy seals.

In the air: bats are the only mammals that can fly. Their wings are made of thin leather tightened on the bones of the anterior limbs. The bats fly by beating their wings forward, down, up, and back. Animals called flying lemurs, flying flanger or flying squirrel cannot really fly. These

mammals have folds of skin between the front end and the back end on both sides of the body. By stretching the wings, the animal can jump from tree to tree, as if flying in the air.

Underground, moles and other mammal species spend almost all their lives inside. Most underground mammals have sharp claws and strong anterior limbs, many of which have poor vision and some are unable to see for good. The front ends of the moles rotate so that their broad comfort rests behind and protrudes their body upward. Moles can swim through the soil thanks to their strong frontal muscles. The swimming of these animals is very similar to that of some people.

Mammals reproduce through the union of sperm (male sex cell) with the egg (female sex cell) and this union is called fertilization. These mammals are divided into three groups according to the growth of the fertilized egg for each type of these mammals. All mammals reproduce sexually. In sexual reproduction, sperm or male sex cells combine with an egg or female sex cell. This process is called fertilization. Then the fertilized egg grows to be a new individual. In all types of mammals, the egg is fertilized within the female body, and male mammals have a special organ called the penis, which ejaculates sperm in the womb or vagina during sexual contact. Mating occurs in most mammals at times when the female is only in a rut, where the female accepts the male and responds to the process of mating (sexual intercourse).

The time of eroticism occurrence varies with different species. In some mammals, especially those living in areas where the climate is constant throughout the year, sexual eroticism occurs in the female at any time. These mammals are known as multi-sexual mammals, such as elephants and giraffes. In species that live in seasonal climatic zones, female eroticism occurs at certain times of the year. The mating season is timed so that the young produce at times when the environment is suitable for

live. There are some seasonal mating species that eroticism occurs once a year, and these mammals are known as monogamous mammals, such as some bats, bears and deer. In other species, such as rabbits, eroticism occurs several times during the mating season.

Mating behavior in most smaller mammals is undistinguished. There is no continuous bond between the spouses, but only stay with each other during mating. Some polynomial species, such as deer and fur seals, mate with a group of females before and during the mating season. In many mammal species, males remain with females for some time after mating, but only a few mammals remain with their peers for life. Zoologists believe that these species include beavers, wolves, and small species of antelopes.

All young mammals feed on milk from mothers' breasts. Both the placental and the ones with follicles are breastfed from the nipples. The females with follicle do not have nipples, but excrete milk through holes on the surface of the abdomen licked by their young.

The incubation period lasts only a few weeks in mice, rabbits and many other species. In some mammals such as elephants and rhino, they feed infants for several years before weaning. In most species, youngsters can feed on solid foods for long periods before weaning. Young mammals learn a lot of skills to survive. This often happens during the incubation period, where youngsters learn how to get food and avoid hazards. In most mammals, the mother alone takes care of the young, but in some species the male helps in the upbringing and care of young. For example, males of certain types of mice help to prepare the burrow. African wild dogs bring food to the mother and puppies. Male lions also help protect the mother and cubs from attacking hyenas and other lions.

In many smaller mammals such as mice, they leave the young immediately after weaning. But in other species such as cheetahs,

elephants, wolves, and others, the youngsters remain long with their parents after the incubation period.

One form of living behavior is settlement, in which some animals seek to settle in a particular area that they defend and protect, while other members of the same species remain outside that settlement. Many mammal species establish settlements during the mating season. For example, male seals make the settlement process before sexual intercourse, and then expels the other males outside the settlement, at the same time, trying to mate with as many females as possible. Other mammals, such as gibbon monkeys and squawking monkeys, use the settlement method as a means of ensuring adequate food for the group.

Mammals mark their settlements in different ways to denote proprietorship of these settlements. For example, hyenas use their solid residues, as well as odors from certain glands in the body, to show the boundaries of their settlements. Mammals usually defend their settlements by threatening ways rather than with real fights or quarrels, such as a group of barking monkeys shouting and barking to keep other monkeys out of the settlement boundaries. Many mammals do not take settlements for their livelihoods, but rather take up regional pastures to wander around in search of food, water and shelter. Unlike habitant animals with settlements, this type of livelihood has no means of defense against members of same species.

Many mammal species migrate seasonally to obtain better food, to avoid harsh climates, or to achieve both. For example, the bats of North America and Europe migrate southward each fall, where insects cannot be present during the cold winter of the North. African titans and zebras migrate in Africa in search of green grass during the annual dry season. Many deer species that live in temperate regions spend the summer on the

mountain slopes, and in winter move to valleys where shelters increase and ice depth decreases.

Some mammals migrate to an area for making birth or mating. For example, gray whales swim in the autumn from their Arctic waters, where they feed into warmer waters off the northwest coast of Mexico. Whale food is reduced or absent in those warm waters, yet the animal migrates to ensure the livelihood of youngsters who cannot live in the cold Arctic waters. Some mammals also use hibernation as a means of avoiding food shortages in winter. The animal enters a hibernation where he cannot wake up quickly. In mammals during hibernation, the body temperature decreases compared to normal temperature and, in most cases, decreases to almost the temperature of the surrounding outdoor air. Respiratory rates also drop significantly. Hibernate mammals do not eat, but feed on fat stored in their bodies. Some of these mammals exercise hibernation repeatedly over the winter.

Hibernate mammals in winter include certain species of bats, ant hedgehogs, ground squirrels, marmots and other rodent species. Most of these animals are highly fattened before hibernation, and spend most of the winter in a habitat or protected places, where the temperature is unlikely to fall below the freezing rate. Some species of bears also go into hibernation-like condition for long periods of winter. Many scientists believe that hibernation of the bear can be classified as hibernation, while others believe that this is not a real hibernation due to the slight decrease in body temperature during winter hibernation. Few mammalian species, especially rodents, enter the habit of hibernation during hotter and drier times in summer, known as summer hibernation.

Mammals classification:

Placental realities: The most prevalent mammals, which live in all environments, on land and in water and air, which are the most important:

1 - Insectivore: Includes the molds (single-mole) and hedgehogs and shrews, which feed on insects. Shrew is one of the smallest living mammals, as some weigh less than five grams only.

2 - Bat (flying mammals) Chiropterans: A mammal capable of flying by connection of fingers of the front ends to each other with a skin membrane connected to the legs and body in the form of a wing. They feed on insects and fruits, but some feed on blood of other animals. The bats sense their surroundings by producing ultrasonic vibrations that bounce back, collected and recognized exploring the conditions around them.

3 - Carnivores: Includes cats, dogs, wolves, foxes, bears and sea lions. All are carnivores with sharp pointed teeth and torn molars.

4 - Rodents: this includes squirrels, mice, rats, hamsters and Indian pigs. They have sharp chisel-like cutters front teeth.

5 - Edentate: This includes anteater and armor (Armadillo). They do not have teeth.

6 - diodes Artiodactyls: which includes sheep, goats, pigs, giraffes and deer. They are herbivores with hooves, double-fingered.

7 – Single-fingers Perissodactyla: It includes horses and donkeys, the beast, (zebra), tapir and rhino (rhinoceros). They are herbivores with hooves but single-finger.

8- Proboscides include elephants and mammoths. They have a long muscular hose and long fangs (elephant ivory). They are the largest animals, and may weigh up to 7 tons.

9. Sirenia: mammals that are almost in the process of extinction. The front ends resembles fins and they are without rear limbs. They lives in water including manatees.

10- Cetacean: Includes whales and dolphins. They are marine mammals, with a fish-shaped body, and their fronts resemble fins and without back

limbs. Their body is covered by a thick layer of fatty substance. The largest among them is the blue whale, which can be up to 30 meters long and weighs 135 tons.

11- Primates: lemurs, chimpanzees, monkeys, apes and humans. They have complex brains and eyes with fingernails instead of claws, and the thumbs of the hands or legs meet with the rest of the fingers, and their eyes are facing forward.

B - marsupials and most seen in the continent of Australia, and some are found in South America and examples of marsupial animals Kangaroos and koala bears and wombat animals. There are about 80 species of opossum, a bursa, living in Central and South America.

C- Monoterms: Unlike other mammalian species, animals do not give birth to live young, but lay egg shells, which hatch after the end of the incubation period. This group includes only ants and platypus, which live in Australia, New Guinea and Tasmania.

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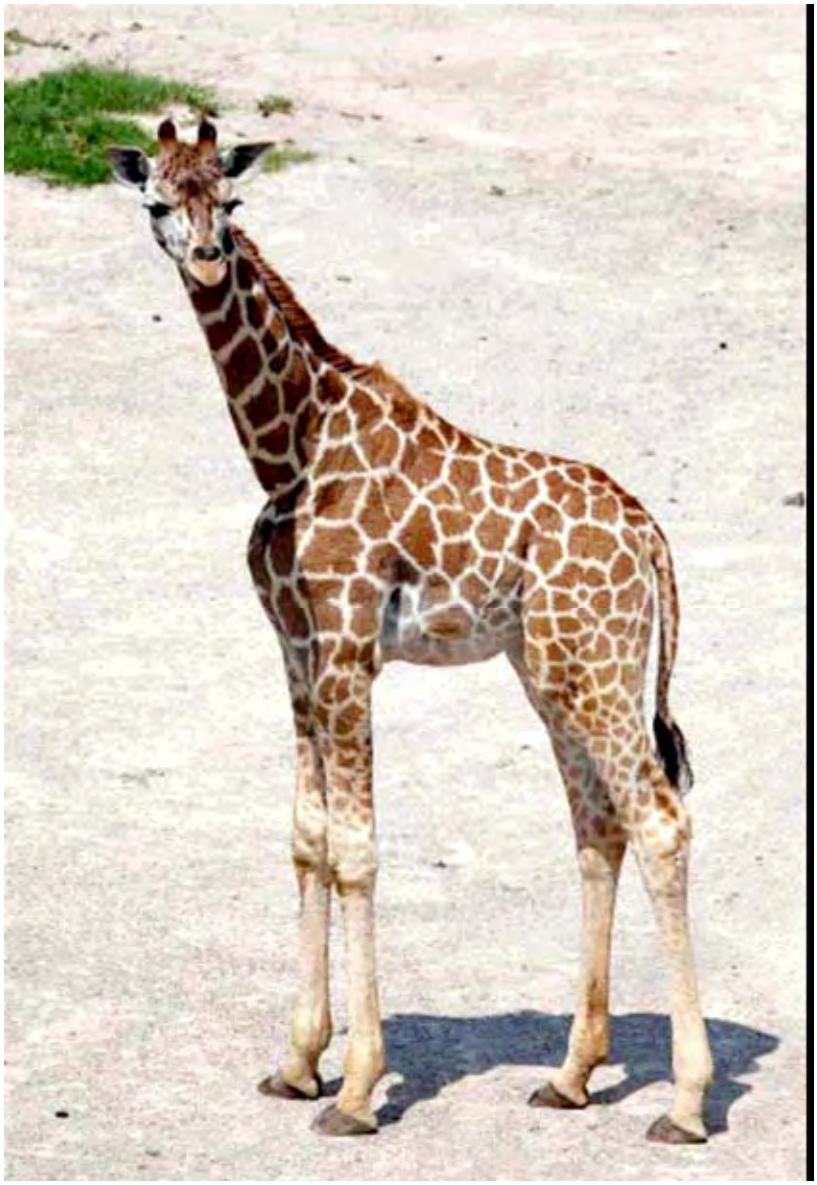
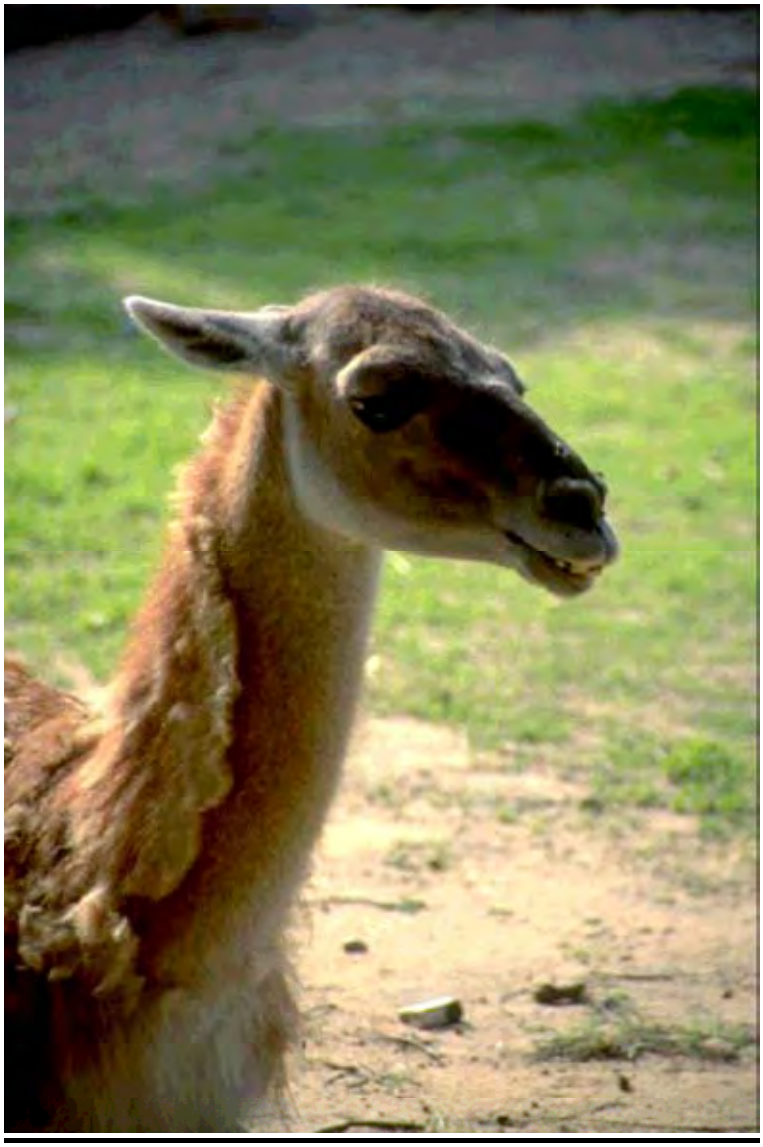
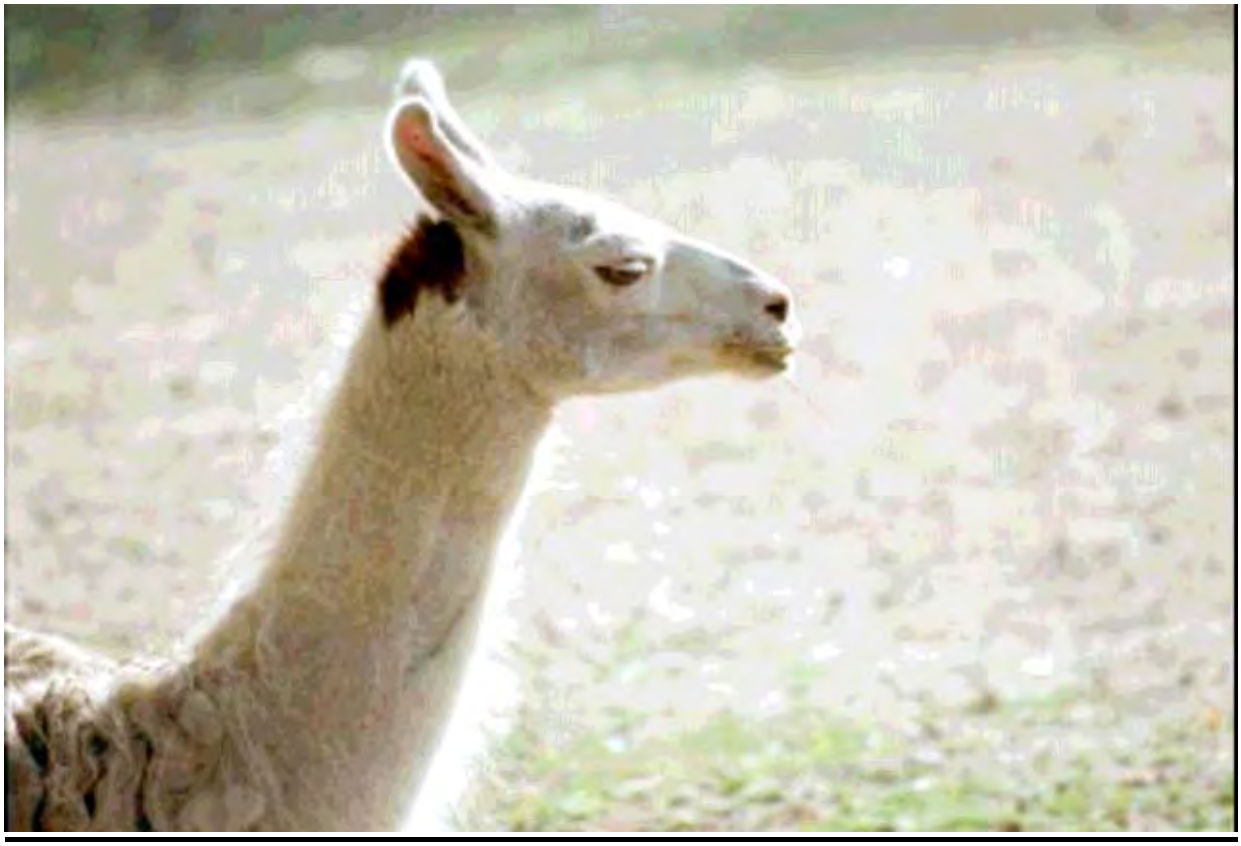
ث- الزرافات : Giraffes

