

**Appendix 14.2-4    Animals Listed in IUCN Red List (1996) for Uzbekistan**

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Animals listed in IUCN Red List (1996) for Uzbekistan are shown in Table 1 of Appendix 14.2-4. Details for each animal are shown below.

### 1. Mammals

#### 1.1 Mouselike Dormouse, *Myomimus personatus*

*Myomimus personatus* occurs in southeastern Bulgaria, western Turkey, and extreme southwestern Turkmen S.S.R. near the shores of the Caspian Sea and also is known from subfossil material in southern Asia Minor and Palestine.

Head and body length is 61-112 mm and tail length is 53-94 mm. The general coloration of the upper parts is a closely mixed combination of ochreous and gray. The underparts, insides of the limbs, and the feet are white. There is a sharply defined line of demarcation between the upper and lower parts. Unlike other dormice, which have rather bushy tails, *Myomimus* has a thinly haired, mouselike tail covered with short, white hairs.

Ognev indicated that *Myomimus* is the only glirid that is not specialized for arboreal life and that one specimen was caught among stones scattered amidst small bushes. Van Den Brink stated the *Myomimus* seems to live on and under the ground. The Soviet Union classifies *M. personatus* as indeterminate. Pucek designated *Myomimus* as one of the "top ten endangered rodents in Europe."

#### 1.2 Forest Dormice, *Dryomys nitedula*

*D. nitedula*, central Europe to Mongolia and Iran

*D. laniger*, known only from a few localities in southwestern Turkey

Head and body length is 80-130 mm, tail length is 60-113 mm, and weight is 18-34 grams. The general coloration is grayish brown to yellowish brown on the upper parts and buffy white on the underparts. *Dryomys* is similar to *Eliomys* but is smaller, has a skull with much smaller tympanic bullae and a more rounded braincase, and has a more uniform tail, which is flattened and moderately bushy. Females have eight mammae.

Forest dormice inhabit dense forests and thickets at elevations of up to 3,500 m; they sometimes utilize cultivated areas, gardens, and rocky meadows. Their nests are usually located in dense shrubbery or the lower branches of trees. Hibernation sites may be in hollow trees, among tree roots,

or in underground burrows. The temporary nest of an individual animal is rather flimsy, but natal nests are solidly constructed. Studies in Israel showed that nests are located 1-7, usually about 3, meters above the ground in the branches of trees. They are globular, measure 150-250 mm in diameter, have an outer layer of twigs and leaves and an inner lining of bark or moss fragments, and have an entrance hole on the side or top.

Forest dormice are nocturnal and arboreal. They climb with great agility, and their leaps from branch to branch cover up to 2 meters. In Israel they are active all year, even in the high mountains, though they may undergo torpor for some hours during winter days. Farther north the data are conflicting. Evidently, hibernation does sometimes occur from October to April in Europe. During this period the animals curl up like a ball while sitting on the hind legs; the tail is wrapped around the body, and the hands are pressed onto the cheeks. There may be occasional emergence to eat from stores of food. Observations in the Soviet Union, however, suggest that extensive, deep hibernation does not necessarily occur and that forest dormice may be active throughout most or all of the winter. The diet of *Dryomys* consists of seeds, acorns, buds, fruits, anthropoids, eggs, and young birds; animal matter seems to be preferred during the summer.

Nests tend to be clustered in small groups in the same tree or adjacent trees. In one area of about 8,000 sq. meters, 11 inhabited nests were found. *Dryomys* has a variety of vocalizations, most notably a delicate, melodious squeak that serves as an alarm call. The breeding season extends from March to December in Israel, where each female gives birth two or three times annually, and from May to August in Europe, where there usually seems to be just a single litter per year. Gestation lasts at least 1 month. There are usually two to five, occasionally up to seven, young. The young weigh about 2 g at birth, open their eyes at 16 days, and attain independence after 4-5 weeks. In Europe they do not mate until after their first winter.

Forest dormice are quite aggressive and never really become tame in captivity. They may be brought to a point at which they will allow themselves to be petted, but they usually bite with their sharp incisors when an attempt is made to hold them. If disturbed while resting they often lie on their back or side and scratch with their hind legs. If disturbed further, they may suddenly leap high into the air and spit and hiss. Wild populations sometimes cause local damage by raiding fruit orchards and gnawing the bark of coniferous trees. Pucek reported that, because of the destruction of forest habitat, *D. nitidula* is regarded as endangered in Czechoslovakia and as rare in most other European countries.

### 1.3 Pygmy Jerboa (Three-toed Dwarf Jerboas), *Salpingotus heptneri*

*S. kozlovi*, Gobi Desert of southern Mongolia and northern China

*S. crassicauda*, desert areas from Aral Sea to Mongolia

*S. thomasi*, known only by the type specimen from either Afghanistan or Tibet

*S. heptneri*, known only from the type locally south of the Aral Sea

*S. pallidus*, Kazakh S.S.R.

The body length, head included, is not more than 50 mm, the tail (without end hair) is 90-100 mm.

The three-toed legs are 46 mm in length, i.e. almost equal to the body. The bottom parts of the toes are covered with thick hair, the tail is covered with short sparse bristles and ends black color. Front legs are small and hardly protrude from the hair. The back of this animal is pale-gray with a hardly noticeable reddish shade. The underbody is white. Besides the small side it differs from other jerboa by the tail which is thin at the bases gradually and noticeably thickens by the middle and then again becomes narrow to the end. Tail thickening is specially well seen in the autumn. The ears (height up to 11 mm) are noticeably pipelike.

Unlike all other jerboas the animal does not run away from danger, but hides by rolling into a ball or burrowing into the ground. The rare narrow-areal variety is endemic to the south-eastern Pre-Aral area. Spreading into Karakalpakstan in the northern part of the ancient Akhchadarya alluvial-delta plain and in Kazakstan in the ancient valley of Djanadarya and in the south of the Kizil-Orda region. It also lives among the thickets of *Anabasis salsa* and sparse ephemeral and ephemeroïd vegetation. Route control showed that this jerboa variety is extremely rare or it is perhaps very secretive.

The animal is active for 7 months a year. By September the jerboa gains weight and falls into hibernation until March. They look for fodder mainly during the first half of the night from 10 p.m. to 2 a.m. The food consists mainly of seeds and fruits of ephemerals and ephemeroïds and rarely non-vertebrates, mainly beetles. During a year, they have two broods in April and in June. They vary from 2 to 4 young. The animals reach puberty at the age of 11 months. At present nothing is known about limiting factors that could affect the numbers of this variety. Its biology is poorly studied thus no particular protective measures have been taken for *Salpigotus heptneri* preservation. However even now conditions should be created where by the complete complex of animals and plants peculiar to the takyr-like alluvial-delta plains in Karakalpakstan might be protected.

#### 1.4 Long-fingered Bat (Little Brown Bats), *Myotis capaccinii*

*Myotis capaccinii* : Southern Europe, Palestine to Uzbek S.S.R. and southeastern China, northwestern Africa

*Myotis emarginatus* : Southern Europe to Pakistan, Morocco

Head and body length is about 35-100 mm, tail length is 28-65 mm, and forearm length is 28-70 mm. The upper parts are generally some shade of brown, and the underparts are paler. This genus is the most widely distributed group of bats. It is absent only from arctic, subarctic, and antarctic regions and many oceanic islands. It probably has the widest natural distribution of any genus of terrestrial mammals except *Homo*.

There is considerable variation in habitat. All species roost by day and forage at night. The feeding flight usually alternate with periods of rest, during which the bats hang to digest their catch.

The usual reproductive pattern in temperate regions is: mating during the fall; storage of sperm in the uterus of the female through winter hibernation; ovulation and fertilization in the early spring; and birth in the late spring or early summer.

There is concern for the future of several *Myotis* species, because of the destruction or modification of roosting caves by people. Problems include loss of natural roosts as forests are cleared, disturbance of hibernating colonies in caves and mines, deliberate exclusion from nursery sites in castles and cathedrals, and pollution. However, the greatest immediate threat in western Europe is the remedial chemical treatment of wood in the buildings on which the bats have come to depend for roosting. The chemicals remain on the surface of treated timber for years, are eventually cause death or reproductive failure.

### 1.5 Horseshoe Bats, *Rhinolophus ferrumequinum*

*Rhinolophus ferrumequinum* : the entire southern Palaearctic region from Great Britain and Morocco to Afghanistan and Japan;

Head and body length is about 35-110 mm, tail length is 15-56 mm, and forearm length is 30-75 mm. The weight of *Rhinolophus ferrumequinum*, a larger species, from 16.5 to 28 g. Color varies greatly, ranging from reddish brown to deep black above and paler below.

These bats have a peculiar, complex, nose-leaf expansion of the skin surrounding the nostrils. It consists of three parts. The lower part, which is horseshoe-shaped, covers the upper lip, surrounds the nostrils, and has a central notch in the lower edge. Above the nostrils, the appendage is a pointed, erect structure, the lancet, attached only by its base. Both the horseshoe and the lancet are flattened from front to back. The sella, located between the horseshoe and the lancet, is flattened from side to side; it is connected at its base by means of folds and ridges. The shape and arrangement of the nose leaf varies from species to species. These bats generally fly with their mouth closed and emit ultrasonic sounds through the nostrils. The sounds thus emitted may be oriented with the aid of the

nose leaf.

The ears are large and lack a tragus. Two teatlike processes not connected with a mammary gland, known as dummy teats, are found on the abdomens of females in addition to the two functional mammae on the chest. An infant horseshoe bat may grasp the dummy teats of its mother while she carries it during flight.

Young horseshoe bats shed milk teeth before birth. The nasal region for the skull is considerably expanded. All the toes have three bones, except the first, which has two; the *Hipposideridae*, in contrast, have only two bones in each toe. The eyes of horseshoe bats are quite small, and the field of vision seems to be partly obstructed by the large nose leaf, so sight is probably of little importance.

These bats, roosting where they can hang freely, do not close their wings alongside their body as do most bats, but wrap them around the body. The small bare patch on the back at the base of the tail is covered by the upturned tail and membrane; the bat is thus completely enclosed in its flight membranes and resembles the pod of a fruit or the cocoon of an enormous insect. When the bat is at rest, the basal axis of the head makes a right angle with the vertebral column, so that it looks in the direction of its ventral surfaces.

The wings are broad with rounded ends. Horseshoe bats generally have a fluttering, butterflylike, or hovering flight. Their relatively short tails and small tail membranes are not large enough to form a pouch for holding insects. When a large insect is caught in flight, it may be tucked into the wing membrane under the arm while the bat manipulates it with its mouth. Horseshoe bats sometimes alight with large prey in order to eat more easily.

The species living in temperate regions hibernate during the winter in retreats other than their summer roosts, but they awaken readily and change their hibernating sites occasionally, sometimes flying 1,500 m or more to a new place. The body temperature of *Rhinolophus ferrumequinum* has been recorded in Berlin as from 8°C in hibernation to 40°C in periods of normal activity.

These bats begin feeding on insects and spiders later in the evening than most bats and often return to the roost to eat their catch. They usually hunt within six meters of the ground, and will also feed on the ground. Like many bats, they generally have regular feeding territories or hunting areas.

*Rhinolophus ferrumequinum* is declining rapidly because of disturbance of its roosts in caves and buildings, vandalism, habitat modifications resulting in loss of large insect prey, and increasing use of insecticides that may be absorbed by the bats.

### 1.6 Long-winged Bats (or Bent-winged Bats), *Miniopterus schreibersi*

*Miniopterus schreibersi* : Southern Europe to Japan and the Solomon Islands, Philippines, northern Africa, most of Africa, south of the Sahara, northern and eastern Australia

Head and body length is 40-78 mm, tail length is 40-67 mm, forearm length is 37-55 mm, and adult weight is usually 6-20 g. The coloration is reddish, reddish brown, darkbrown, grayish brown, or grayish.

The second bone of the longest finger is about three times as long as the first bone. When the bat hangs by its hind feet, this lengthened terminal part of the third finger folds back upon the wing. The tail is completely enclosed within the interfemoral membrane and is proportionately longer than in other bats of the same size.

The members of this genus usually roost in caves but have also been found in rock clefts, culverts, eaves and roofs of buildings, and crevices of trees. They are often associated with *Nototis* and species of *Myotis* in their daytime retreats. They appear early in the evening, with a rapid, jerky flight. They feed on small beetles and other insects, usually at heights of 10-20 m. *Miniopterus* hibernates in the cooler parts of its range. In a study of *Miniopterus schreibersi* in South Africa, Van der Merve found that seasonal migrations occurred. From late winter to late spring there was a movement of pregnant females from entering caves in the southern Transvaal to maternity caves in the north. In late summer the females and weaned young moved back to the south. Studies of this species in India showed that the population of a given area tended to be centered in one large cave but that individuals spent part of their time in secondary roosts within a 70-km radius.

These bats may be highly gregarious. Van der Merwe reported that in one maternity cave of *Miniopterus schreibersi* in the Transvaal the juveniles alone numbered 110,000 (each female gives birth to a single young from early November to early December).

Stebbing and Griffith regarded *Miniopterus schreibersi* as endangered in western Europe and possibly throughout the world. Several colonies that formerly contained thousands of individuals have almost entirely disappeared. This species is very sensitive and may be eliminated if its roosts in caves and mines are disturbed by human workers or tourists.

### 1.7 Noctule Bats, *Nyctalus leisleri*

*Nyctalus leisleri* : Europe, Iran, eastern Afghanistan, northern India, western Himalaya, North Africa, Madeira

Head and body length is 50-100 mm, tail length is 35-65 mm, and forearm length is 40-70 mm. The color is golden brown or yellowish brown to dark brown above and usually pale brown below.

These bats are generally associated with forests but may also forage in open areas and reside in or near human settlements. Roosting sites include hollow trees, buildings, and caves. These bats are fond of beetles.

Breeding usually takes place in September and again in the spring, but only a single litter is produced each year. The pregnant females generally assemble in groups of as many as 400 individuals in trees and buildings; the 1 or 2, rarely 3, young are born in May and June.

### 1.8 Asiatic Wild Dog (Dhole), *Cuon alpinus*

The single species, *Cuon alpinus*, is found from southern Siberia and Soviet Central Asia to India and the Malay Peninsula and on the islands of Sumatra and Java but not Sri Lanka.

Head and body length is 880-1,130 mm, tail length is 400-500 mm, and shoulder height is 420-550 mm. Males weigh 15-21 kg and females, 10-17 kg. The coloration is variable, but generally the upper parts are rusty red, the underparts are pale, and the tail is tipped with black. In the northern parts of the range the winter pelage is long, soft, dense, and bright red, and the summer coat is shorter, coarser, sparser and less vivid in color. *Cuon alpinus* resembles *Canis* externally, but the skull has a relatively shorter and broader rostrum. Females have 12-16 mammae.

The dhole occupies many types of habitat but avoids deserts. In the Soviet Union it occurs mainly in alpine areas, and in India it is found in dense forest and thick scrub jungle. The preferred habitat in Thailand is dense montane forest at elevations of up to 3,000 m. *Cuon alpinus* may excavate its own den, enlarge a burrow made by another animal, or use a rocky crevice. M. W. Fox found one earth den to have six entrances leading to a labyrinth of at least 30 m of interconnected tunnels and four large chambers; many generations of dholes probably had developed this complex. *Cuon alpinus* may be active at any time, but mainly in early morning and early evening.

The dhole hunts in packs and is primarily a predator of mammals larger than itself. Prey is tracked by scent and then pursued, sometimes for a considerable distance. When the objective is overtaken, it is surrounded and attacked from different sides. Prey animals include deer, wild pigs, mountain sheep, gaur, and antelope. The chital (*Axis axis*) is probably the major prey in India, though Cohen et al. found remains of this deer to occur less frequently than those of *Lepus* in the droppings of *Cuon alpinus*. The diet also includes rodents, insects, and carrion. Reports of predation on tigers, leopards,



and bears generally are not well documented, but those carnivores are sometimes driven from their kills by packs of dholes. There are numerous records of leopards being treed.

In a study in southern India, Johnsingh found population densities of 0.35-0.90 individuals per sq km. A pack in this area contained an average of 8.3 adults and used a home range of 40 sq km. Other work suggests that there are usually 5-12 dholes in a pack, but up to 40 have been reported. This discrepancy was perhaps explained by M.W.Fox, who pointed out that the larger groups are actually clans comprising several related packs. In parts of India the clans keep together during that part of the year when only juvenile and adult chital are available as prey but divide into smaller hunting packs when the chital have fawn. A pack apparently consists of a mated pair and their offspring. Although the social structure has not been closely studied, there seems to be a leader, a dominance hierarchy, and submissive behavior by lower-ranking animals. Intragroup fighting is rarely observed. More than one female sometimes den and rear litters together. Vocalizations include nearly all of those made by the domestic dog except loud and repeated barking; the most distinctive sound is a peculiar whistle that probably serves to keep the pack together during pursuit of prey.

#### 1.9 Branford's fox (*Vulpes cana*)

*Vulpes cana* : mountain steppe zone of southern Turkmen S.S.R, Iran, Pakistan, and Afghanistan and an apparently isolated population in Israel and Sinai

Novicov reported head and body length to be less than 500 mm and tail length to be 330-410 mm. Three specimens listed by Mendelssohn et al. had head and body lengths of 406-428 mm, and weights of 710-956 g. The coloring is blotchy black, gray and white with a dark tip to the tail and a dark patch over the tail gland. There is an almost black mid-dorsal line and the hind legs may be dark. The underparts are white, the ears are gray, and there is a small dark patch between the eyes and nose.

According to Roberts, the habitat of *Vulpes cana* is mountain steppe. It is reportedly more frugivorous than the other foxes of Pakistan, being fond of ripe melons and seedless grapes, and sometimes damaging crops. Mendelssohn et al. found it not to be rare in the rocky habitats of the Negev and Judean deserts. They added that it has an astonishing jumping ability and can move upward among cliffs by pushing itself from one vertical wall to another. Its diet in that area evidently consists mainly of arthropods, and females captured there gave birth to litters of 1 and 3 young in February and April. The skin of *Vulpes cana* is valued in commerce and is heavily hunted.

#### 1.10 Corsac Fox (*Vulpes corsac*)

*Vulpes corsac* : dry steppe and subdesert zone from the lower Volga River to Manchuria and Tibet

Head and body length is 500-600 mm and tail length is 250-350 mm. The fur is thick and soft. The general coloration of the upper parts is pale reddish gray, or reddish brown with silvery overtones. The underparts are white or yellow. *Vulpes corsac* is externally similar to *Vulpes vulpes* but has relatively longer legs. Its ears are large, pointed, and very broad at the base.

The corsac fox is a typical inhabitant of steppes and semi-desert. It avoids forests, thickets, plowed fields, and settled areas. It lives in a burrow, often taken over from another mammal, such as a marmot or badger. Self-excavated burrows are simple, usually very shallow, and sometimes are found in groups. Although usually reported to be nocturnal in the wild, *Vulpes corsac* is active by day in captive; it is said to be an excellent climber. It runs with only moderate speed and can be caught by a slow dog, but it has excellent senses of vision, hearing, and smell. Most reports indicate that it is nomadic and does not to keep a fixed home range. It may migrate southward when deep snow and ice make hunting rodents but also includes pikas, birds, insects, and plant materials.

This species is more social than other foxes, with several individuals sometimes living together in the same burrow. Small hunting packs are said to form in the winter, though perhaps these represent mated pairs and their grown young of the previous spring. Males fight one another during the breeding season but then remain with the family. Mating occurs from January to March, gestation lasts 50-60 days, and litters usually contain 2-11 young. Females in the Berlin Zoo did not reach sexual maturity until their third year of life.

The corsac fox lacks the penetration odor of most *Vulpes* and was frequently kept as a pet in eighteenth-century Russia.

#### 1.11 Pallas's Cat (*Felis(Otocolobus) manul*)

*Felis(Otocolobus) manul* : Caspian Sea and Iran to southeastern Siberia and Tibet

Head and body length is 500-650 mm, tail length is 210-310 mm, and weight is 2.5-3.5 kg. The general coloration varies from light gray to yellowish buff and russet; the white tips of the hairs produce a frosted silvery appearance. There are two dark streaks across each side of the head and four rings on the dark-tipped tail. The coat is relatively longer and more dense than that of any other wild species of *Felis*. The fur is especially long near the end of the tail, and on the underparts of the body it is almost twice as long as on the back and sides. Such an arrangement provides good insulation for an animal that spends much time lying on frozen ground and snow. The body is massive, the legs are short and stout, the head is short and broad, and the ears are very short, bluntly

rounded, and set low and wide apart.

Pallas's cat inhabits steppes, deserts, and rocky country up to elevations of over 4,000 m. It dens in a cave, crevice, or burrow dug by another animal. It is usually nocturnal but is occasionally seen by day. It feeds on pikas and other small mammals. According to Siroganov, the young are born in Siberia in late April and May, and litter size is five or six. Broad, Luxmoore, and Jenkins reported that at least 2,000 skins of *Felis(Otocolobus) manul* are placed in international trade each year and that such activity may threaten the species.

#### 1.12 Snow Leopard (*Panthera(Uncia) uncia*)

*Panthera(Uncia) uncia* : mountainous areas from Afghanistan to Lake Baikal and eastern Tibet

Head and body length is 1,000-1,300 mm, tail length is 800-1,000 mm, shoulder height is about 600 mm, and weight is 25-75 kg. The ground color varies from pale gray to creamy smoke gray, and the underparts are whitish. On the head, neck, and lower limbs there are solid spots, and on the back, sides, and tail are large rings or rosettes, often enclosing some small spots. The coat is long and thick, and the head is relatively small.

The snow leopard is found in the high mountains of Central Asia. In summer it occurs commonly in alpine meadows and rocky areas at elevations of 2,700-6,000 m. In the winter it may follow its prey down into the forests below 1,800 m. It sometimes dens in a rocky cavern or crevice. It is often active by day, especially in the early morning and late afternoon. It is graceful and agile and has been reported to leap as far as 15 m. Prey is either stalked or ambushed. The diet includes mountain goats and sheep, deer, boar, marmots, pikas, and domestic livestock.

In a study in Nepal, Jackson and Ahlborn found that an area of 100 sq km supported 5-10 snow leopards. The home ranges of five individuals in this region measured about 12-39 sq km; these ranges overlapped almost entirely, both between and within sexes, but the animals kept well apart. In general, *Panthera(Uncia) uncia* is thought to utilize a large home range that is traversed in the course of about a week. It is possible that a pair shares a range. Socially, the snow leopard does not roar but has several vocalizations, including a loud moaning associated with attraction of a mate. Births usually occur from April to June, both in the wild and in captivity, after a gestation period of 90-103 days. The young are born in a rocky shelter lined with the mother's fur. The number of young per litter is one to five, usually two or three. The cubs weigh about 450 g each at birth, open their eyes after 7 days, eat their first solid food at 2 months, and follow their mother at 3 months. They hunt with the mother at least through their first winter of life and attain sexual maturity at about 2 years. Maximum longevity in captivity is 17-19 years. It has declined in numbers through hunting by

people, because it is considered to be a predator of domestic stock, it is valued as a trophy, and its fur is in demand by commerce. Although it is protected in China, it continues to be hunted there, and its skin is sold on the open market.

### 1.13 Markhor (*Capra falconeri*)

*Capra falconeri* : mountains of southern Uzbek S.S.R. , Tadzhik S.S.R., Afghanistan, northern and central Pakistan, and Kashmir

Head and body length is 1,400- 1,800 mm, tail length is 80-140 mm, height at the shoulder is 650-1,400 mm, and weight is 80-110 kg in males and 32-40 kg in females. The coat is short and smooth in summer, longer in winter. Both sexes are generally reddish gray in color, there being more yellowish buff tones in summer and more gray in winter. There also is a dark brown stripe extending from the shoulders down the back to the base of the tail. Adult males have much white and gray in their winter pelage, a very extensive black beard, a shaggy mane of long dark hair on the legs. Females sometimes have a thin beard. The limbs are relatively short and thick. The horns are sharp-kneed and begin close together but then spread apart, each twisting into a tight or open spiral. Those of males are up to 1,600 mm long, and those of females to 250 mm.

The markhor lives at medium to high elevations around and above the tree line but generally below the habitat of the ibex. It sometimes is found in steep gorges, rocky areas, arid country, scrub forests, or grassy meadows. Seasonal altitudinal shifts may cover many hundreds of meters. Like other goats, it is active mainly in the early morning and late afternoon and is predominantly a grazer in the spring and summer and a browser in the winter.

Population densities in Pakistan vary from about 1 to 9 / sq km. Females and young live in herds with an average membership of about 9 individuals, though there sometimes are aggregations of 30-100. Adult males reportedly live alone for most of the year, joining the herds only during the rut, but in the population in northern Pakistan some males remain with the females throughout the year. Groups establish a dominance hierarchy through threats and fighting, and males become especially aggressive toward each other during the rut. Fights usually involve lunging and locking of the horns, the combatants pushing and twisting in an effort to throw each other off balance.

Mating takes place in winter, gestation lasts about 155 days, and births occur from late April to early June. There are one or two young. They remain with the mother until the following breeding season and reach sexual maturity at about 30 months. Probably few animals live for more than 11 or 12 years.

*Capra falconeri* has been sought as a trophy by sportsmen, killed for its meat and hide, and reduced through loss of habitat by agricultural expansion and competition with domestic livestock. Much of its limited range is in politically unstable areas and has been the scene of recent military activity.

#### 1.14 Goitred Gazella (*Gazella subgutturosa*)

*Gazella subgutturosa* : desert and subdesert steppes from Palestine and the Arabian Peninsula to the Gobi Desert and northern China

Head-body length is 93-116 cm, tail length is 16-25 cm, shoulder-height is 60-75 cm., and weight is up to 35 kg. The male has lyre-like horns, up to 40 cm in length. The female has smaller horns, up to 5 cm in length. The female is somewhat smaller than the male. Goitred gazelle is a medium-sized antelope with a light frame and long slender legs. The body length is equal to or a little less than the shoulder height. The head is relatively small and the neck is rather long. In the males the larynx protrudes from the throat when rutting. A small platform at the end of the snout and between the nostrils is covered with hair. The eyes are large, black and prominent. The tail is longer than the ears, it is two-colored, most of it is sandy-brown from above, the tip is black or dark-brown, sometimes with a bunch of whitish hair. The hair on the tail is coarse and longer than that on the body. The antlers are black. Wave-like buldges encircle most of the antlers. Adult animals have up to 26-28 (more often 16-20) such circles. The females have no horns as a rule. The hooves are black, narrow and pointed at the front. The length of the fore-hooves is 50-56 mm, the width is almost half that. The guard hair and overcoat are not greatly different. The length of the fur varies from 3-5 cm in winter to 1-1.5 cm in summer. The hair on the snout and legs is shorter than that on the body. If the females have no antlers, there are small bundles of elongated hair in place of them.

In summer the coloration of the upper side of the body and the flanks is brownish-sandy, the lower part of the body, as well as the neck, and the inner part of limbs are white. The front part of legs, except at the lowest points, has the same color as the body. The place under the hoof is a darker brown. Along the flanks, between the upper and the lower halves, there is a darkening of color - a dark brown spot on the bridge of the nose and two dark stripes stretching forward from the eyes. Light stripes stretching forward from the eyes. Light stripes stretch above the eye, from a light-colored ring surrounding the eye. Similar stripes stretch along the cheeks and lips, and meet with the upper stripes on the nose. With age only the short dark stripes in front of the eyes remain. The top of the head is light. The color of the body in winter is lighter than in summer.

The habitat includes the desert parts of the Eastern Transcaucasia, Front Asia - from the Euphrates valley to Belujstan, Afghanistan, Central Asia, Southern Kazakstan, Djungary, Kashgary, Northern Tibet, the Goby, and to the north-as far as Southern Mongolia, Alashan, and Ordos. The areal is

divided in the USSR in two parts - the vast Central Asian area and the smaller Transcaucasian. The area inhabited by the goitred gazelle at the end of the 19th century was probably much nearer to what it was in earlier ages. The native habitat was sharply reduced in the first half of the 20th century and the goitred gazelle began to live in isolated spots in the nineteen thirties.

In Central Asia and Kazakstan the goitred gazelle inhabited all the areas of desert and semidesert as well as the foothills of the desert mountains. In 1977, 40 km to the south-east of Bukhara nursery of goitred gazelles, 5126 hectares in area. As a result of the yearly breeding program and delivery of animals, the number of gazelles in 1980 exceeded 100, and by the end of 1981 it reached 200.

The goitred gazelle lives on sandy and clay plains and in the foothills. It has a preference for hard soil covered with different grass and bushes. In spring it can be encountered frequently in the foothills. As a result of hunting in recent years, it is met in the mountains at an altitude of up to 2000 m and it keeps to broken terrain. Its choice of habitat is greatly influenced by reservoirs and succulent fodder. The animals live in herds. They stay in groups of 1-6, sometimes up to 20-30.

The area needed by goitred gazelle in summer is just several square kilometers, and in winter-several dozen square kilometers. In autumn the animals migrate southwards. In spring they go to the north. Such migrations have been observed in Karakalpakstan.

The goitred gazelle reaches maturity in the second year of life. The mating season is from November to December. Pregnancy lasts about 5 months and one or two young are born in April - May. A few hours after birth, the young can stand on its feet and even run several meters. But it is very feeble and it usually spends the first three or four days lying down. Hiding, it bends its legs under it and stretches out its head. It lies rolled up and with the head on one side. By the fifth day the young is strong enough to leap up at any danger and to run for several hundred meters, where it hides again.

The basic factor behind the reduction in the numbers of gazelle is the high incidence of poaching (Gazelles are shot in large numbers from cars and planes) and the intensive development of its habitat. For example, the best habitat in the Uzbek SSR was in the Hungry, Dalversin and Karshinskaya steppes and on the plains in the Surkhandarya district, which have now been entirely developed. A lot of harm is done to the goitred gazelles by dogs and wolves, by those species which feed on the same kind of food, by deep snow, by ice-covered ground, and by different diseases.

#### 1.15 Bactrian Deer (Bukhara Deer, Red Deer, Wapiti, or Elk), (*Cervus elaphus bactrianus*)

The shoulder height is 120 cm, and the length of the antlers is from 90 to 100 cm. The maximum number of branches on a horn is 5, rarely - it has two additional branches, 2 cm each. The weight is

up to 200 kg, the larger subspecies weigh up to 300 kg.

The species are divided into a number of subspecies, of which 8 are found in the USSR. One of them, the Bukhara subspecies, is encountered in Uzbekistan. It is of medium or a little less than medium size, similar to or even smaller than the Middle European subspecies. The body coloration is light, sandy-yellowish, brighter in summer. The legs are light. The lips and the chin are white. The young of the subspecies are sharply differentiated from the adults by their lighter coloration. The snout is fairly wide. The species inhabits forests, forest steppes, steppes, semi-deserts and mountainous regions of the Old and New World. Their habitat has been sharply reduced during recent times. The reason for this being the direct annihilation of deer as well as the development of cultivated zones in temperate areas. In some parts of the USSR (European territory), the deer were wiped out probably in the first millennium A.D., possibly at the beginning of the epoch. The Bukhara deer is scattered throughout Central Asia and Northern Afghanistan. In the 19th century it inhabited the riparian forests of the Amu Darya and Syr Darya basins and the haloxylon rushes on the rivers to the north of the Kizil-Kum. Towards the middle of the 20th century the species remained in the middle flows of the Amu Darya, in Vakhsh, the Pyandge and the Kizilsu.

In Uzbekistan, in 1960, 17 deer lived on Aral-Paygambar Island. In 1981, there were about 80 deer.

#### 1.16 Bukhara Urial (Tadjil, or Bukhara Sheep), (*Ovis orientalis bocharensis*)

*Ovis orientalis bocharensis* is a comparatively small mountain sheep, which is somewhat larger than the Severtsov's sheep. As in the other subspecies, the females' horns are short curved slightly backwards. The males have massive, large horns (up to 72 cm), the base diameter is 20-27 cm. The males have a thick hair tuft, 30cm long on the lower part of the neck, which reaches to the chest. On both sides of the face there are fluffy whiskers.

The upper part of the body is yellowish, with a reddish or brownish tint, the belly and the groin are white. There is a brown stripe (sometimes barely noticeable) between the belly and the flanks. The head has a yellowish-grey or yellowish-brown tint. The end of the head and the lower jaw are white. The upper part of the tuft is light, the lower part is darker. The Bukhara rams may be differentiated from the similar markhor males by their massive horns, which are twirled at the sides of the head, and by the tuft developed on the cheeks, neck, and the front part of the chest. The females and the young of both species are alike from distance, they differ only in general constitution.

The species is found only in Central Asia. It lives on the Uzbekistan -Turkmenistan border, the Uzbekistan - Tajikistan border, at the south of Tajikistan and in the adjacent regions in Afghanistan and Pakistan.

### 1.17 Transcaspiian Urial (Usturt Sheep), (*Ovis orientalis arcal*)

Head-body length is 121-147 cm, shoulder height is 77-98 cm, the weight of males is 58 - 79 kg and the weight of females is 36 -56 kg.

The body frame is strong and at the same time - slender. Horns which are compressed at the sides and slightly curved, are characteristic of both sexes, but the females have weaker, thinner and relatively smaller (25-30 cm) horns. The male's horns are big, heavy, and they almost form a circle at the sides of the head. The horns are 92 cm in length, the base diameter is 21 - 30 cm.

On the upper part of the chest, on the neck and cheeks, the males have a hair tuft (up to 25 cm), forming a fluffy beard. The top of the body is of a reddish-sandy color with a brownish tint, the sides are lighter. The color of the body from below is dirty white. The head is white, and the tuft on the chest is brownish-black.

The head is white, and the tuft on the chest is brownish-black. There is a light spot on the upper part of the thighs. The females and the young are similar to the females of the saigas and Persian gazelle from a distance, they differ only in the form of the body.

The sheep is scattered over the hills and depressions of the Mangishlak Peninsula, on the coastal precipices of the Caspian Sea and Korabogazgol Bay, on the high- and lowland of Djanak and Zaunguzskye Kara-Kum, and along the western coast of the Aral Sea. The spread of the Usturt sheep in Uzbekistan is confined to the Karakalpakstan Autonomous Republic.

### 1.18 Severtsov's Urial (Kizil-Kum Sheep), (*Ovis orientalis severtzovi*)

Head-body length of male is about 130 cm, shoulder height is 80 cm, the weight is 70 - 125 kg. The females are slightly smaller.

The frame is light and slender. Both sexes have horns. The females have thin poorly - developed horns which are sabre-like and 30 cm long. The males have large, massive horns with a full circle on both sides of the head. The edges are curved forward and inwards. The horns can be 98 - 107 cm long. The base diameter is 29 - 30.5 cm. The hair tuft on the upper part of the chest is poorly-developed (up to 12 cm in length). It does not reach the base of the head and forms no beard. The upper part of the body is grayish-brown. The lower part of the body is dirty-white, with a brownish tint, and the tuft is grayish-white. Not so long ago the Severtsov's sheep inhabited all the Relic mountains of the Central and Western Kizil-Kum (between the Amu Darya and the Syr Darya rivers)



- Beltau, Sultanuizdag, Kuldjuktai, Auminzatai, Tamditai, Bukantai and Tuyamuyun, as well as the northern slopes of the Pamilo-Altai - the ranges Nuratai, Aktau and Malhuzartai.

## 2. Birds

### 2.1 Dalmatian Pelican (*Pelecanus crispus*)

Field marks: 171 cm. Plumage white or grayish; wing edges gray-brown. Feathers on nape of neck elongated and curly. Legs and feet black. Nestlings brownish-gray.

Habits: Inhabit bodies of water in steppe and desert. Migratory. Common in places, but total number is small, and continues to decrease. Nests in overgrown reeds in colonies (sometimes together with Eastern White Pelican), on seashores, lakes, deltas, and lower reaches of rivers, where access is difficult. Sometimes single birds are found in open lakes, far from breeding places. Nests are located on remote islets or on floating reed mats, which are built with reed stalks, grass, and branches. Lays two or three, sometimes four or five white eggs not allow an approach, even to the nest. Takeoff for flight is a heavy running start, with a pushing off from the water, but flight is fast, with deep wing flaps, frequently soating. Flock flies in a file or angle. In spite of the high speed and ease of flight, the pelican appears clumsy due to its wide wings with fingerlike edges. On the ground the bird waddles, moving slowly. Perfect swimmer, but does not dive.

Call: muffled roar; outside breeding colonies the bird is silent. Feeds on various species of fish, catching them in upper layers of water or driving them into a shoal. To achieve this, a flock of birds lines up, then drives fish to shore. Cormorants, gulls, and Eastern white Pelicans will usually join this hunt. Included in the Red Data Book.

Range and distribution: Shores of the Azov Sea, Volga Delta, lower Amu Darya and Syr Darya Rivers, large bodies of water in Kazakhstan. Winters in Iraq, Iran, and northern Hindustan.

### 2.2 Pygmy Cormorant (*Phalacrocorax pygmaeus*)

Field marks: 54 cm. Considerably smaller than other cormorants (size of crow). Greenish black with small white spots on upper parts; head and neck dark brown. No bare area near bill. Throat of juveniles whitish.

Habits: Inhabits seashores, rivers and lakes of desert areas. Nonmigratory, nomadic, or migratory. Common in places, but generally more rare than other cormorants. Nests in small colonies or pairs, sometimes with other birds, in overgrown reeds or riparian lakes, river deltas, seashores, and islands.

Nest is a dome of reed stalks situated in stands or broken heaps or reeds. Sometimes nests in trees. Less sociable than other cormorants; often found singly. Agile climber of reed stalks. Cautious. Habits and behavior like Great Cormorant, but flies faster and lighter. Feeds on small fish.

Range and distribution: Delta of the Duna River, shores of the Caspian Sea, lower reaches and deltas of the Amu Darya and Syr Darya Rivers, shores of the Aral Sea. Winters in the south of the Caspian Sea and in Iran and Iraq.

Similar species: Differs from all cormorants by considerably smaller size; brown head and white-spotted greenish body.

### 2.3 Marbled Teal (Marbled Duck), (*Marmaronetta angustirostris*)

Field Mark : Length 39-42 cm , wingspan 63-67 cm.

Found in desert. Migratory. Very rare.

A very pale dabbling duck with dark eye patch, long neck and long wings, recalling, especially in flight, a female pintail. Relatively shy and difficult to observe, as it often keeps concealed in rank vegetation. Mostly silent but has a 'gick gick' call like a hoarse kestrel. Occurs rarely in Southern Spain. Has decreased greatly during 1900s, but some recovery has taken place in recent years. Lives on shallow well-vegetated lakes, on passage and in winter sometimes also on salt pans and river mouths at coast. Migrants irregularly, majority wintering north of Sahara.

### 2.4 White-headed Duck (*Oxyura leucocephala*)

Field marks : 43 cm. Medium-size duck with short wings and long wedge-shaped tail. Brown with fine dark striations; head white with black crown, nape, and neck; bill bright blue; legs gray. Female differs by dark brown head with whitestripe under eye; white neck; bill and legs gray.

Habits : Found in forest-steppe, steppe, and desert. Winters on large lakes and estuaries. Migratory; partly nonmigratory. Uncommon. Nests in fresh-water or deep brackish lakes with thickets of reed and quiet waters. Nests made of stalks and leaves situated in sedge thickets, on floating reed mats at water's edge or directly on water, anchored between reed stalks. Nest sometimes lined with white down. Lays five to seven very large eggs from early June. Shell coarse, grainy, greenish at the beginning of incubation, then dirty yellow by the end. Flies seldom and reluctantly, takes off heavily, with a long running start. Flight fast. While swimming, keeps tail vertical; good diver, submerging without splashing. Silent, furtive. Feeds on seeds and leaves of aquatic plants; also insects and their

larvae.

Range and distribution: Lower Volga River, Kazakhstan, Central Asia, southern West Siberia. Winters in North Africa, Iran, India. In the USSR, southeast of Caspian Sea, Turkmenia.

### 2.5 Cinereous Vulture (*Aegypius monachus*)

Field marks: 103 cm. Very large bird with wide long wings; head covered with brownish fluff; neck usually bare, skin bluish. At base of neck, a ruff of loose, pale brown feathers; nostrils rounded; cere bluish; plumage dark brown; primaries black. Juveniles dark blackish.

Habits: Found in and near mountains. Wanders, and can often be found in plains as well. Nonmigratory or nomadic. Not numerous, but in places with ample food, will collect in large flocks. Nests in upper forest regions or in bare mountains; occasionally found in small colonies. Enormous nests situated either in trees or in mountain slopes and rockslides. Lays one white egg, usually with reddish-brownish spots in March. Searches for food from a great height, where it soars on motionless wings for hours; rarely flies actively. Call: unique hissing. Feeds on carrion, but occasionally attacks live prey (reptiles, birds).

Range and distribution: Crimea, Caucasus, Central Asia, Kazakhstan, Altai

### 2.6 Imperial Eagle (*Aquila heliaca*)

Field marks: 75 cm. Large, wide-winged, very dark eagle. Brown; sometimes almost black; crown light yellow; white spots on shoulders. Juveniles: light brown with streaked underparts. Claws smaller and tail shorter than Golden Eagle.

Habits: Found in forest-steppe, steppe, and desert; penetrates far into forests. Stays in plains with isolated trees, in pine forests, and small woods. Migratory. Common in places. Builds nests with thick boughs on trees, usually at the top. Lays one or two pure white or yellowish eggs with rusty spots in April. Call resembles dog's barking, "tyaf-tyaf-tyaf". Feeds on small animals (susliks, marmots, hares), on waterfowl, and on carrion. Included in the Red Data Book.

Range and distribution: South European USSR, Central Asia, Kazakhstan, southern West Siberia; isolated populations in the Baltic states. Winters in Central Asia and Transbaikal.

### 2.7 White-tailed Sea-eagle (*Haliaeetus albicilla*)

Field marks: 77 cm. Large bird with short, slightly wedge-shaped tail. Brown; head and underparts lighter; tail pure white, bill yellow. Juveniles dark brown; underparts with elongated dark spots; tail and bill dark.

Habits: Found in a variety of habitats from tundra to desert, but prefers to be near water; found in river valleys, sea- and lakeshores with trees or rocks. nonmigratory or nomadic; migratory in the north. Rare as a whole but more common than the other eagles. Massive nest made of thick boughs placed high in trees; more rarely on rocks. The same nests are used for many years in a row. Lays two, rarely three white eggs early March to April. Very cautious, does not allow close approach even near the nest. Rarely soars high in the air, usually catches prey in low flight or from perch on branch or a rock. Flight heavy. Call: barking "kra-kra-kra" or "kiy-kiy-kiy!". Feeds on fish, birds (ducks, gulls, partridge, coot), and mammals (hare, muskrat, suslik - a large, short-tailed ground squirrel); readily feeds on carrion. Included in the Red Data Book.

Range and distribution: Greater part of USSR except unforested tundra and deserts. Winters in southern Europe, Egypt, India, China, Korea, Japan. In the USSR, shores of the Caspian and Black Seas; Central Asia.

#### 2.8 Pallas's Sea-eagle (*Haliaeetus leucoryphus*)

Field marks: 74 cm. Resembles White-tailed Sea-Eagle, but lighter, better proportioned, and slightly smaller. Body and wings black-brown, head ochreous; throat light; tail rounded, black with broad white band. Bill horn-color. Females duller. Juveniles: light brown with darker breast and dark tail; dark on sides of head.

Habits: Found in open desertlike habitat, but always near large bodies of water such as river valleys, seashores, and lakes overgrown with reed. Migratory or nomadic. Very rare. Nests early March to April. Nests in trees (willows, cork elms, elaeagnus) or on dry reed. Lays two white eggs. Call: barking "kuok-kuok-kuok." Flight light and swift. Soars well. Often perches motionless on tree or shore ledge, watching prey for long periods of time. Included in the Red Data Book.

Range and distribution: Kazakhstan, Central Asia. Winters in India. Occasionally found wintering in USSR in the Amu Darya and Syr Darya Rivers.

#### 2.9 Lesser Kestrel (*Falco naumanni*)

Field marks: 26 cm. Resembles Eurasian Kestrel but smaller and more solid looking. In male, upperparts reddish-brown without spotting; head dark grayish; underparts with small infrequent

spots; black subterminal band on tail; claws white; mustache not noticeable.

Habits: Found in variety of habitat from forest-steppe to mountains and desert. Prefers open spaces with outcroppings of cliffs and precipitous slopes. Migratory. Common, in places numerous. Nests in cliffs, rockpiles, in rubble, precipices, or tree hollows; often forms colonies. Lays four to six yellowish-red eggs with dark spots end of May to June. Habits same as Eurasian Kestrel. Feeds on insects (locusts, horseflies, and beetles), more rarely on mouselike mammals.

Range and distribution: South European USSR, Kazakhstan, Central Asia, southern West Siberia, Transbaikal. Winters in Africa, Arabian Peninsula, Iran, and Hindustan.

#### 2.10 Corn Crane (*Crex crex*)

Field marks: 26 cm. Medium size (slightly larger than a thrush). Bill short and yellow; color brownish with black spotting on back, and brown barring on the flanks; wing coverts rusty reddish.

Habits: Found in a variety of habitats from forest to desert. Migratory. Common. Nests in wet meadows in river valleys lush with thick grass; sometimes in thickets near grain and other fields; also in cut forest areas and forest clearings; in boggy lake basins; but avoids very marshy areas. Nest is hidden in tall grass, and can only be found by chance. Lays eight to twelve ocherish eggs with reddish-brown spots and dots from May; occasionally has two broods. Despite coloration and garrulousness, the bird is rarely seen, and only when it flushes. Flies reluctantly, legs dangle in flight. Runs away from danger very rapidly. Primarily nocturnal. Call: scraping cry, "krek-krek-krek-krek", which is heard for a great distance. Feeds on various insects, worms, and seeds.

Range and distribution: European USSR except northern regions, Kazakhstan, southern half of west and central Siberia. Winters in Mediterranean countries and Africa.

#### 2.11 Ferruginous Pochard (*Aythya nyroca*)

Field marks: 41 cm. Smaller than Red-crested Pochard. Head, neck, breast, and sides rusty brown; belly and undertail white; white wing stripe; bill black; legs gray; eyes white. Female somewhat lighter brown.

Habits: Found near water in forest-steppe, steppe, and desert. Prefers estuaries on wintering grounds. Migratory. Common in places. Nests in pairs or small colonies on deep lakes with reed thickets. Builds nests on floating reed islets or mats, usually at water's edge. Nest abundantly lined with down. Lays six to eleven small brownish-yellow eggs from mid-May. During nonbreeding season stays in

small flocks. Flight fast and more maneuverable than other pochards; takes off from water more easily. Silent; unwary. Call of male: low hoarse sound; of female; shrill quack. Feeds mostly on water plants.

Range and distribution : Southern half of European USSR, Central Asia, Kazakhstan, southern regions of West Siberia. Winters on the Mediterranean, Africa, southwestern Asia. In the USSR, in the Transcaucasus, southern areas of the Caspian Sea, and some parts of Central Asia.

#### 2.12 Great Bustard (*Otis tarda*)

Field marks: 80-103 cm. Very large bird. Head and neck gray; back rusty with fine black markings; belly whitish; wings white with dark tips. In males, tufts of bristlelike feathers (whiskers) on throat.

Habits: Found in forest-steppe, steppe and desert. Migratory. Rare, and numbers continue to decline significantly. Nests in open spaces, in buffalo grass and other type of steppe; saline soil areas with sparse vegetation; near river beds, sometimes in grain fields, but always in places far from civilization. Nest is a shallow depression without any lining, completely in the open. Lays two, sometimes three, olive-greenish eggs with blurry dark spots from mid-April. Sits tight on nest; if danger nears, it presses against the ground and is almost invisible. Males do not assist in rearing young. During nonbreeding time, stays in "herds". Very wary, but allows close approach to the nest, then "leads away". Takeoff from the ground is heavy, with a running start; but once in the air, flight is swift, strong, with deep wing beats. Remains silent. Feeds on shoots and seeds of grasses, insects. Included in the Red Data Book.

Range and distribution: Steppe of southern Ukraine, Lower Volga, Kazakhstan, Transbaikal. Winters occasionally on the Crimea, in the Transcaucasus and Central Asia, but main wintering grounds further south outside USSR.

#### 2.13 Little Bustard (*Tetrax tetrax*)

Field marks: 43 cm. Smallest of the bustards in the USSR (chicken-size). No decorative feathers. Back is grayish-ocherish with dark fine markings; belly white; neck black with two narrow white stripes; wings mostly white with dark tips. Females are brownish mottled, lack black "collar". In winter, coloration of male same as female.

Habits: Found in forest-steppe, steppe, and semi-desert. Migratory. Rare, and has become endangered over the last few years. Nests in areas with short grasses and herbaceous growth, and most often in abandoned fields and in meadows. Nest is a small depression with sparse lining of dry

grasses, and is placed in grassy site. Lays three to five shiny olive-greenish eggs with dark, small spots; from early May. Female sits on nest very tightly. Birds flock during nonbreeding season. Wary, and when approached by danger prefers to run away or hide. Flies straight up without a running takeoff. flight swift and straight, low to the ground, often with a characteristic fluttering sound. During the spring breeding period, male displays by fanning his tail, lowering wings, and emitting a frequent, dry, halting "trekk-trek". Feeds on insects, seeds, shoots of various plants. Included in the Red Data Book.

Range and distribution: Reduced to remnant populations in south European USSR, Kazakhstan, and Central Asia. Winters in Transcaucasus and south Central Asia.

#### 2.14 Pale-backed Pigeon (Eastern Stock Pigeon), (*Columba eversmanni*)

Field marks: 30 cm. Resembles Rock Pigeon, but smaller and darker, particularly the wing lining; back and wings are brownish; bill yellowish, cere white.

Habits: Found in desert and in settled habitats. Migratory. Common in places. Nests in clay and forested precipices along river banks; in old groves; in deserted buildings, ruins, and wells; in old burrows of other animals, old tree hollows, holes in buildings, etc. Nest is unlined. Lays two white eggs (smaller than Rock Pigeon's) at end of April. Stays in small flocks. Flight like Rock Pigeon, but somewhat lighter and weaker. Often perches in trees, choosing the thickest part of the crown. Feeds exclusively on the ground, usually in the morning and before evening. Call: monotonous, muffled "oo, oo-oo, oo". Feeds on seeds of various plants.

Range and distribution: Plains and valleys of Central Asia from Konet-Dag and the Aral Sea to western Tadjikistan. Winters in southern Iran, Afghanistan, and northern Hindustan.

#### 2.15 White-winged Spotted Woodpecker (*Dendrocopos leucopterus*)

Field marks: 22-23 cm. Greatly resembles Great Spotted Woodpecker, but white is such a predominant color in the wings that they appear entirely white.

Habits: Found in tugay (riparian woods consisting of various poplars, thorny shrubs, and reeds), saxal thickets in deserts, groves in mountains and plains, and in gardens and parks. Nonmigratory and nomadic. Common. Habits and call similar to Great Spotted Woodpecker, but nests earlier, in March.

Range and distribution: Forests in mountains and plains of southern Kazakhstan and Central Asia.

## 2.16 Sociable Lapwing (*Chettusia gregaria*)

Field marks: 30 cm. Back and breast brownish-gray; crown, eye line, wing tips and band on tail black; forehead, eye stripe, and base of tail white; belly black with rust; bill and legs black. Winter plumage duller; in juveniles, underparts are whitish.

Habits: Found in dry steppe and semi-steppe. Migratory. Numbers are currently decreasing. Nests in steppe areas with sparse vegetation, in saline soil areas, usually near water. Often forms colonies. Nest is a thinly lined depression. Lays four eggs from mid-April until June. Eggs resemble those of Northern Lapwing, but the spots are reduced in number and size. Easily seen. Actively defends its nest, chasing away raptors and even attacking a person. Not wary away from nest. Flight rapid and strong. Call: scraping "kree-kree". Feeds on various insects (beetles, locusts). Included in the Red Data Book.

Range and distribution: Central and Lower Volga, Kazakhstan, southern West Siberia. Winters in Egypt, the Sudan, Iraq, Pakistan.

## 3. Reptiles

### 3.1 Central Asian Cobra (Oxus Cobra) (*Naja Oxiana*)

This is a large snake, almost 2 meters long (head-body length is 171 cm, the length of tail is 35 cm). From other poisonous snakes it is distinguished by its small fangs (3-5 mm), a relatively long tail and slender body.

If troubled, it - in contrast to all other snakes in Central Asia - raises the front part of the body 30-40 cm, blows out its neck, makes a loud hiss and then resumes its former position. The head is not separated from the body. It has one preocular and two or three supraocular scales. The highest of the upper labial plates is the third. The first temporal row has 2 large shells, as a rule. The plates of the second temporal row are much fewer and are almost not different in size from the other scales on the temple. The pupil of the eye is roundish, the scales are smooth.

Adult snakes are one-colored: from olive to dark-brown. Young cobras have dark (black) transversal lines along the body, the frontal stripes run downward. The adults have a light belly, usually without dots. There are 2 or 3 transversal stripes on the throat.

The species' area is limited to the southern regions of Central Asia and adjacent areas in Afghanistan,



Pakistan, India and South-eastern Iran. In Uzbekistan the cobra is encountered in the Babatag, in the valleys of the Surkhandarya and Kashkadarya, the foothills of the Zeravshansky range - from the Nuratau and Aristan-Beltau ranges in the north to the foothills of the Turkestansky range in the east, where it has been reported 15 km to the south of the village of Djoilangar (Khavastsky region). The cobra has been identified to the east of these areas only due to shed skin which was found in the environs of the villages Yantak and Xavana.

It inhabits foothills, low mountains, river valleys and ravines and lives among stones and bushes. It may be encountered in abandoned buildings and gardens. Very frequently it is encountered on river banks and in sandy deserts. In the mountains it climbs up to 2000 m above sea level.

The favorite areas of cobra habitat in Uzbekistan are foothills with many holes of the great gerbil and the tortoises but it is encountered in waterless mountains as well, i.e. in the Babatag, among the sparse thickets of pistachio trees.

As shelter, it uses the holes of the great gerbil, tortoise, pest rat and other animals. Sometimes it hides itself in the cracks of loess precipices, in spaces between stones and in the ruins of buildings. Similar places are used for wintering.

It emerges late in spring, usually only in April. It can be encountered only very seldom in March. The snakes begin to hibernate in October. In winter it leaves its shelter very late and only in the afternoon, when the temperature is above 20°C.

After hibernation, it warms itself near its hole and after several days starts moving in search for food. The cobra is active all the day round in spring, from March to mid-May. Then it begins to emerge only in the morning and before twilight. In summer, when it is hot, it can be encountered on the ground at night as well. The cobra is very active in its search for prey. Judging from its tracks on sand, it sometimes crawls up to one or even two kilometers, entering every hole on its way.

The cobra is extremely poisonous and its bite can be fatal to the man. However it bites people extremely rarely and when it runs against man, it always tries to crawl away.

#### 4. Fish

##### 4.1 Ship Sturgeon (*Acipenser nudiventris*)

Length is 2 m, weight up to 80 kg. Cartilaginous skeleton. A long spindle-like body, light bluish-gray in the upper part, white at the bottom covered by 5 rows of large convex osteal scales. In the

spinal row there are 13-17 scales and in the abdominal row (10-19), on the sides are 50- 79 scales. Between them are small osteal kernels and plates. The snout is elongated and conical. The mouth is on the lower side of the head and is toothless. The flesh is white.

Up to 1936 this sturgeon was numerous and a valuable object of prey in the Aral Sea. It was to be found from the Aral Sea to Kirovobad along the Amu Darya and up to the mouth of the Karadarya and Naryn along the Syr Darya. In 1936 its numbers were sharply reduced due to "epizootic" caused by the bronchial sucker which penetrated into the Aral Sea together with the Ural starred (stellate) sturgeon. In 1950 its numbers were partially restored. At the end of 70s and beginning of the 80s with the growth of salinity of the Aral Sea this species abandoned the area. Up to that time it could be come across everywhere except in the highly saline bays of the eastern coast. From the beginning of May up to the middle of September adult fish (from 11 to 30 years old) of the 100 - 180 cm size would enter the Syr Darya estuary and go up the current. At the beginning of September some would appear near Chinaz after covering a distance of almost 2000 m during summer.

Between Chinaz and Bekabad in turbulent water and with a water temperature of 10-15°C, and also in the Amu Darya near Nukus and even higher the fish would lay their eggs. They feed on mollusks, caddisworms, amphipoda, and chironomida larvae. The young eat smaller animals.

#### 4.2 Small Amu-Dar Shovelnose (*Pseudoscaphirhynchus hermanni*)

The maximum body length is 27 cm, and weight is 200 - 290 g.

There are 5 rows of osteal scales. 27-33 of them are on the dorsal fin, 20-38 are on lateral ones, 2-10 are on the abdominal fin. The dorsal fin has 27-33 and the anal has 2-5 rays. There are 10-14 lanceolate gill stamens in the first gill arch. There is a fold in the pectoral fin. The snout is shovel-like, rounded at the front. With age the length of the snout increases almost 1.5 times as much. Two pairs of feelers precede the mouth, those on the sides are longer than those in the middle up to 2-3 times as much. The eyes are very small. The back is dark-brown, the abdomen is whitish.

The scales do not always end in spines. Every dorsal and lateral scale covers almost the half of the next one. There are small frontal and parietal spines on the snout. The little Shovelnose differs from the Big by the absence of spines on the snout and caudal filament and by the presence of the fold in the pectoral fins.

The habitat covers the Amu Darya basin. After the construction of the Amu-Bukhara, Amu-Karakul and Karshi main canals the Little Shovelnose penetrated into lower reaches of the Kshkadarya and Zarafshan. Its food includes aquatic invertebrate animals and chironomida larvae.

the second half of April in places with a turbulent current on stony soils. One individual can lay a maximum of 1500 eggs, 1.3-1.8 mm in diameter.

With the change in the hydraulic conditions of the Syr Darya, the numbers of pseudo-shovelnose has been reduced. Protective measures with regard to this species should be strengthened. Pseudoshovelnozes, as an ancient species of the Sturgeon family, present great scientific interest, and therefore new methods for artificial reproduction are required.

#### Reference

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There is very little information about their reproduction. The reduction in the numbers of species is connected with sharp changes in water reservoir conditions, with the reduction of natural reproduction and death of the young in the irrational canals.

#### 4.3 Large Amu-Dar Shovelnose Sturgeon (*Pseudoscaphirhynchus kaufmanni*)

Body length including tail is up to 82 cm (without tail is 58 cm), weight is up to 2 kg.

There are 5 rows of osteal scales: 1 dorsal, 2 lateral and 2 abdominal. There are 10-15 dorsal, 28-40 lateral and 5-11 abdominal osteal scales. Between the osteal scale rows the body is covered only with kernels, and scales are missing. The snout is broad and spadelike (shovel-like). On its upper edge are sharp spines. The mouth is in the lower part of the head and is large with 4 long feelers. The upper and lower lips are double-bladed. The eyes are very small. The skeleton is cartilaginous. The edge of the snout has up to 5 sharp strong spines. The mature individuals usually have a couple of spines in front of the eyes and another couple behind them. The tail filament usually comprises 1/3 of the body length (large specimens sometimes do not have such filament). The spinal fin has 25-37 rays, and the anal fin has 29-34 rays. The Big Shovelnose by its larger head and longer caudal filament which sometimes is bifurcated (or divided into two). There are large backward-looking spines on the head. The feelers are smooth and thickened a little. In the middle of the abdomen is the beginning of keeled edge fold which finishes at the entrance to the anal fin.

Not long ago the species habitat covered only the Amu Darya from the source to the estuary. In Uzbekistan this species started to leave Amu Darya for the canals. After the construction of the Amu-Bukhara, Amu-Karapronic and Karshi main canals, the shovelnose penetrated the water of the Zarafshan and Kashkardarya lower reaches. During recent years its number have increase. It can most often be met in those waters which have firm sandy-stone soils, it may also be found in saline waters.

It feeds on various invertebrates (chironomida larvae and chrysalices (or pupas), ephenmeroptera plecoptera larvae caddisworm) and fish (small forms of the chars, sabrefish and barbel).

The males become mature at the age of 6-7 when they reach 40 cm in body length (without tail filament). The females reach maturity a year later. Spawning takes place the end of March - beginning of April with a water temperature of 14 - 16°C. Before spawning the individual fish gather together at ponds in river water with the depth of 0.25 - 1.5 m with a firm sandy bottom and with numerous islets. The eggs are laid in the spits of coarse sand, sometimes on stony deposits. Mature eggs are dark-gray. The eggs can be easily separated from one another. They are comparatively large

from 1.5 to 2.7 mm. Reproductivity varies from 3.1 to 37 thousand eggs. The young fishes are carried down to the lower reaches of the river current.

The greatest progressing growth can be observed during the first 4 years, then it slows down a little. This is probably accounted for by exhausting their energetic resources for gonad maturation. From the age of 8 growth speed increases again.

The numbers of this species in the Amu Darya has been somehow reduced during recent years. This must be caused by its low productivity or overfishery. The Big Shovelnose prey is now prohibited.

#### 4.4 Syr-Dar False Shovelnose (*Pseutoscaphirhynchus fedtschenkoii*)

Body length is 25-27 cm, with a caudal filament of 34-40 cm.

The body is roller-like narrowing from head to tail, covered with 5 rows of osteal scales: one on the back, 2 on the sides and 2 on the abdomen. There are 15-22 dorsal, 38-46 lateral and 6-10 abdominal scales. Between the scales the body is covered with kernels but not with scales. The caudal filament comprises approximately 40 %. Snout width and length vary. The upper part of the snout is often broad and flattened thus shovel-like. The mouth is not large, it is situated in the lower part of the head. The eyes are very small. The caudal fin has from 30 to 34 rays, the anal has 19-22. Nine gill stamens are of a lance-head shape. The upper and the lower lips are double-bladdel and split in the middle. The feelers are not fimbriated. The tail is long and thread-like. The outer edge of the pectoral fin has a fold. Splashing is missing. The shovelnose seems to have been widely spread in fresh water when the single pre-Continent Pangea existed (yet before Pangea divided into the present-day continents). Therefore rather closely connected species of the shovelnoses and pseudoshovelnoses remained in quite remote places - in the Aral Sea basin, in China and in North America, in the Mississippi basin.

This species habitat is limited by the Syr Darya river-bed and its tributaries from its upper-head to the estuary. It is often met in the upper reaches of the river. Due to the construction of the irrigational network in the Syr Darya basin the pseudoshovelnose habitat has broadened. It can be found in the lower reaches of the Chirchik, in the Big Fergana, Kirov and Southern Hunger-Sleep canal. It inhabits not only rivers and large permanently functioning irrigation canals, but also estuary water reservoirs. During the recent years, the number of Syrdar pseudoshovelnoses in estuary reservoirs has slightly increased.

It feeds mainly on the insect larvae. But there is very little information on its reproduction. There are reports that the Syr-dar pseudoshovelnose becomes mature at the age of 5-6. Spawning takes place in

Table 1 (1/2) Animals listed in IUCN Red list( 1996)

English Name	Scientific Name		Category
<b>Mammals</b>			
	<i>Myomimus</i>	<i>personatus</i>	VU
Forest Dormouse	<i>Dryomys</i>	<i>nitedula</i>	LR(nt)
	<i>Salpingotus</i>	<i>heptneri</i>	LR(nt)
Long-fingered Bat	<i>Myotis</i>	<i>capaccinii</i>	VU
	<i>Myotis</i>	<i>emarginatus</i>	VU
	<i>Rhinolophus</i>	<i>ferrumequinum</i>	LR(cd)
	<i>Miniopterus</i>	<i>schreibersi</i>	LR(nt)
	<i>Nyctalus</i>	<i>leisleri</i>	LR(nt)
Asiatic Wild Dog	<i>Cuon</i>	<i>alpinus</i>	VU
Branford's Fox	<i>Vupes</i>	<i>cana</i>	DD
Corsac Fox	<i>Vupes</i>	<i>corsac</i>	DD
Pallas's Cat	<i>Otocolobus</i> ( <i>Felis</i> )	<i>manul</i>	<i>ferrugineous</i> LR(nt)
Snow Leopard	<i>Uncia</i> ( <i>Panthera</i> )	<i>uncia</i>	EN
Markhor	<i>Capra</i>	<i>falconeri</i>	EN
Tadjik Markhor	<i>Capra</i>	<i>falconeri</i>	<i>heptneri</i> CR
	<i>Equus</i>	<i>hemionus</i>	VU
Goitred Gazella	<i>Gazella</i>	<i>subgutturosa</i>	LR(nt)
Bactrian Deer	<i>Cervus</i>	<i>elaphus</i>	<i>bactrianus</i> VU
Bukhara Urial	<i>Ovis</i>	<i>orientalis</i>	<i>bocharensis</i> VU
Transcaspian Urial	<i>Ovis</i>	<i>orientalis</i>	<i>arkal</i> VU
Severtaov's Urial	<i>Ovis</i>	<i>orientalis</i>	<i>severtzovi</i> EN
<b>Birds</b>			
Dalmatian Pelican	<i>Pelicanus</i>	<i>crispus</i>	VU
Pygmy Cormorant	<i>Phalacrocorax</i>	<i>pygmeus</i>	LR(nt)
Marbled Teal	<i>Marmaronetta</i>	<i>angustirostris</i>	VU
White-headed Duck	<i>Oxyura</i>	<i>leucocephala</i>	VU
Cinereous Vulture	<i>Aegypius</i>	<i>monachus</i>	LR(nt)
Imperial Eagle	<i>Aquila</i>	<i>heliaca</i>	VU
White-tailed Eagle	<i>Haliaeetus</i>	<i>albicilla</i>	LR(nt)
Pallas's Sea-Eagle	<i>Haliaeetus</i>	<i>leucoryphus</i>	VU
Lesser Kestrel	<i>Falco</i>	<i>naumanni</i>	VU
Corn Crake	<i>Crex</i>	<i>crex</i>	VU
Ferruginous Duck	<i>Aythya</i>	<i>nyrosa</i>	VU
Great Bustard	<i>Otis</i>	<i>tarda</i>	VU
Little Bustard	<i>Tetrax</i>	<i>tetrax</i>	LR(nt)
Pale-backed Pigeon	<i>Columba</i>	<i>eversmanni</i>	VU
White-winged Woodpecker	<i>Dendropicos</i>	<i>leucopterus</i>	LR(nt)
Sociable Lapwing	<i>Vanellus</i>	<i>gregarius</i>	VU

(Source: 1996 IUCN Red List of Threatened Animals, the world conservation union)

EX: Extinct

EW: Extinct in the Wild

CR: Critically Endangered

EN: Endangered

VU: Vulnerable

LR(cd): Lower Risk (Conservation Dependent)

LR(nt): Lower Risk (Near Threatened)

DD: Data Deficient

NE: Not Evaluated

Table 1 (2/2) Animals listed in IUCN Red list( 1996)

English Name	Scientific Name		Category
<b>Reptiles</b>			
Central Asian or Oxus Cobra	<i>Naja</i>	<i>oxiana</i>	DD
<b>Fish</b>			
Ship Sturgeon	<i>Acipenser</i>	<i>nudiventris</i>	EN (uz. EX)
Small Amu-Dar Shovelnose Sturgeon	<i>Pseudoscaphirhynchus</i>	<i>hermanni</i>	CR
Large Amu-Dar Shovelnose Sturgeon	<i>Pseudoscaphirhynchus</i>	<i>kaufmanni</i>	EN
Asp	<i>Aspius</i>	<i>aspius</i>	DD
Wild Common Carp	<i>Cyprinus</i>	<i>carpio</i>	DD
<b>Insects</b>			
Predatory Bush Cricket	<i>Saga</i>	<i>pedo</i>	VU
	<i>Hyles</i>	<i>hippophaes</i>	DD
Willowherb Hawkmoth	<i>Proserpinus</i>	<i>proserpina</i>	DD

(Source: 1996 IUCN Red List of Threatened Animals, the world conservation union)

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EW: Extinct in the Wild

CR: Critically Endangered

EN: Endangered

VU: Vulnerable

LR(cd): Lower Risk (Conservation Dependent)

LR(nt): Lower Risk (Near Threatened)

DD: Data Deficient

NE: Not Evaluated









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