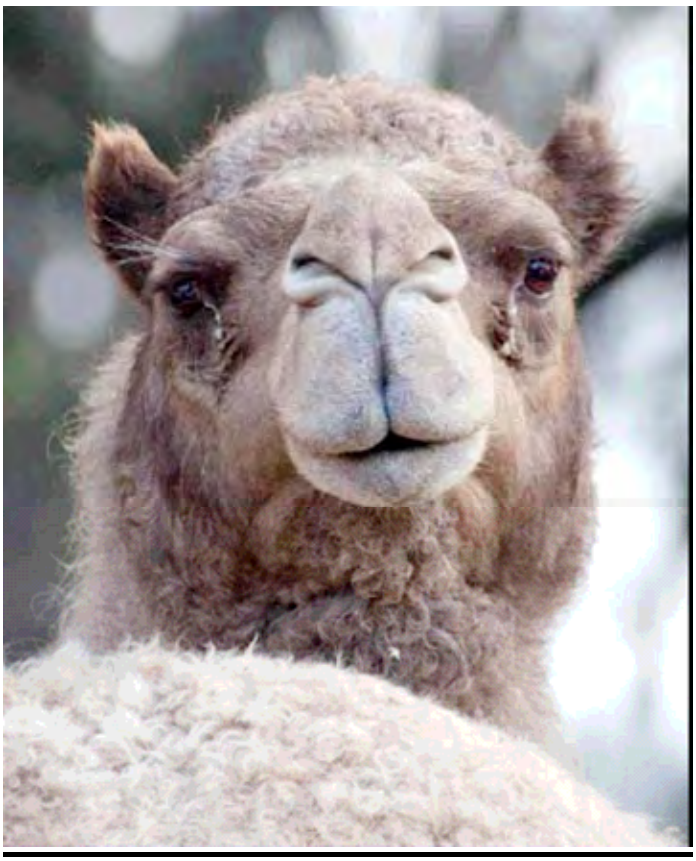


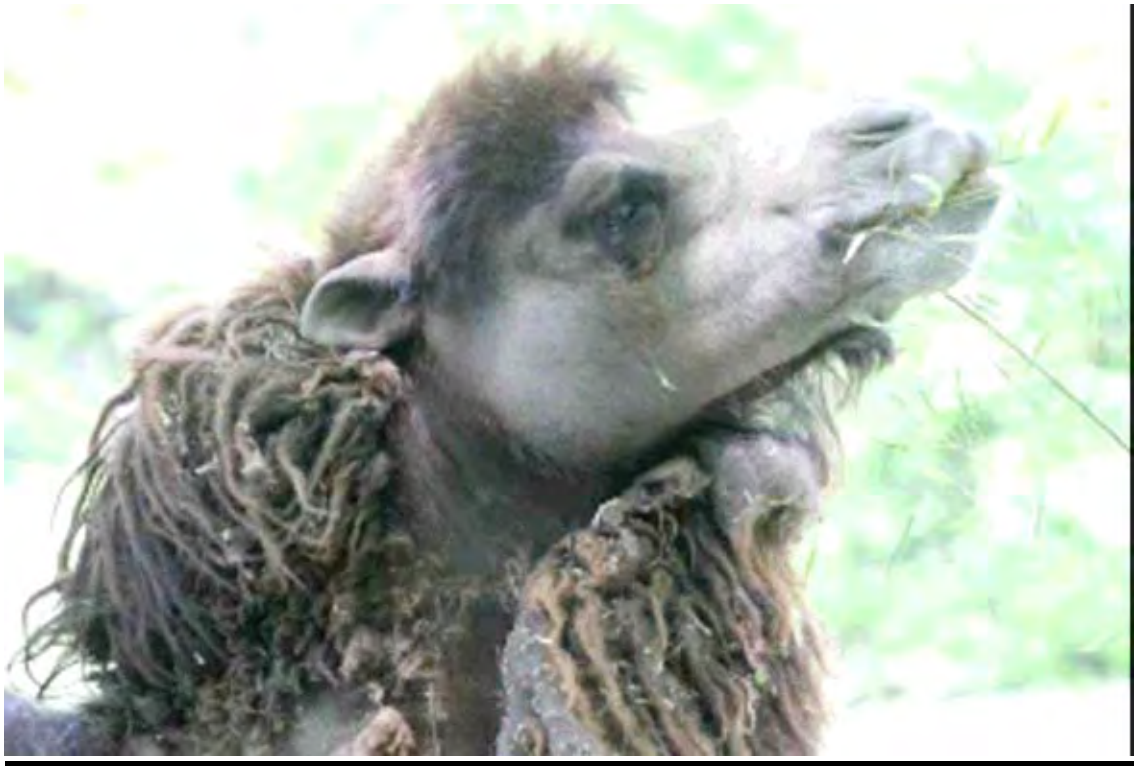
ج- اللاما Llama Alpacas

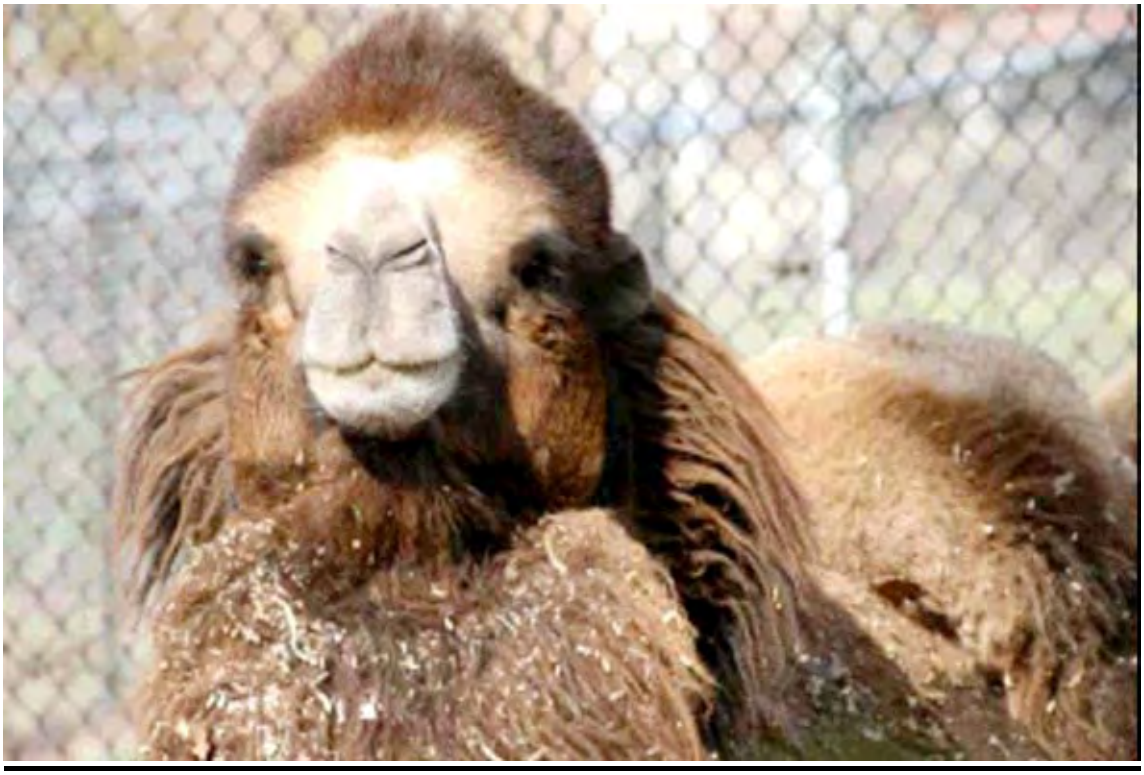




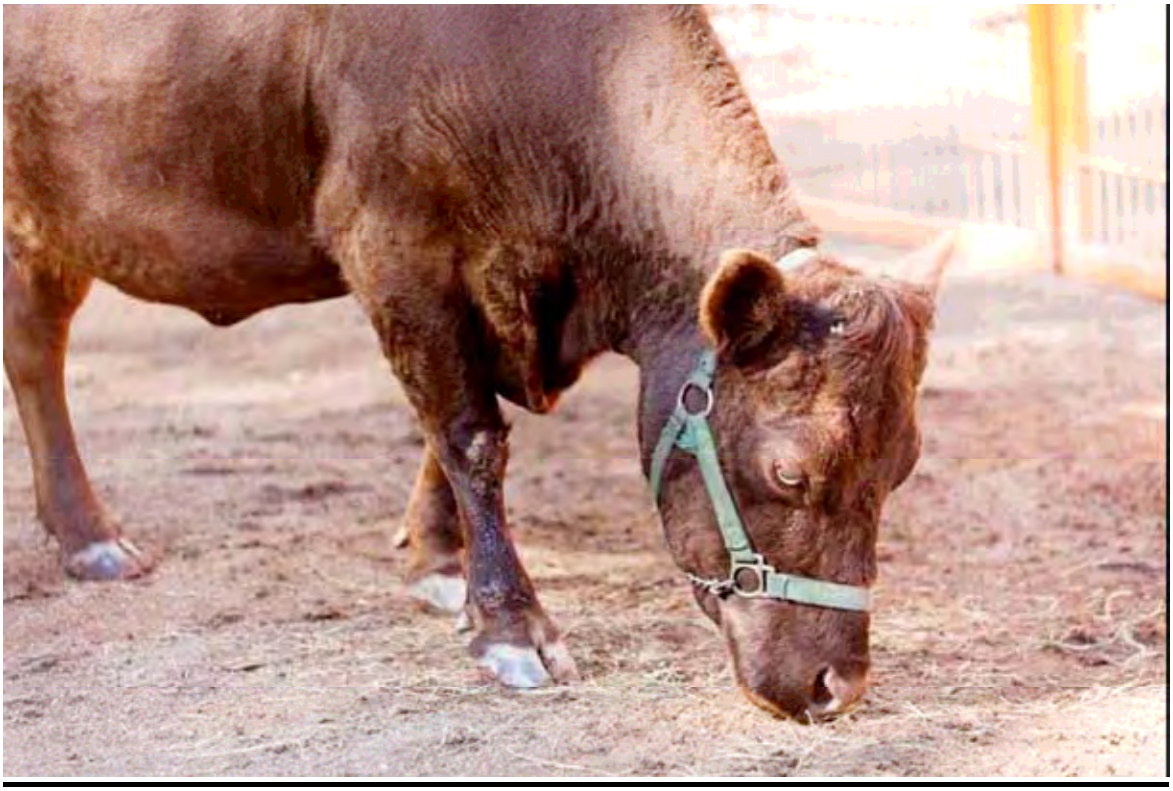
ح- الجمال Camels:

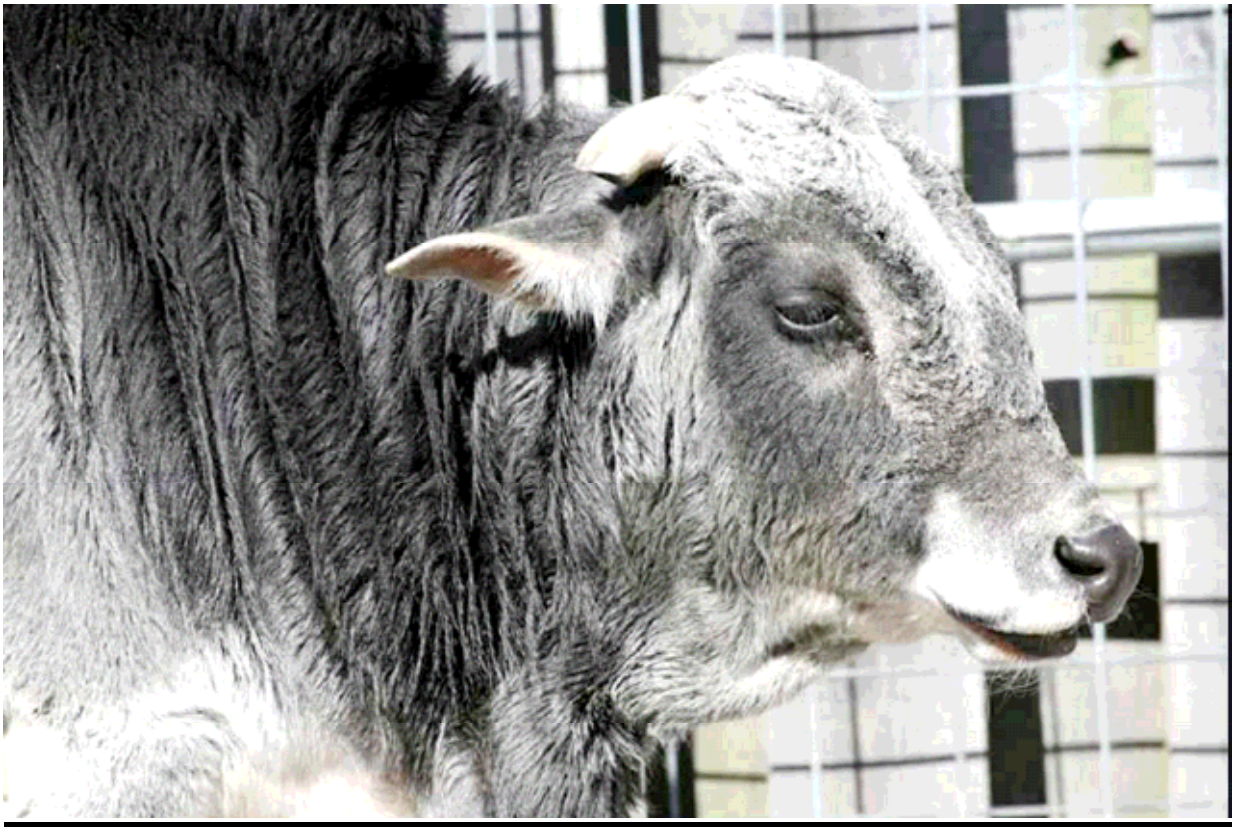


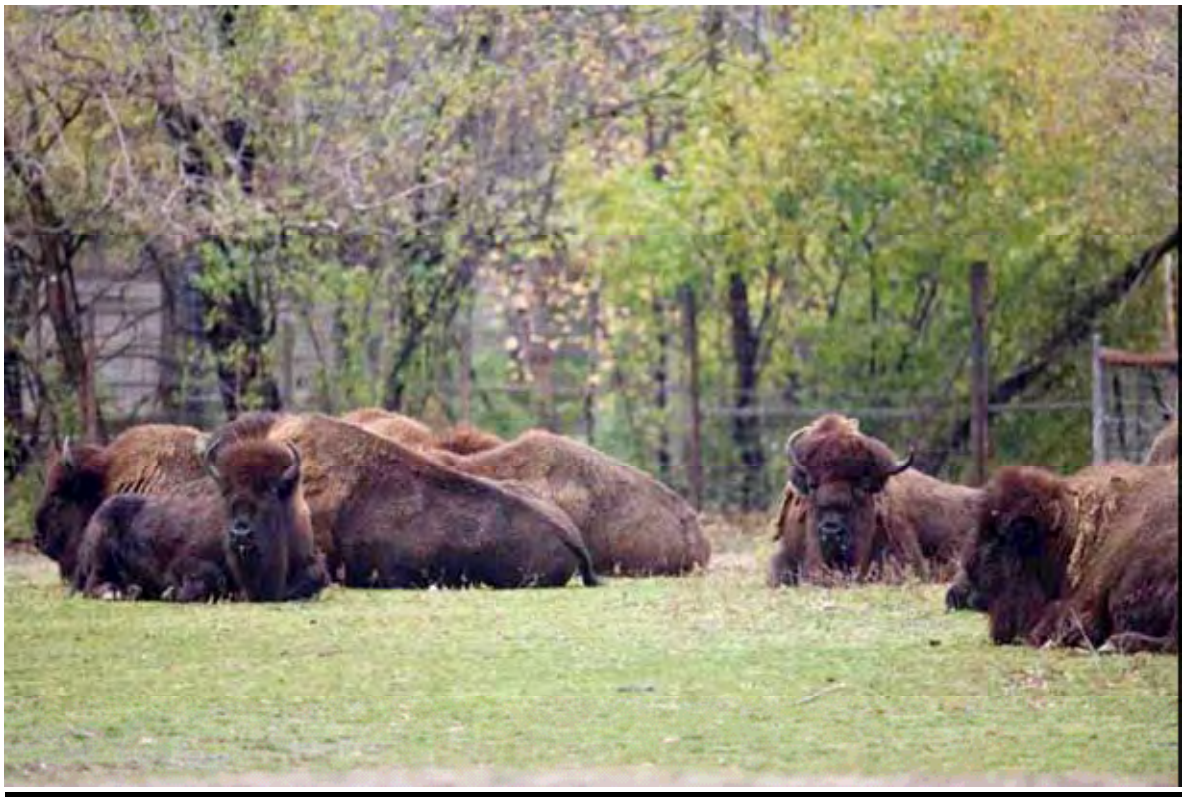




خ – الأبقار Cows







Anoa

د- فرس النهر Hippopotamus Hoofed Mammal:

Hippopotamus Hoofed Mammal فرس النهر

ذ- الخنازير Pigs:

1- خنزير باربروسا Babirusa pig

Babirusa pig خنزير باربروسا

2- خنزير وارثوغ Warthog Pig

Warthog Pig خنزير وارثوغ

Warthog Pig خنزير وارثوغ

3- خنزير النهر الأحمر Red River Hog:

4- الخنزير الأسود Black Pig:

5- الخنزير الأبيض White Pig

6- خنزير بيكاري Peccary Pig

7-مفردات الأصابع Perissodactyla:

أ- الخيول Horses:

1- الخيل الاعتيادية Horses:

2- الحصان القزم Pony Horse

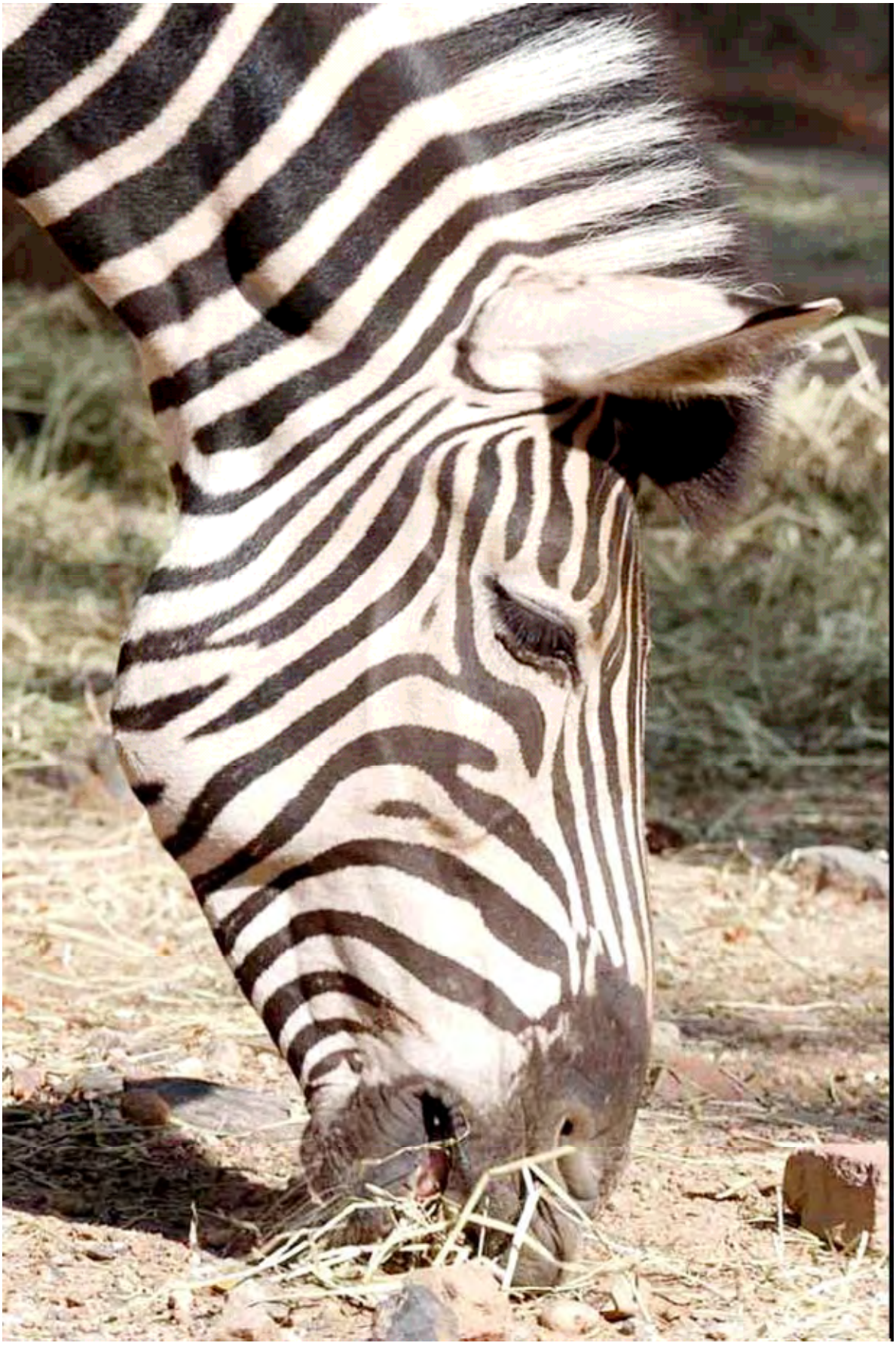
3- حصان أوكابي Okapi Horse

ب- حمار الوحش Zebra:

حمار الوحش Zebra

حمار الوحش Zebra

حمار الوحش Zebra



ت- الحمار المستأنس Donkey:

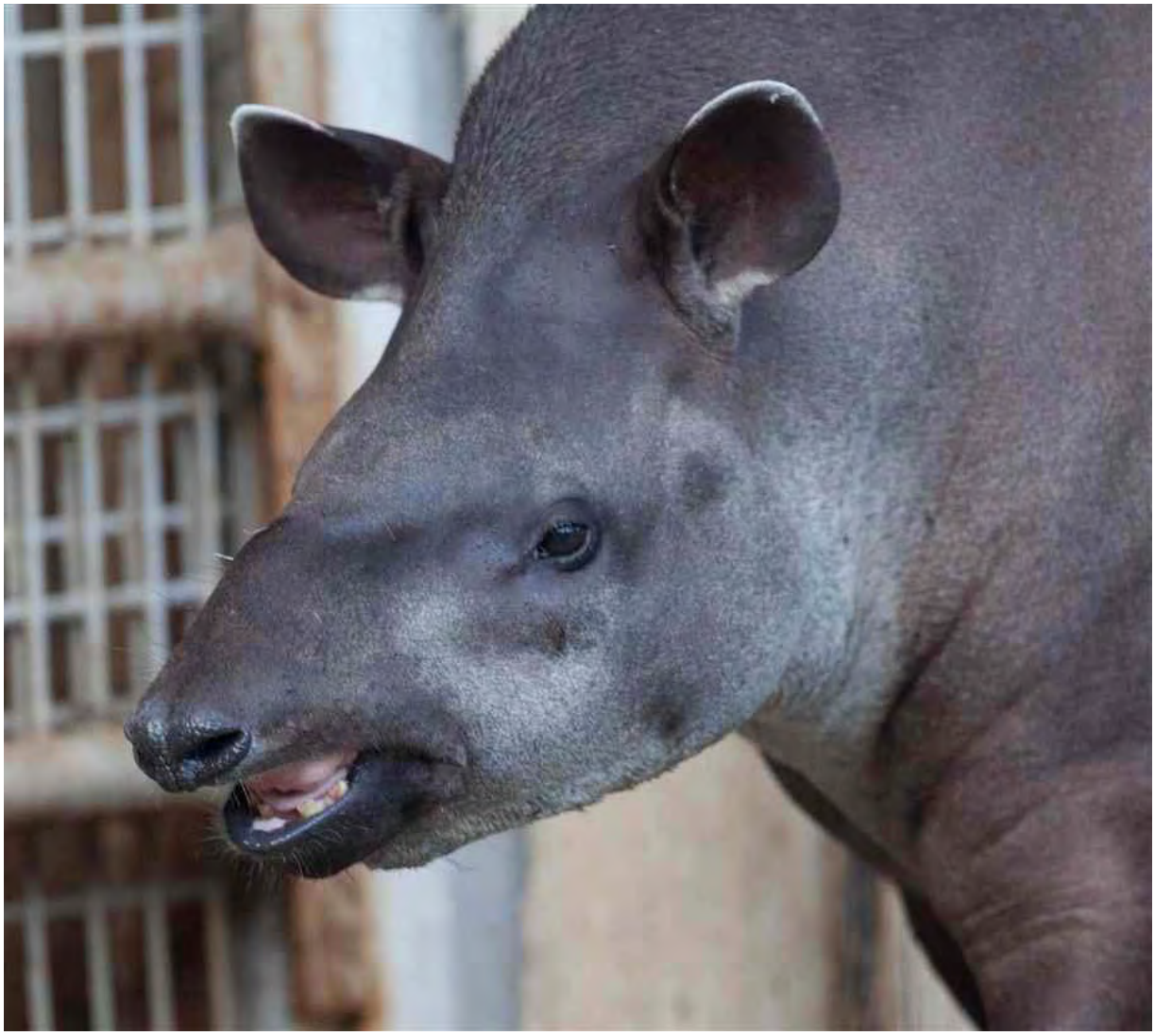
الحمار المستأنس Donkey

ث- وحيد القرن - الكركدن – الخرتيت Rhinoceros:

وحيد القرن - الكركدن – الخرتيت Rhinoceros

ج- التابير Tapir:

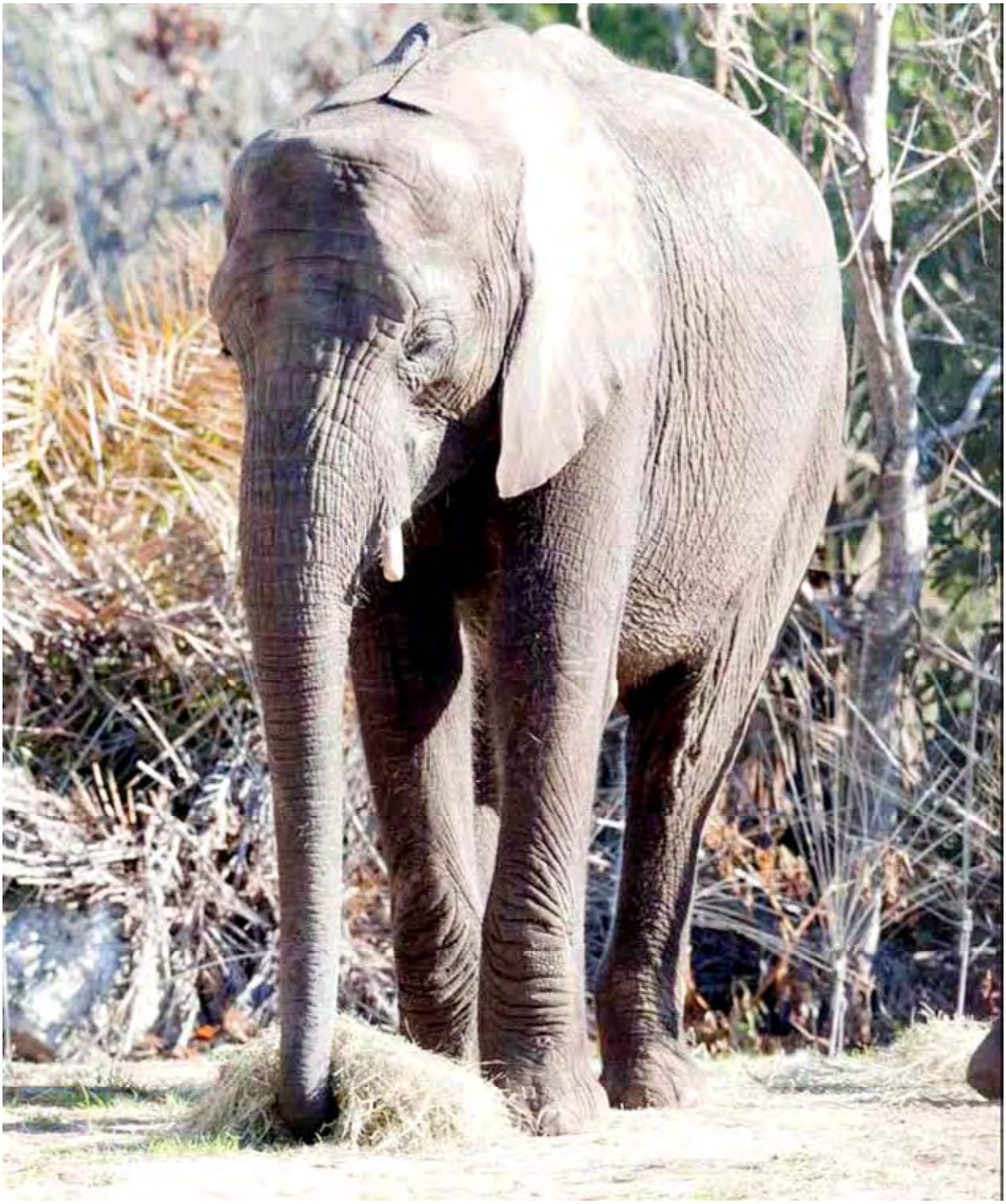
1- التابير Tapir



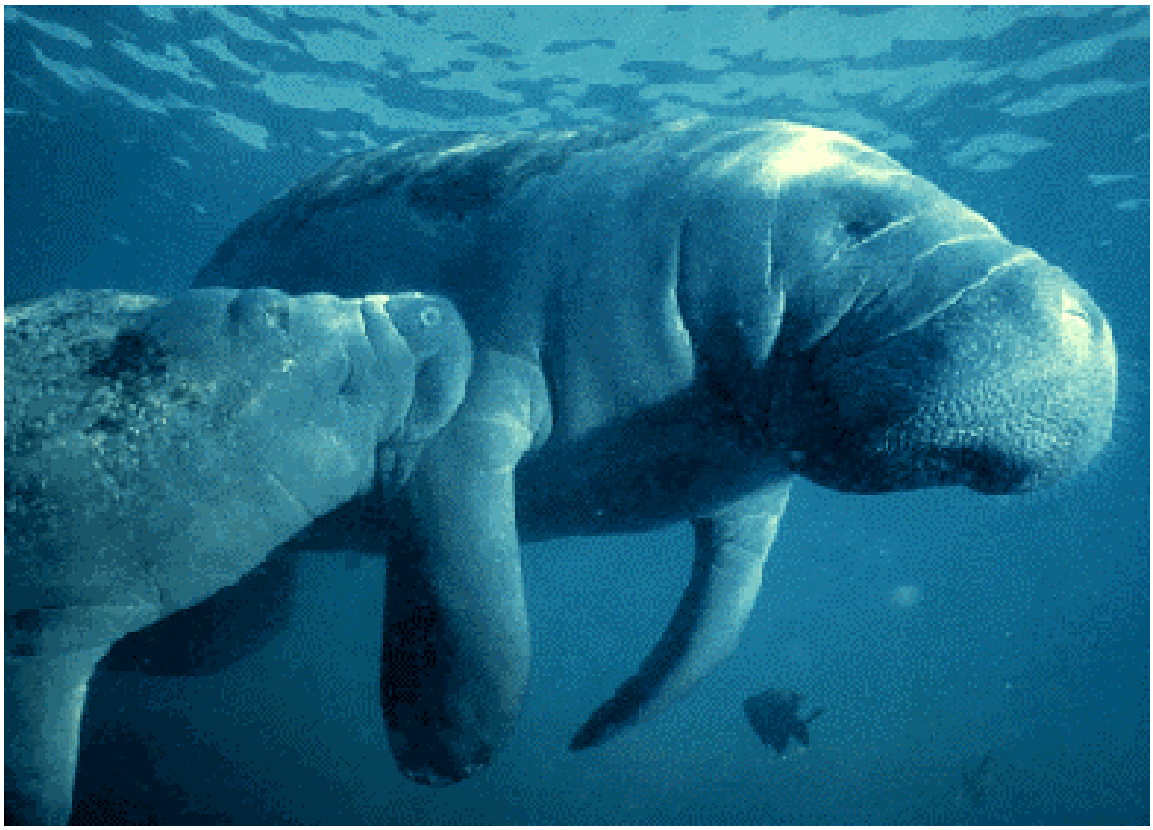
Tapir التابير

2- تابير الملايا Malayan Tapir

8- الخرطوميات الفيلة Elephants:

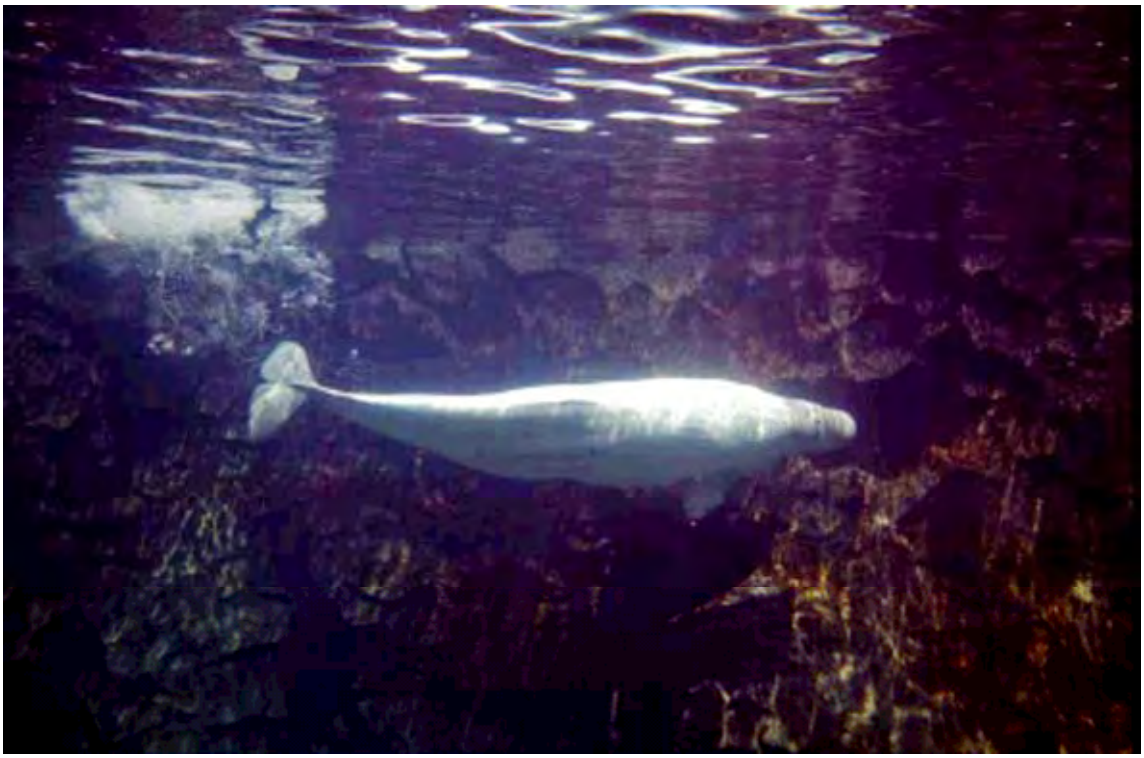


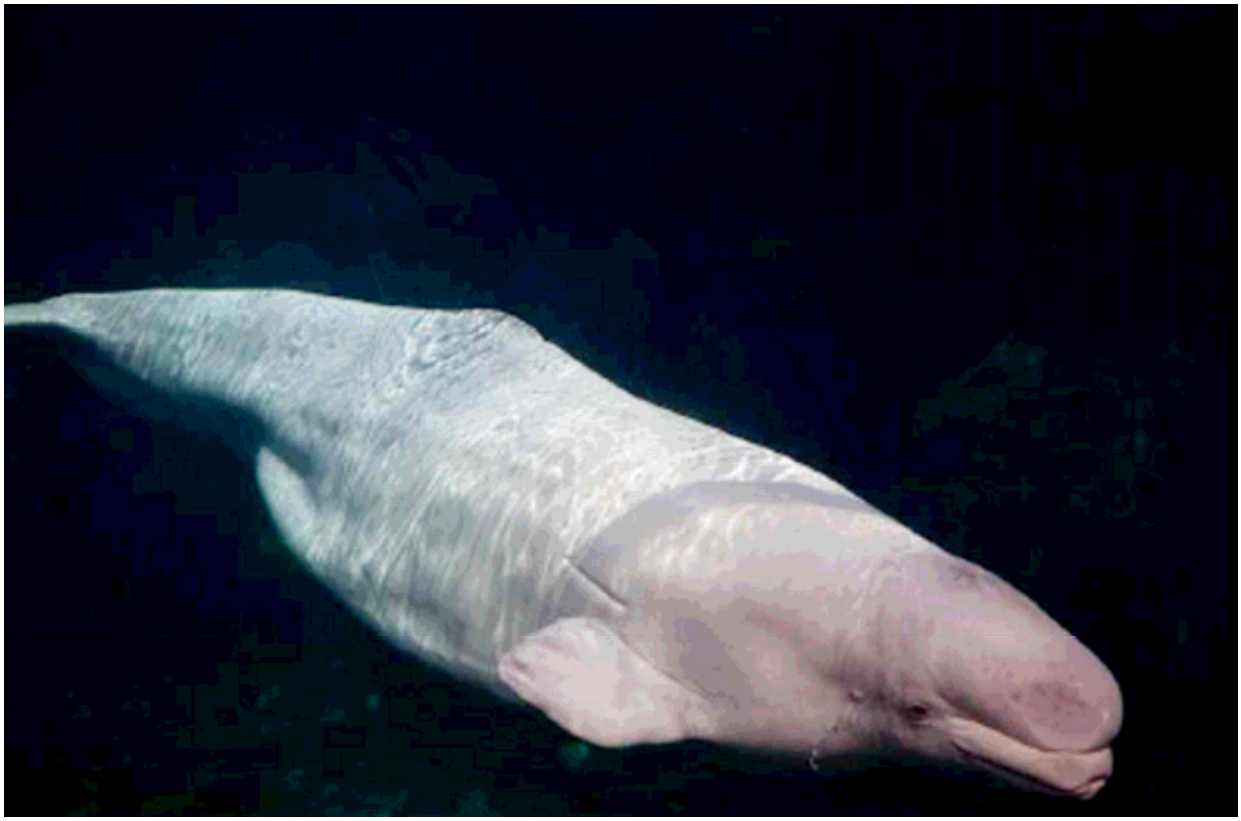
9- الخَيلانيات (عرائس البحر) خراف البحر :Sirenia



10- الحوتيات Cetacean

أ- الدلفين الأبيض Beluga Whale:

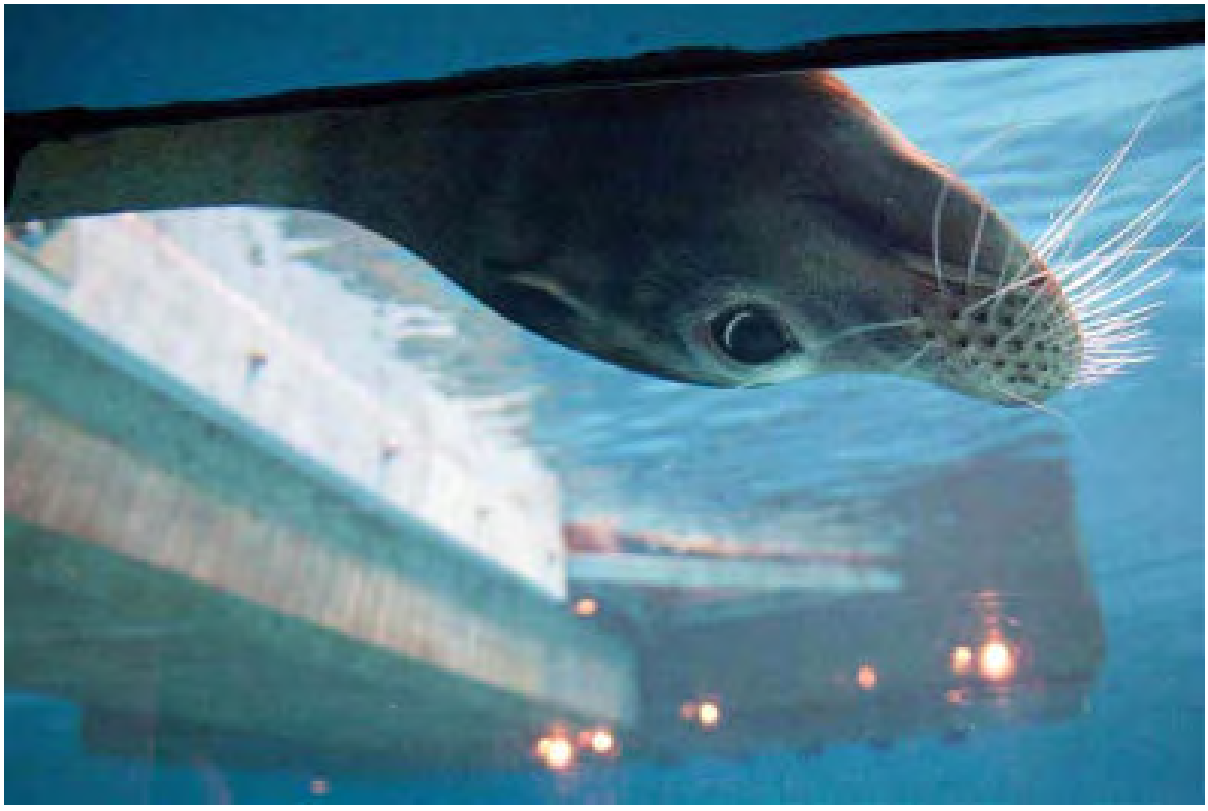




ب-الدلفين العادي Dolphin:


BUSCH GARDENS

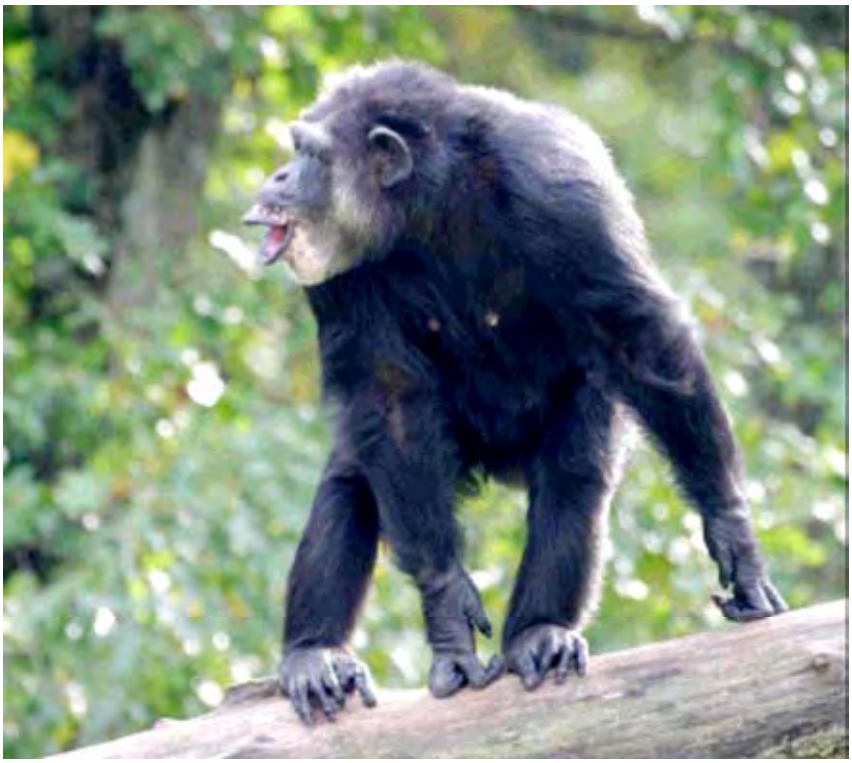
ت-الفقمة Seal:



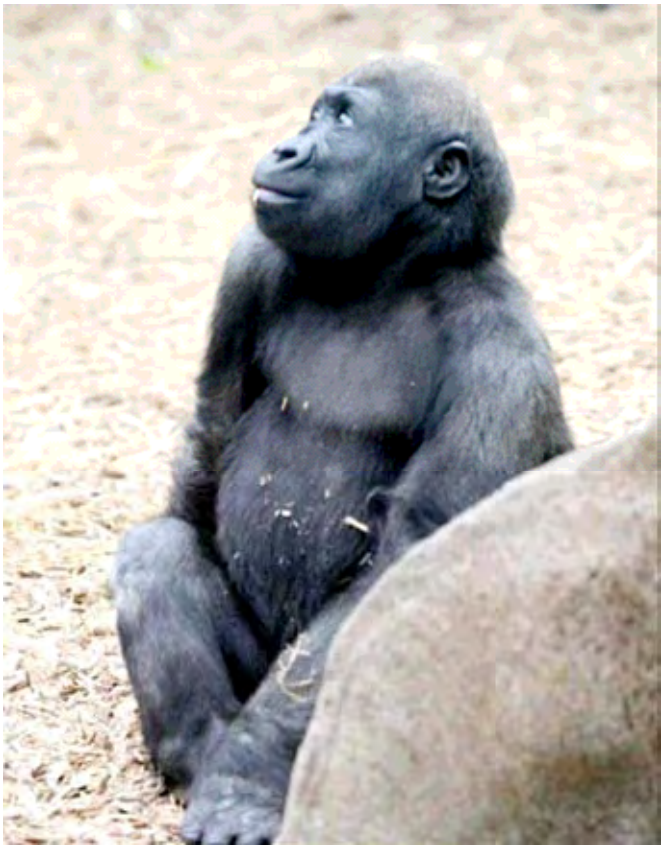
ث-الحوت القاتل: Killer Wale

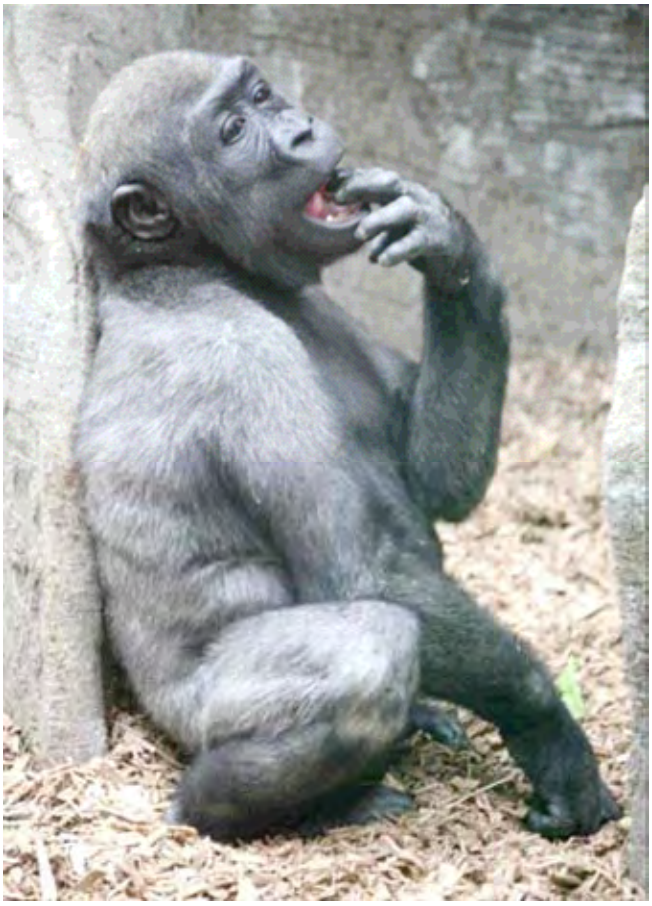
11- الرئيسات Primates:

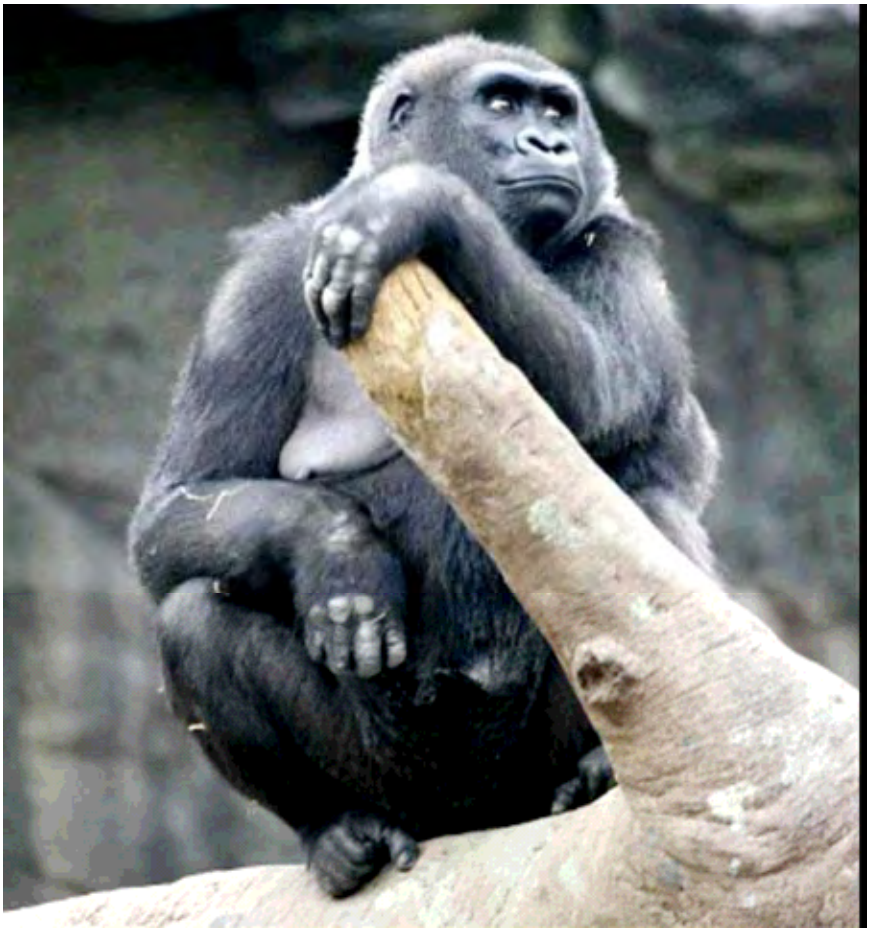
أ- قرد الشمبانزي Monkey chimpanzee:

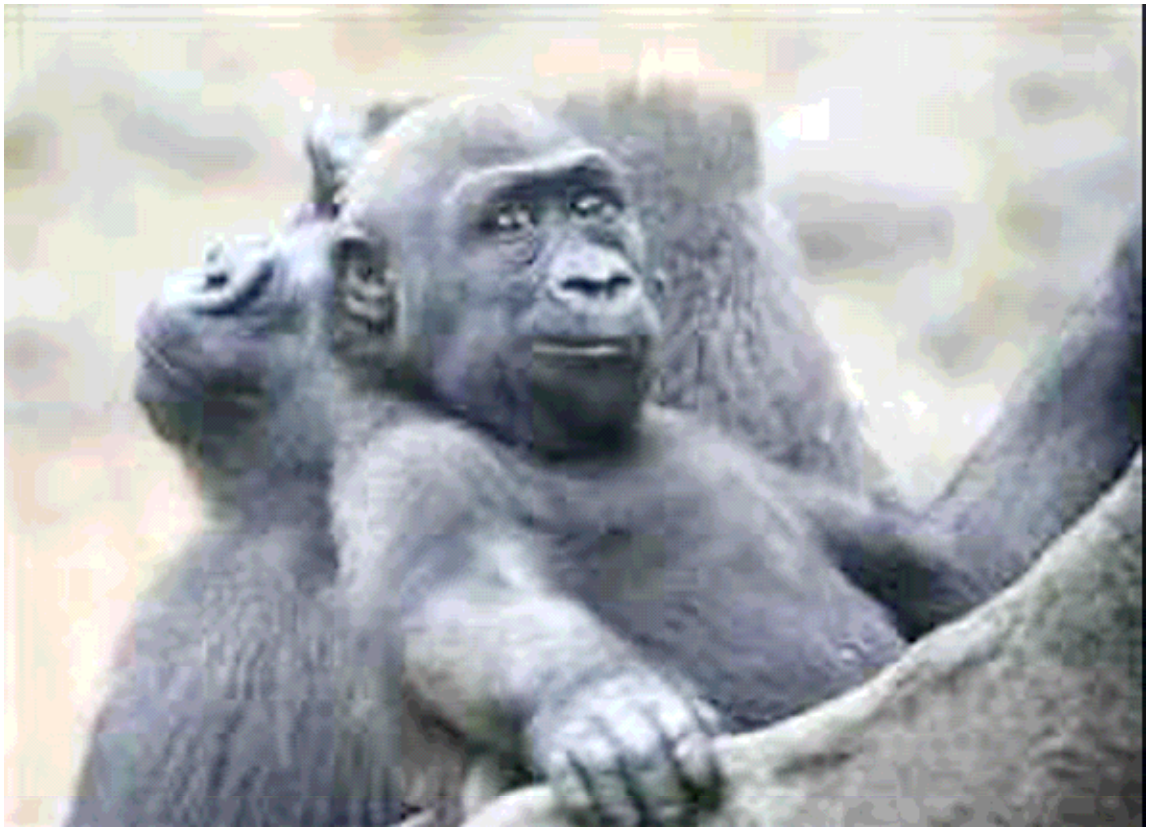


ب- قرد الغوريلا Gorilla:

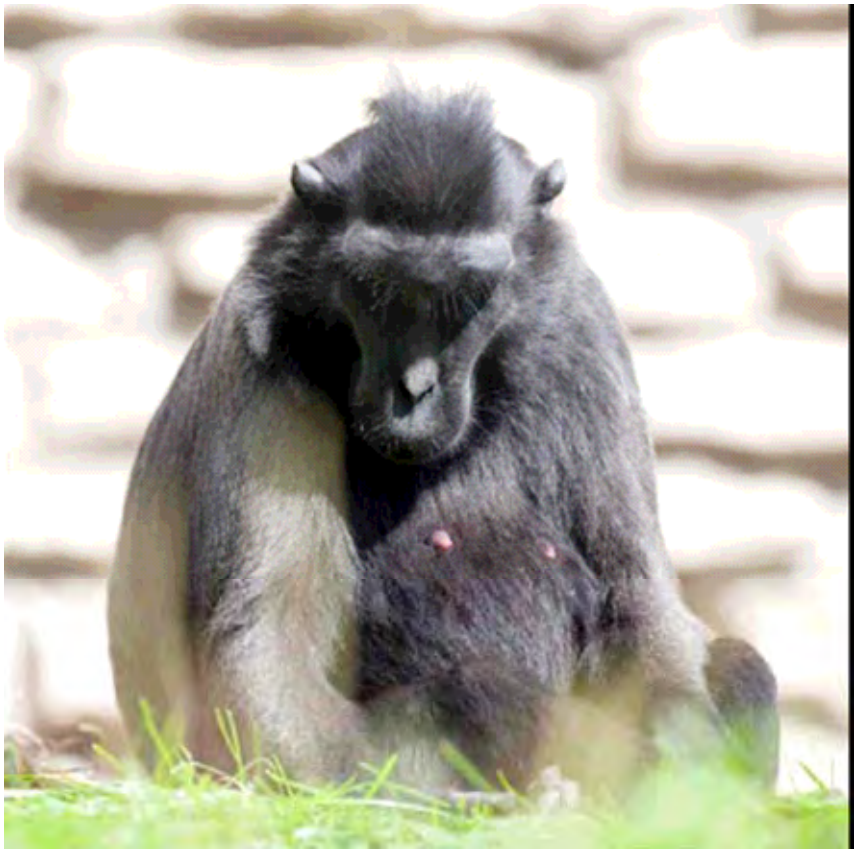






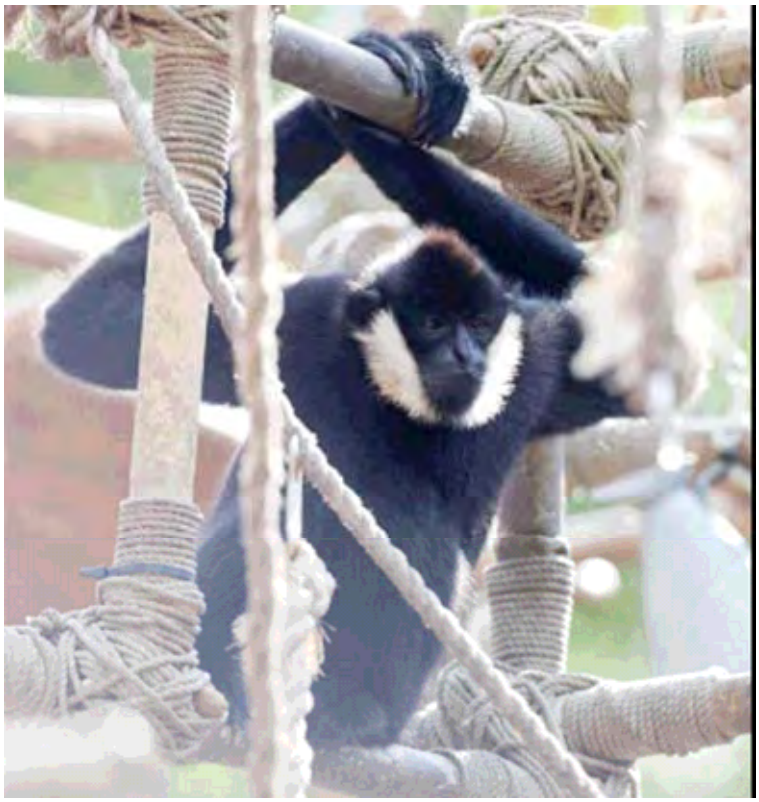


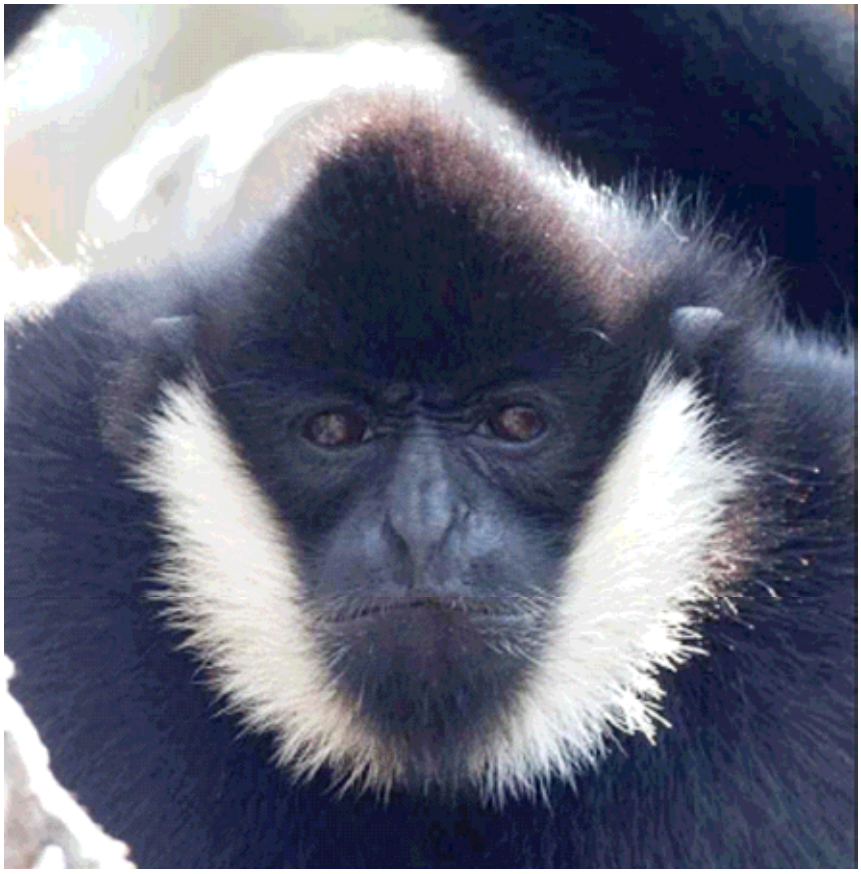
ت- قرد مكاو monkey Macaque:

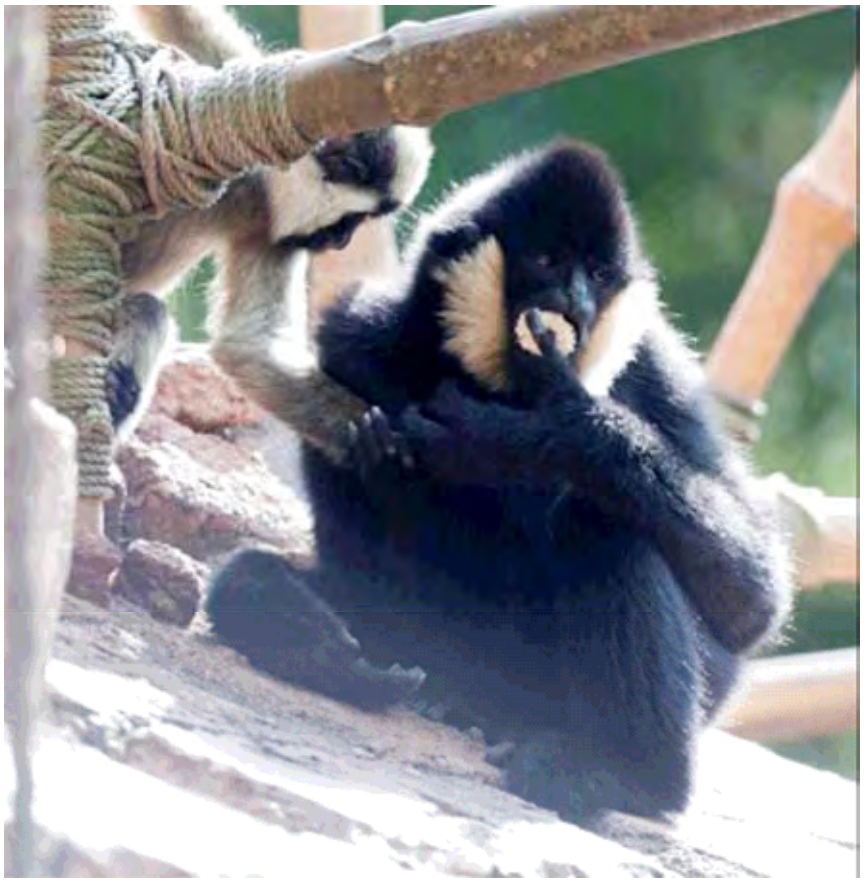


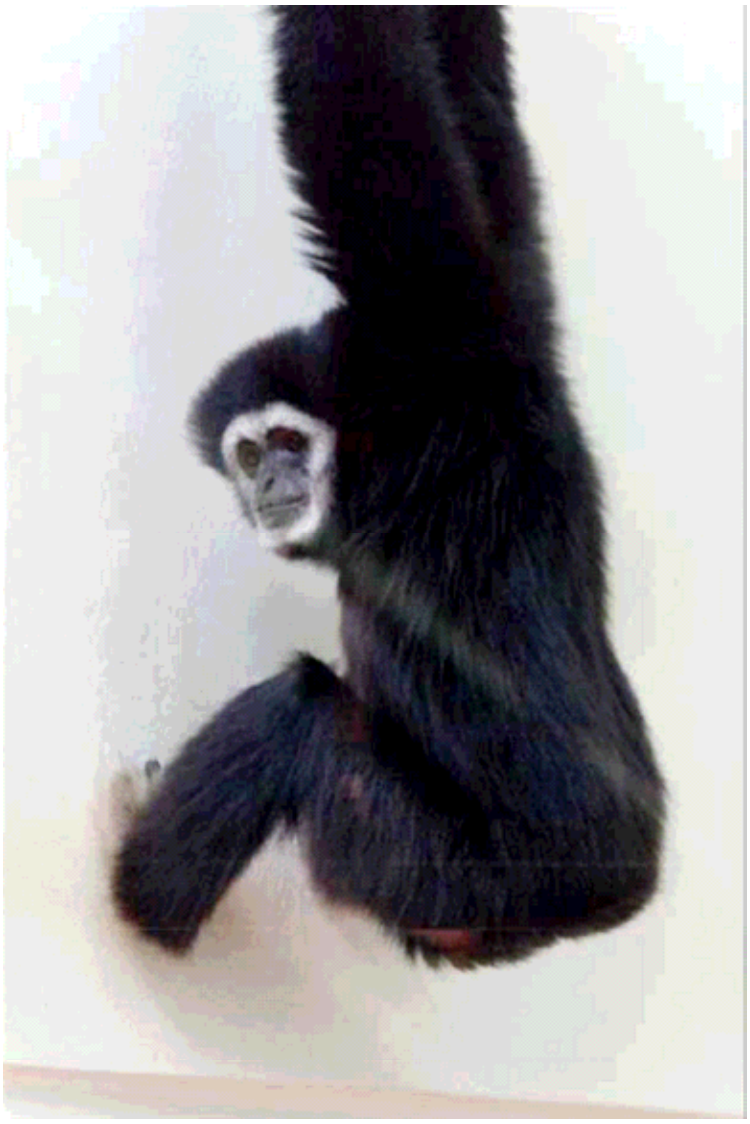
ث- قرد ماكاوي الياباني Monkey Japanese Macaque:

ج- قرد الغيبون ذو الخد الأبيض Mammals Monkeys White Cheeked Gibbon:

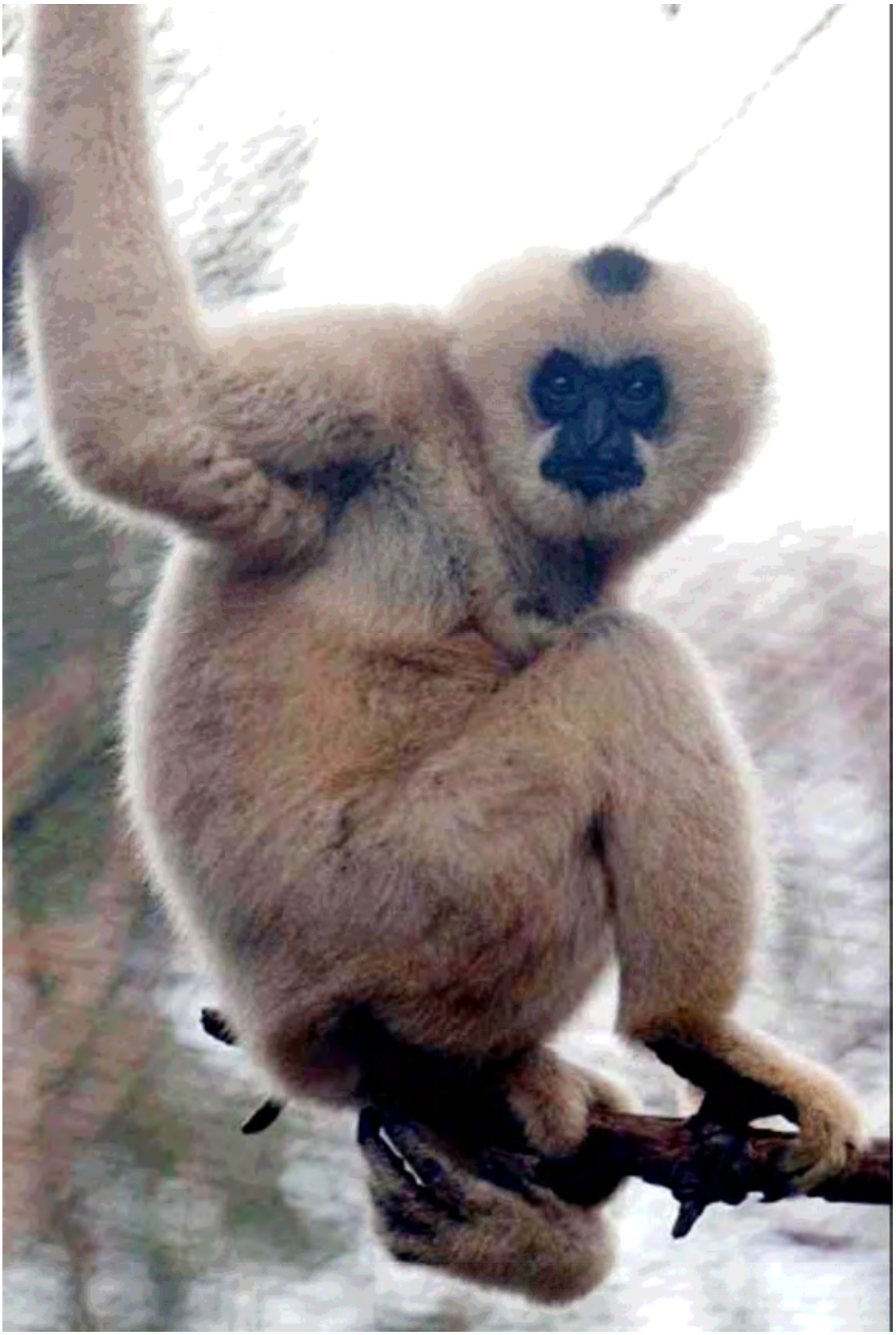






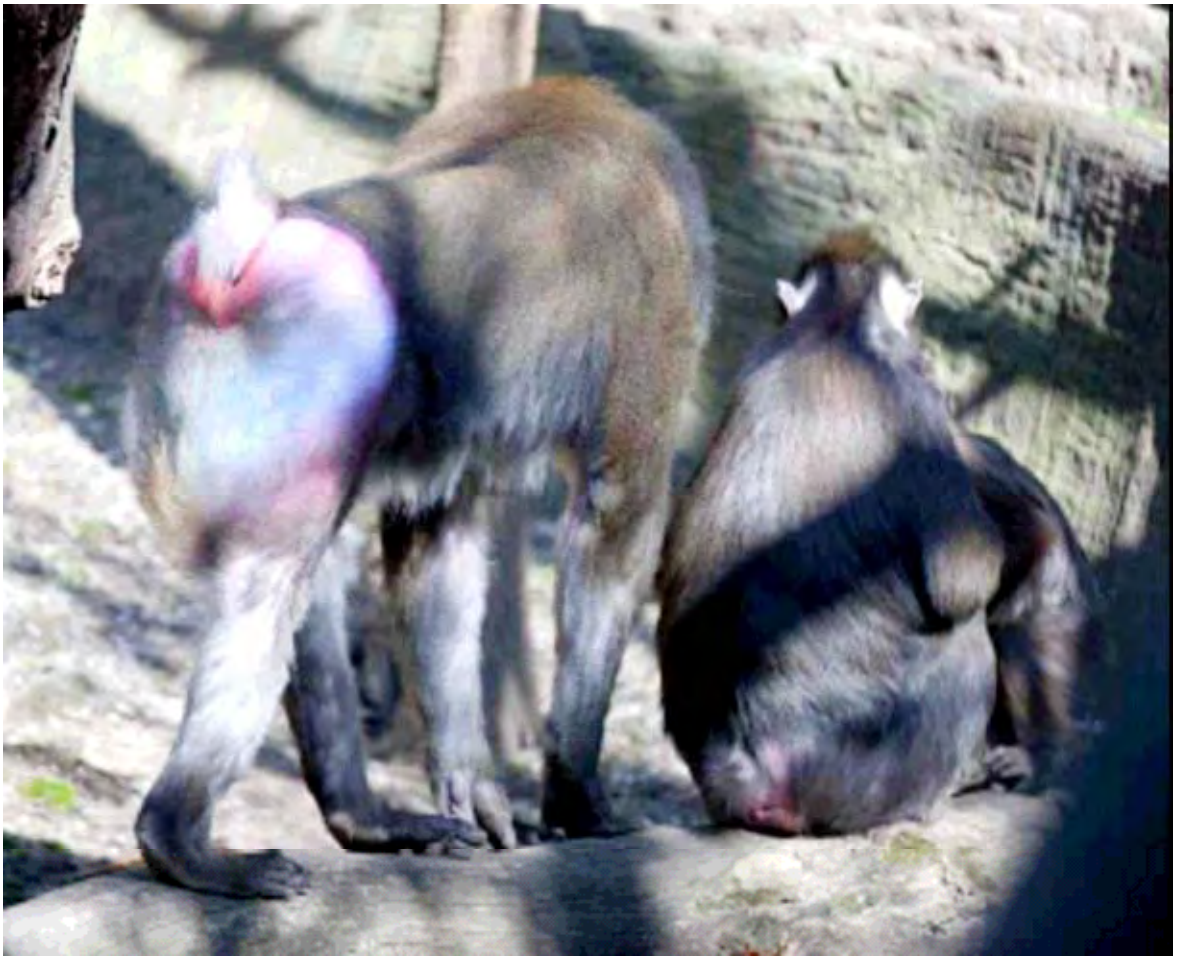


ح- قرد الغيبون ذو اليد البيضاء .Mammals Monkeys White hand Gibbon:

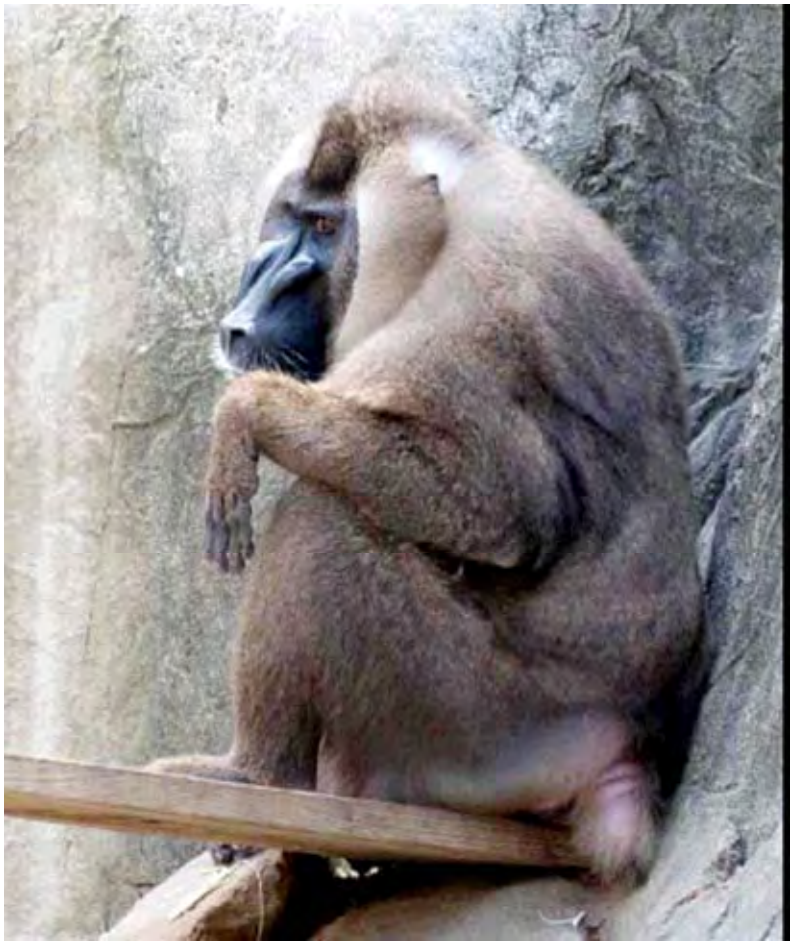


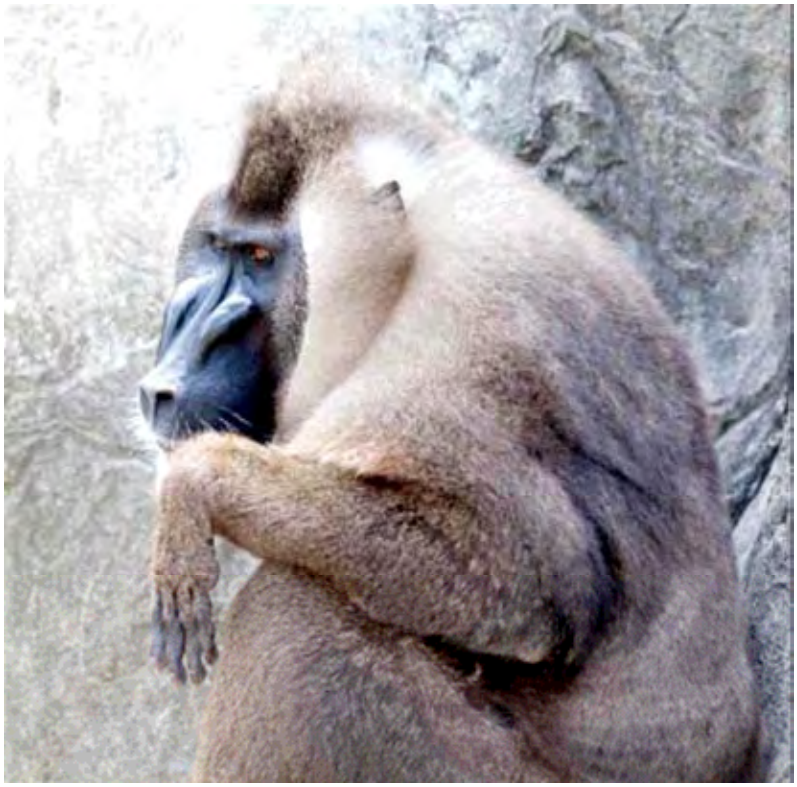
قرد الأورنج أوتان Orangutan Monkey:

ح-قرد البابون Monkey Mandrills Baboon:

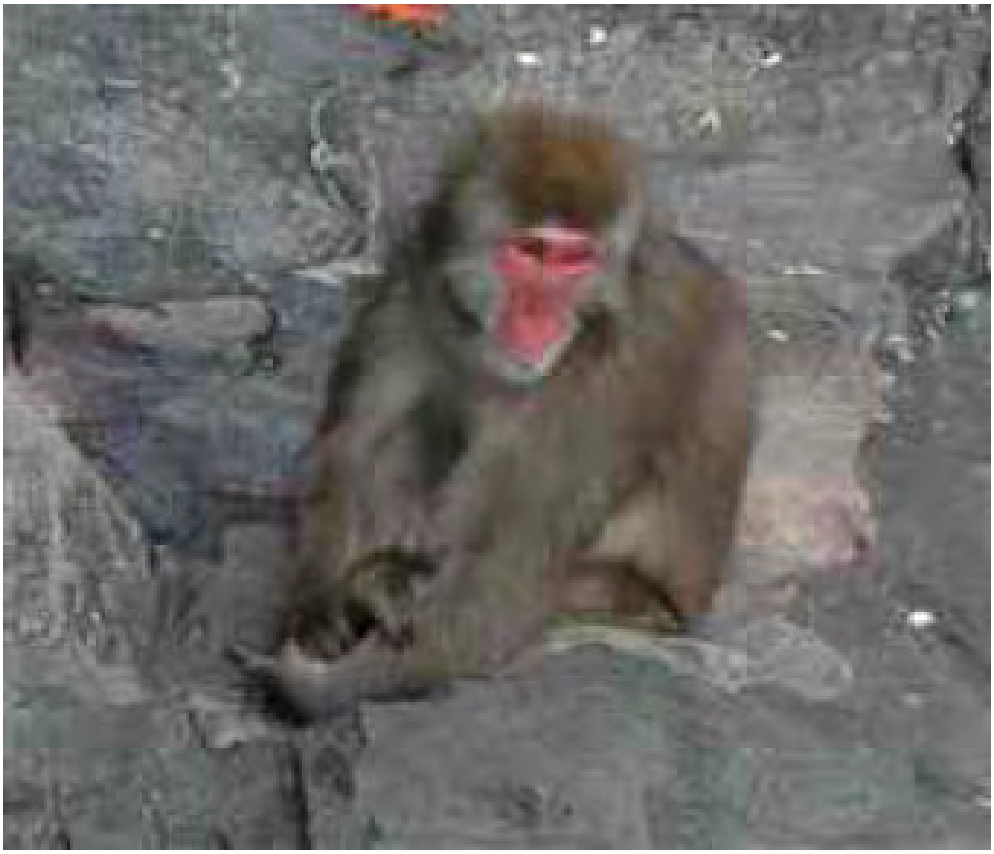


خ- قرد البابون الثاقب Monkey Drill Baboon:



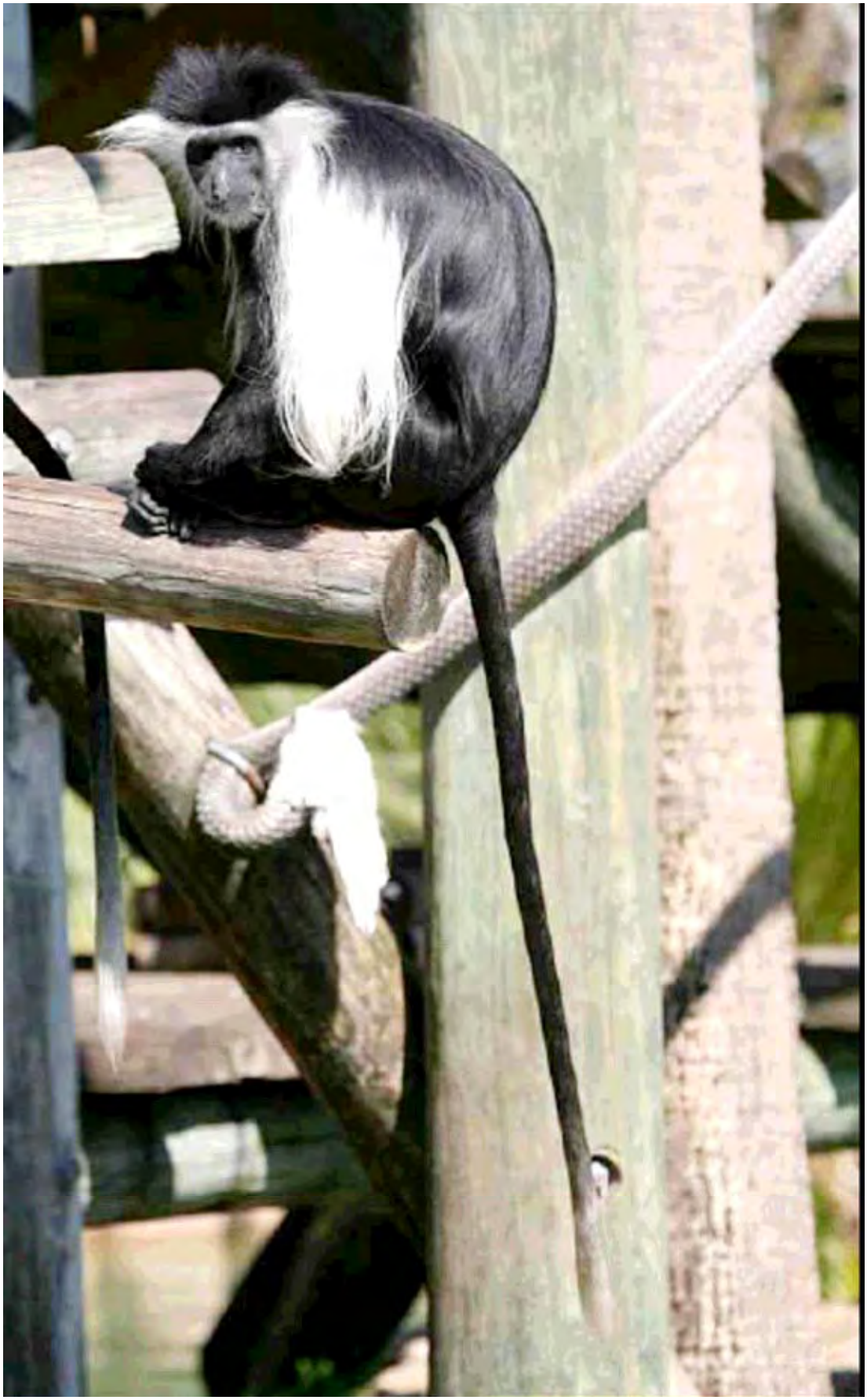


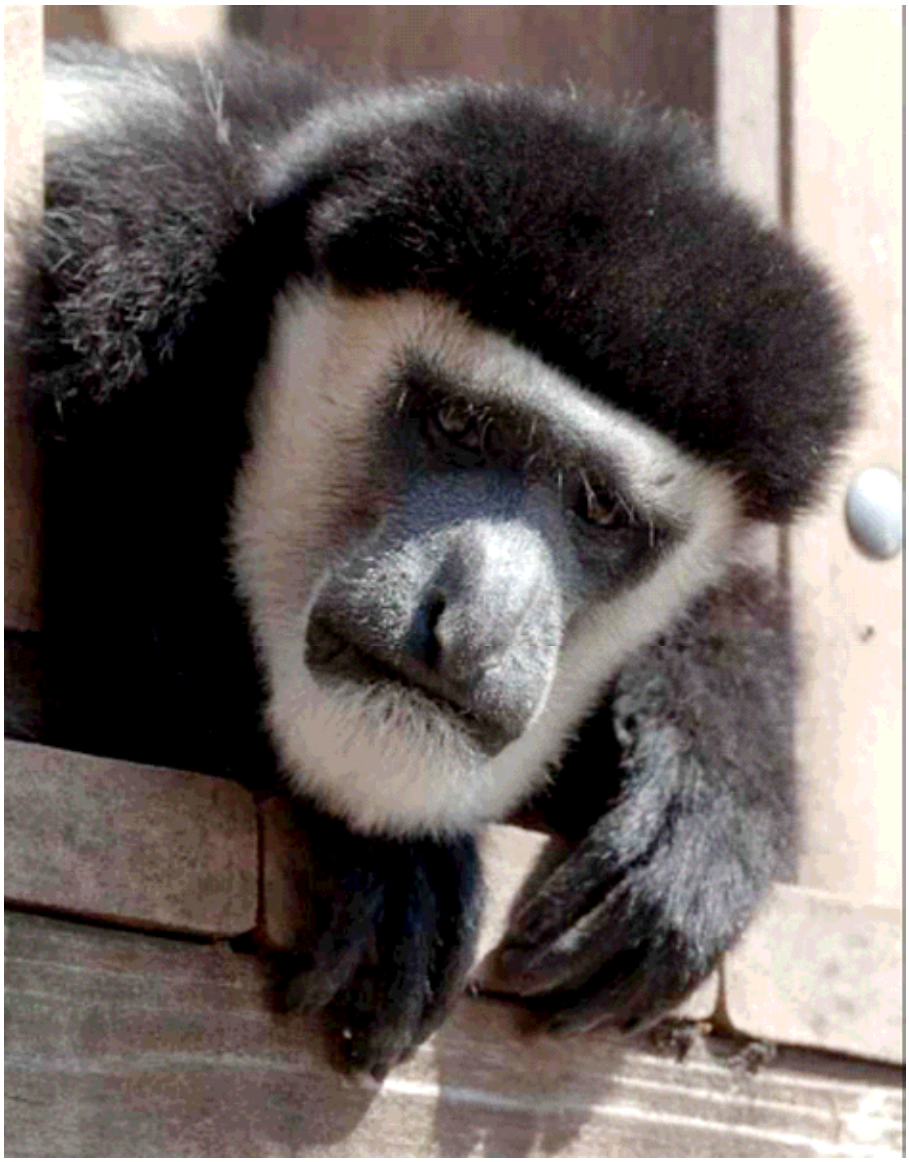
د-- قرد البابون Monkey Hamadryas Baboon:



ذ- **نسناس غولديز Callimicos a.k.a Goeldi's Monkey:**

ر- نسناس كولوباس Colobus Monkeys:



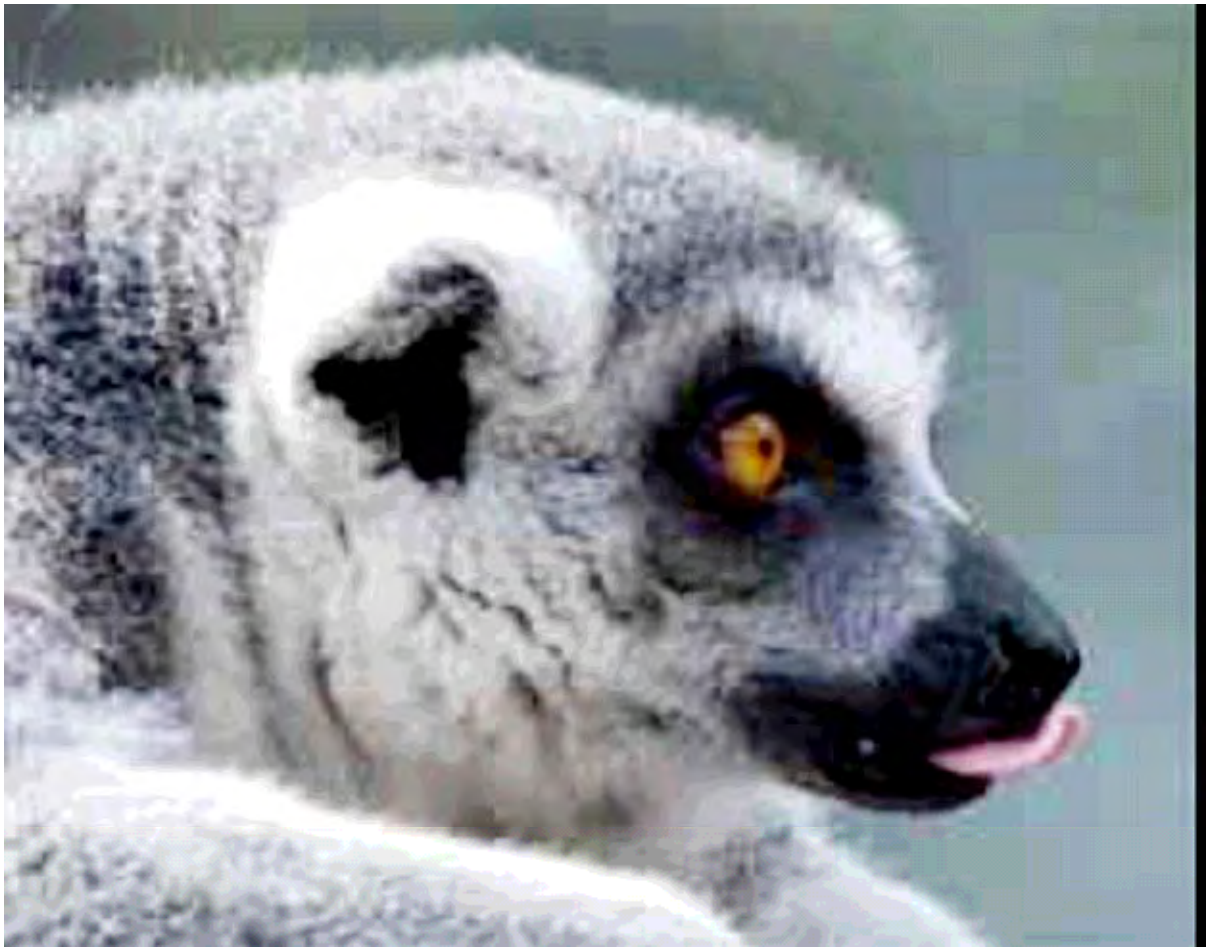


ز- القرد العواء Monkey Howler:

س- النسناس قاطن الأشجارMammals Monkeys tree dwellers:

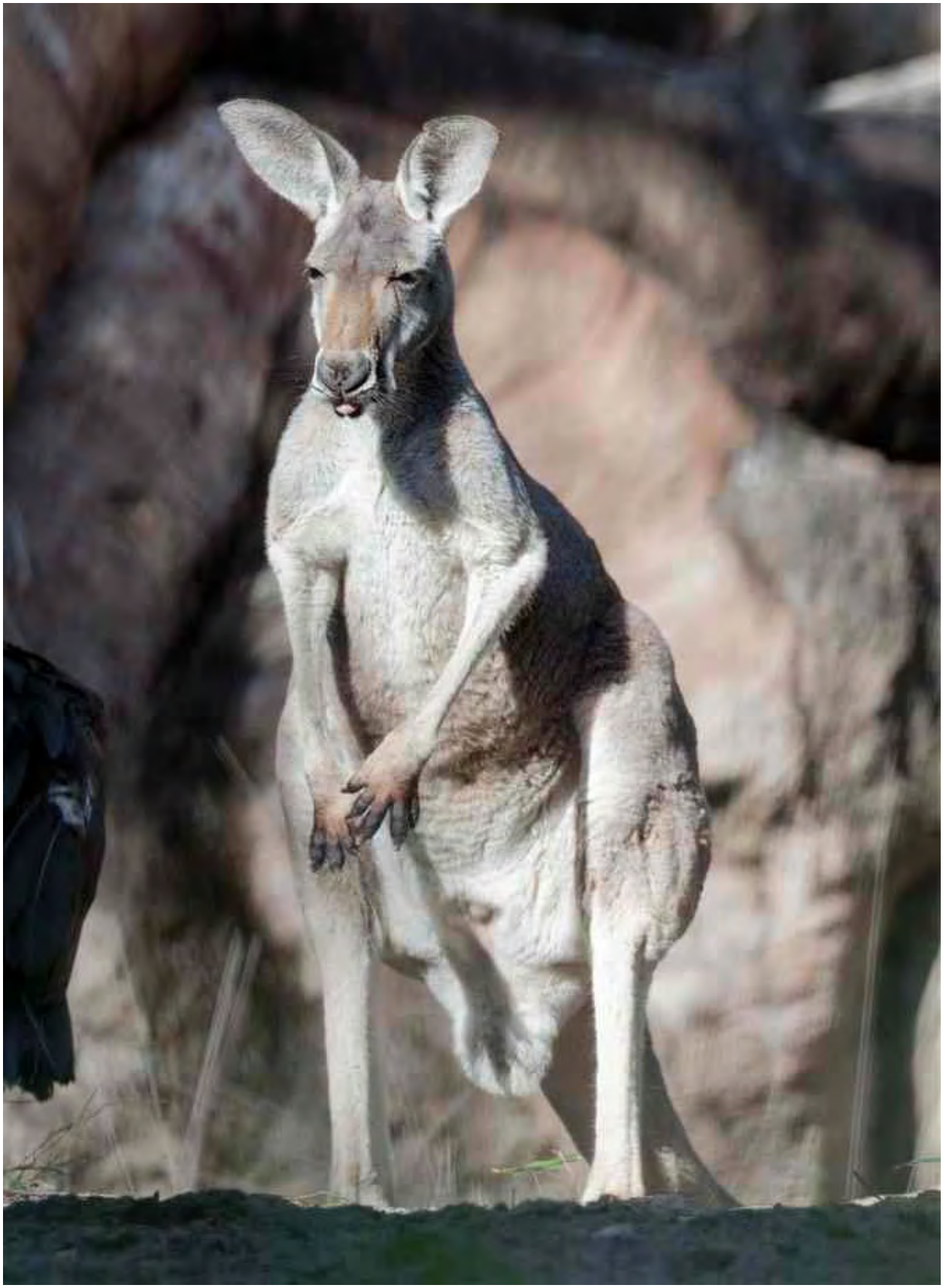
ش- طفل الغابة BUSHBABY:

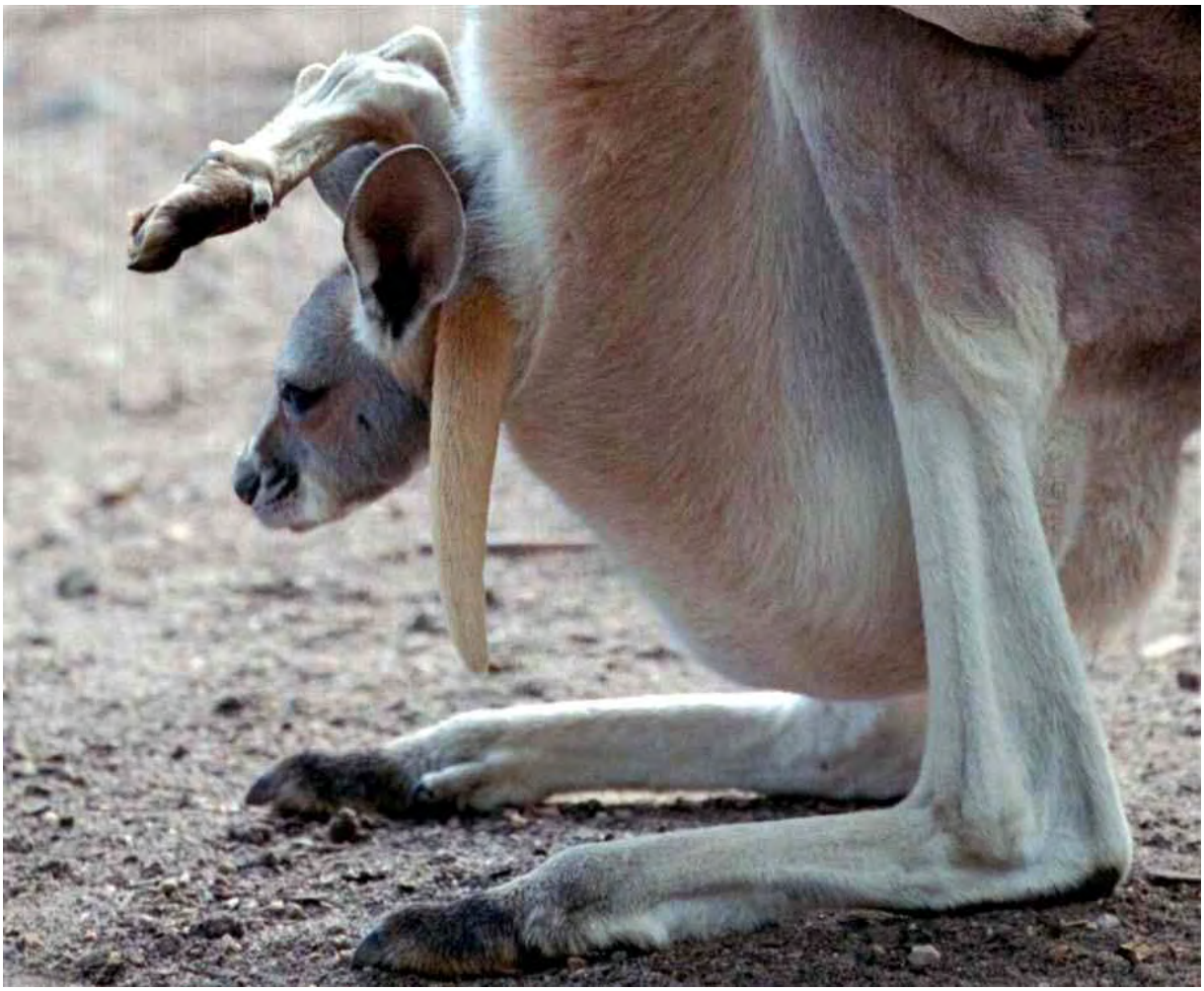
ط- الليمور Lemur:

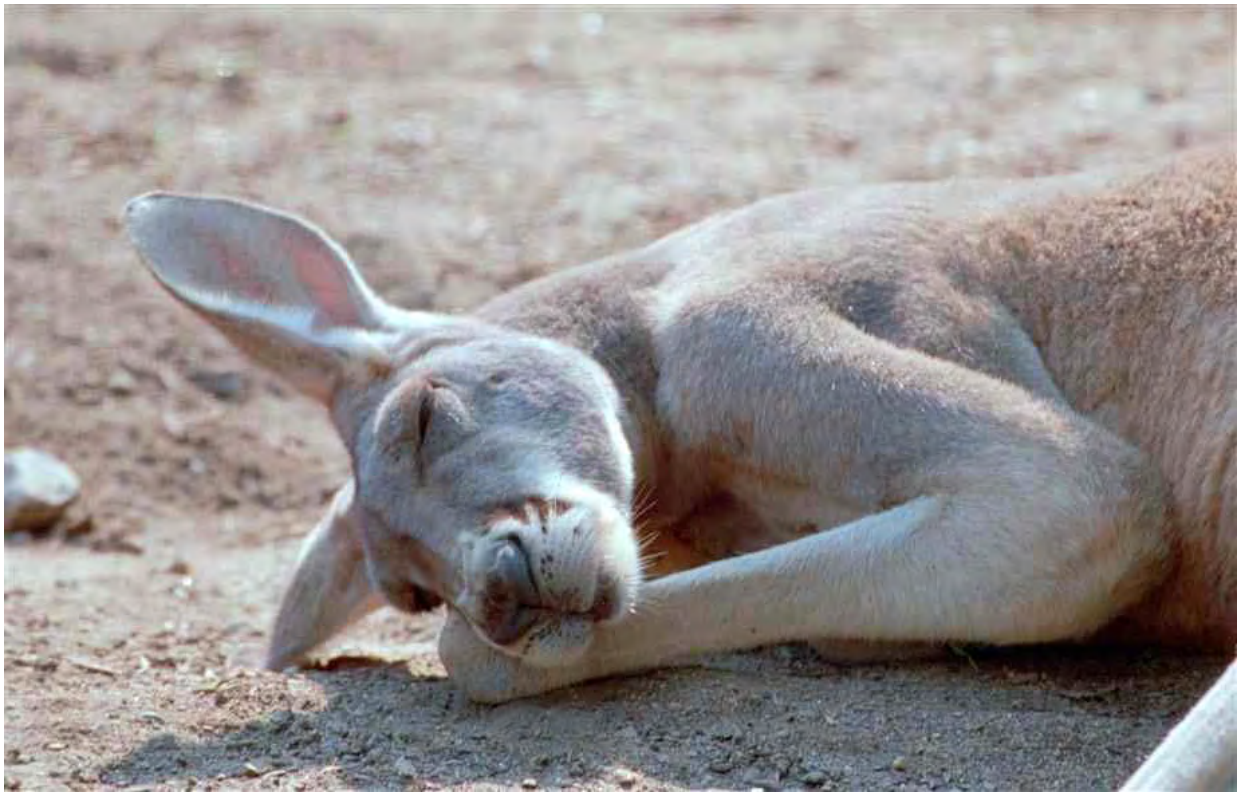


ثدييات الجراب Mammals Marsupial :

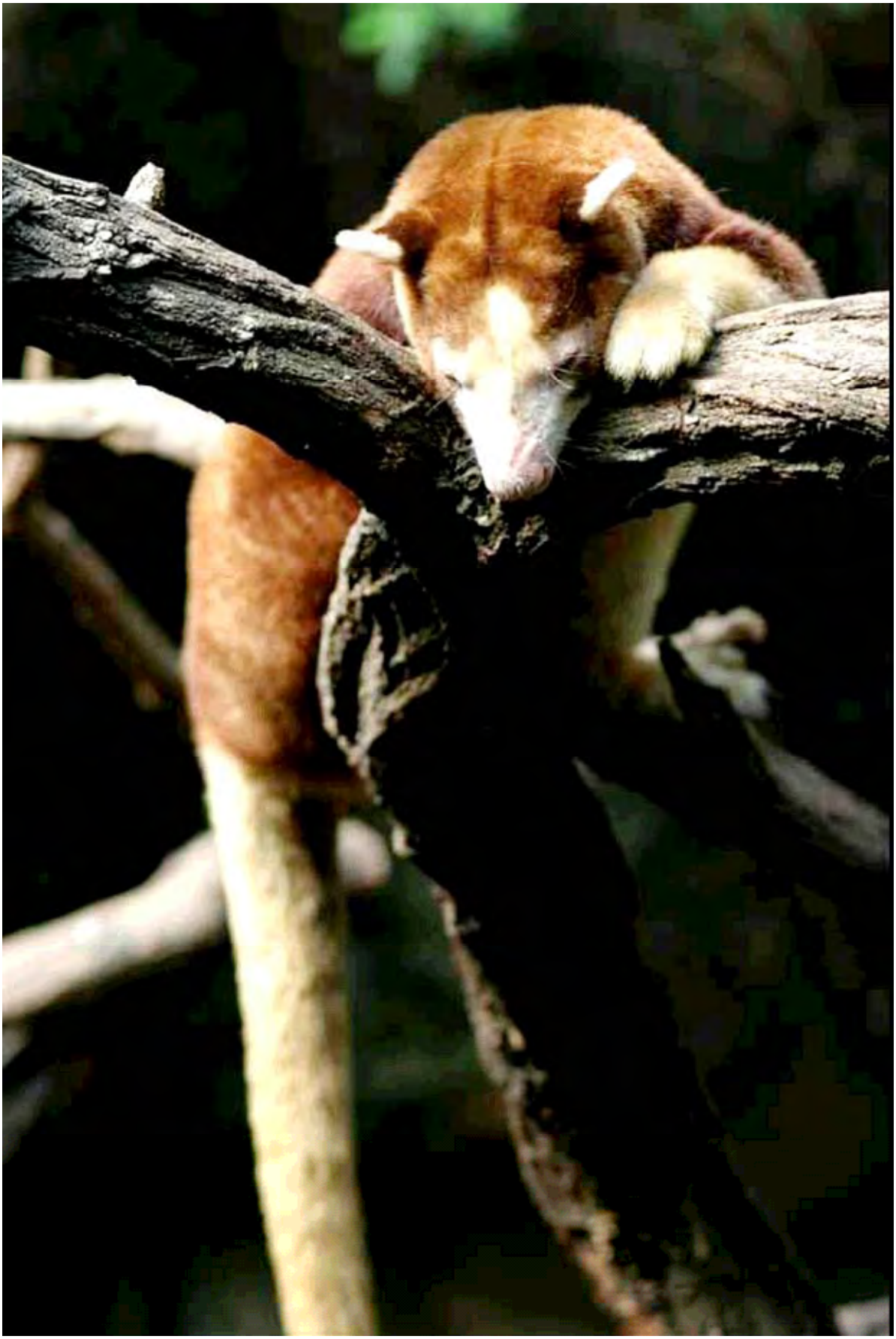
أ- حيوان الكنغر Mammals Marsupial Kangaroo :

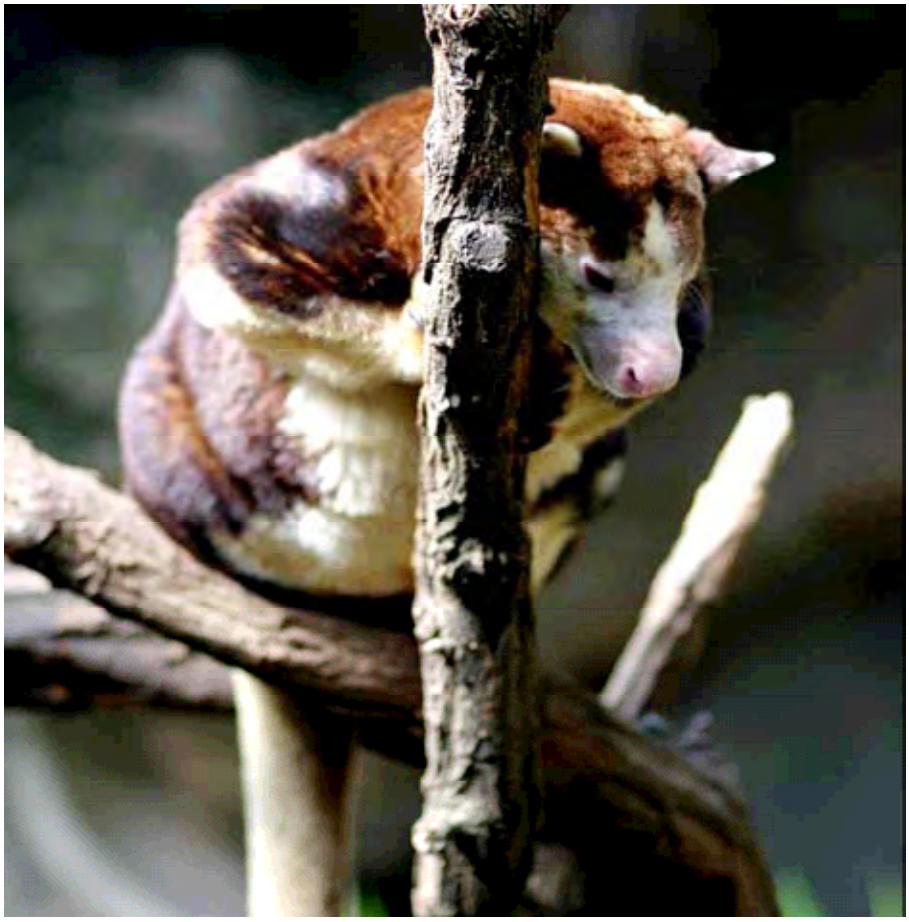






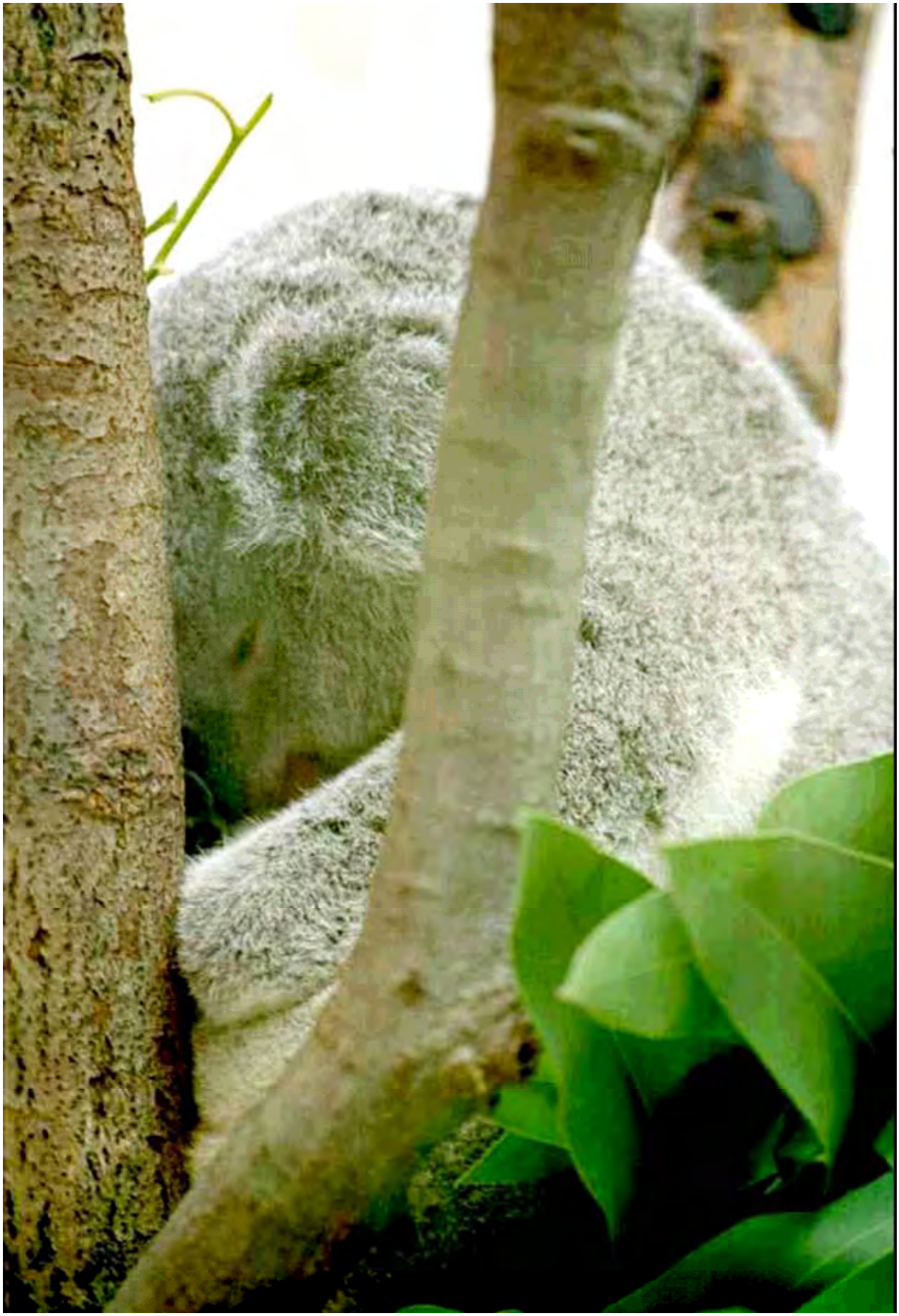
ب- حيوان كنغر الأشجار Mammals Marsupial Tree Kangaroo :

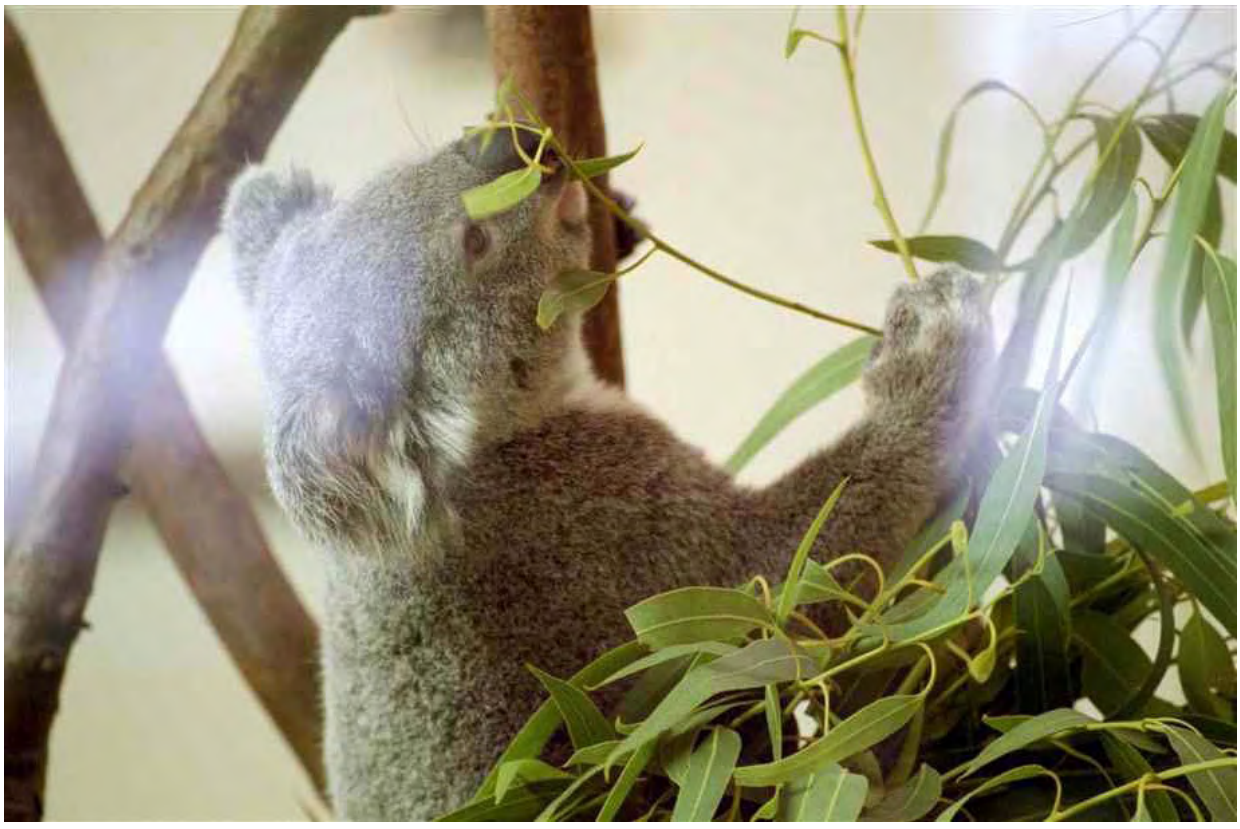




ت- حيوان Marsupial Albino walaby الجرابي:

ث- حيوان الكوالا الجرابي Koala :





ج- حيوان Mammals Marsupial Possum الجرابي :

ح- وحيدات المسلك :

أ قنفذ النمل:

ب- خلد الماء البلاتيبوس platypus: