

species of *Scrofulariaceae*; more than sixty species of *Boraginaceae*; *Rubiaceae*; *Plantaginaceae*; *Solanaceae*, especially such *Hyoscyami* as *H. muticus* L. (*bang-dēvāna-ye kōhī*), *H. senecionis* Willd. (*bang-dāna-ye kōhī*), *H. pusillus* L. (*bangak-e dēvāna*), and also *Datura* L. (*dātūrā*). The family *Zygophyllaceae* is represented mainly by *Zygophyllum fabago* Boiss. (Syrian bean-caper, *qīc*) and *Peganum harmala* L. (*espond, sarmal*). The ephedra species attests the *Ephedraceae* (called *hōm* in Herat).

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(M. ŠAFĪQ YŪNOS)

iii. FAUNA

The complex geography of Afghanistan supports a particularly diversified fauna. The Hindu Kush mountains have been a barrier to a westward dispersal of most elements of the Indian fauna realm, and as a result most of the fauna is typically Palearctic. This overlap of two major zoogeographic realms is made even more complex by the occurrence of five major ecological life zones in the country: The central highlands, steppes, southern semi-deserts, monsoon forests, and eastern intramontane basin (Figure 16).

Fishes (māhīhā). The Hindu Kush range divides the country's fish into two assemblages, the trout and carp. Brown trout (*Salmo trutta oxiana*; *ḳālmāhī*) present in northern drainages do not occur in streams of the

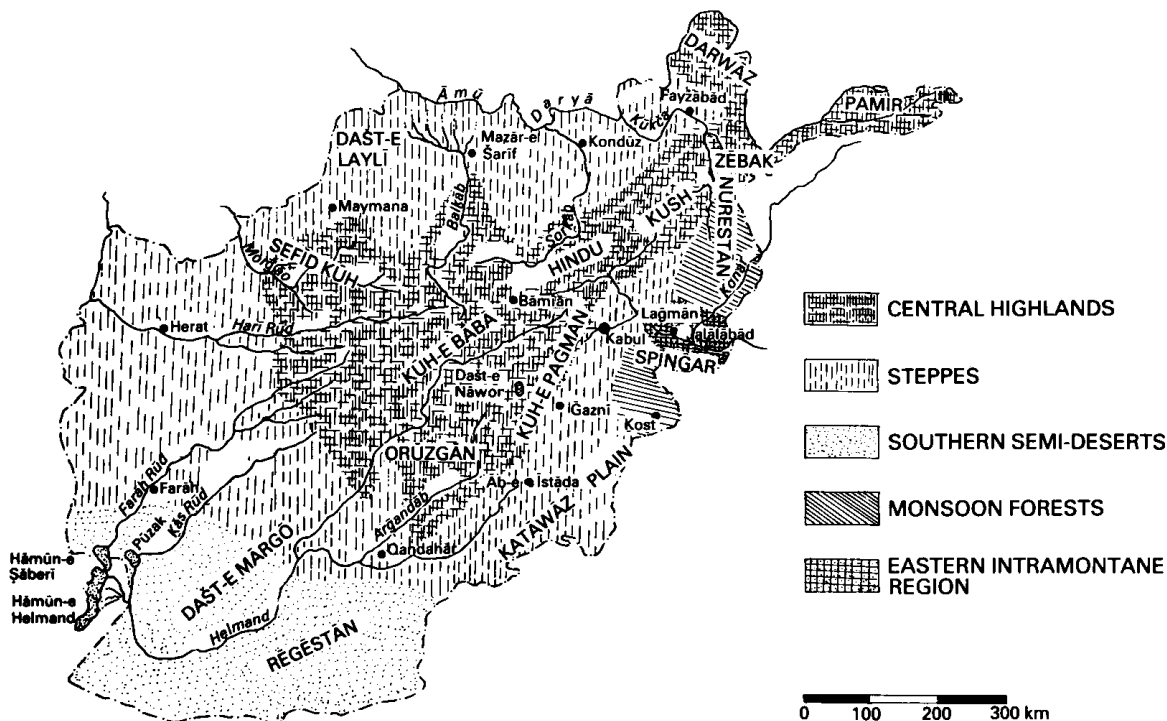


Figure 16

southern slopes. Southern drainages are, however, rich in carp (*šir-māhī*) species. Annandale (1920) made extensive ichthyological studies in Sīstān and separated the fish of this dry basin into two geographical divisions. The *Cyprinidae*, which do not occur in the highlands of Central Asia, represent an element derived from the region lying south and southeast of the Helmand basin, while the *Schizothoracinae* and *Cobitidae* are thought to have been carried southward by the Helmand from the Hindu Kush and are probably descended from fish of the ancient and over-extensive Oxus system. Tributaries of the Indus river, which drain the eastern portion of Afghanistan, also contain several fish species. Brown trout (*Salmo trutta*) and carp (*Oreinus* sp. and *Schizothorax* sp.) occur in the colder mountain streams of Nūrestān and the Konar valley, while two species of *Cyprinidae* occur further downstream. The largest fish in this drainage is the spiny eel (*Mastacembelus armatus*), which attains a length of 75 cm.

Amphibians (*dū ma īsatayn*) and *reptiles* (*kazan-dagān*). The herpetofauna of large parts of the country, especially the central highlands, has not been studied thoroughly, since most of the work done is centered around the Kabul river valley and southern Afghanistan. The fauna of the northern plains shows strong affinities with that of the deserts and steppes of southern USSR, while elements of the Indian fauna are included in the herpetofauna in the south and east. Only one salamander (*Batrachuperus musteri*) is known from the Paḡmān range and occurs in mountain streams up to 3,000 m. The most common and abundant amphibian is the green toad (*Bufo viridis*; *baḡh-e sabz*), which is found all over the country. The three species of frogs belong to the *Rana* genus. They frequently inhabit irrigation streams, although in far smaller numbers than toads. Among the two species of turtles, the land turtle (*Testudo horsfieldii*, *sangpošt*) inhabits arid steppes all over the country up to 2,400 m. *Trionyx gangeticus*, a soft-shelled turtle, is known from the Indus drainage system in eastern Afghanistan.

The *Agama* family, represented by twenty-three species in four genera, is by far the largest group of lizards. The most characteristic of this group is *Agama agilis*, which is widely dispersed below 2,500 m throughout the country. Caucasian *Agama* (*Agama caucasica*) and Badakṣān *Agama* (*Agama badakhshana*), the latter being an endemic form, inhabit montane biotopes up to 3,200 m. Nine species of toad-headed *Agamas* (*Phrynocephalus*) are typical representatives of this family in the southern and northwestern semi-deserts. The two species of spiny-tailed lizards (*Uromastix*) are herbivorous and live in long tunnels which they dig in stony soil of scree-covered deserts. There are fifteen species of geckos. *Alsophylax pipiens*, a nocturnal animal, is found frequently lingering near lights on the walls of most houses in Kabul. To the east, the leopard gecko (*Eublepharis macularius*) occurs near human settlements. Among the *Lacertidae* the most common genus is *Eremias* (race runners), representing twelve of the fourteen *Lacertid* species found in the country. Widely

dispersed and abundant are *Eremias guttulata watsonana* and *Eremias velox persica*. The small skink, *Ablepharus bivittatus lindbergii*, which attains a body length of six cm, is commonly found at higher elevations (2,300 to 3,300 m). Two species of monitors are known to occur at lower elevations. The desert monitor (*Varanus griseus*) is found throughout the country; while the Bengal monitor (*Varanus bengalensis*), an Indian fauna element, is only known from the Kabul river valley.

Twenty-seven species of snakes have been recorded from Afghanistan, of which seven are poisonous (five vipers and two cobras). Among the poisonous snakes the most common is the carpet viper (*Echis carinatus*), which occurs at lower elevations north and south of the Hindu Kush. The cobra *Naja naja oxiana* occurs in the south and northwest, while the common krait (*Bungarus caeruleus*) is known only east of Jālālābād. Among the non-poisonous snakes, three species of sandboas (*Eryx*) occur all over the country. The *Colubriadae* is the largest snake family with fifteen species distributed in the southern lowlands, the western and northern steppes. A common Eurasian species, the diced snake (*Natrix tessellata*), reaches the eastern limit of its distribution in Nūrestān and into Chitral. In contrast to most other members of this family which inhabit arid areas, *Natrix* is found near watercourses, where it lives on fish and amphibians. Another snake restricted to the same habitat, *Xenochrophis piscator*, is known only from the environs of Jālālābād. Species belonging to the *Psammophis*, *Coluber*, and *Lytorhynchus* genera are other members of this family found in Afghanistan. The distribution of two worm-snakes, *Typhlops vermicularis* and *Leptotyphlops blanfordi*, is not well known.

Birds (*parandagān*) Almost 450 species of birds are known, of which nearly half occur in the steppe region. Within this region, more than 100 species of waterfowl and waders pay regular visits to the alkaline lakes of Āb-e Īstāda and Dašt-e Nāwor. The rare Siberian crane (*Grus leucogeranus*, *kolang-e sefid*) visits Āb-e Īstāda en route from India to its breeding grounds on the Ob river in the Soviet Union. Many species also breed at these lakes, including shelduck (*Tadorna tadorna*, *ardak-e waḡšī*), black-winged stilt (*Himantopus himantopus*, *gaz-e līng*), avocet (*Recurvirostra avosetta*, *šamsīrmūl*), terns, and gulls. About 20,000 greater flamingo (*Phoenicopterus ruber ruseus*, *gāz-e ḡosaynī*) breed at the two areas; Dašt-e Nāwor (3,200 m) represents the world's highest breeding ground of this species.

The Hāmūn-e Šāberī and Pūzak lakes extending along the Afghan-Iranian border form an extensive habitat for many water birds, which overwinter annually. More than half a million waterfowl and waders have been recorded in these lakes. Coots (*Fulica atra*, *qašqel-e ašlī*) dominate the scene; greylag goose (*Anser anser*, *angīr*), mallard (*Anas platyrhynchos*, *sabzgardan*), wigeon (*Anas penelope*, *nūlābī*), pintail (*Anas acuta*, *sīkdom*), shoveler (*Anas clypeata*, *ala-peka*), teal (*Anas crecca*, *ardak-e čūča*), pochard (*Aythya ferina*, *kal-*

la-sork), and three species of grebes (*Podiceps. ġawta ihā*) are some of the major species encountered. Besides waterfowl, two species of pelicans (*qoṭan*), grey heron (*Ardea cinerea, māhik'orak-e kākī*), great white egret (*Egretta alba, māhik'orak-e sefid*), spoonbill (*Platalea leucorodia, qāsoqnūl*), and cormorant (*Phalacrocorax carbo, qāz-e sīāh*), and hundreds of waders (shanks, plovers, sandpipers, snipes, and gulls) are also prevalent. Of the raptors, eagles, harriers, kestrels and some vultures abound in the lake surround.

About 150 species of birds occur in the central mountains. The Sālang pass forms a major flyway during spring and autumn for large numbers of white storks (*Ciconia ciconia, lalak-e sefid*), black storks (*Ciconia nigra, čilān*), starlings (*Sturnus vulgaris, qarakoš*), and numerous species of waterfowl and waders, which migrate from their wintering grounds to northern latitudes (Nogge 1973). The chukar (*Electoris chukar, kabk*), Himalayan snowcock (*Tetraogallus himalayensis, kabk-e dari*), magpie (*Pica pica, akka*), hoopoe (*Upupa epops, atūtak*), raven (*Corvus corax, ġorāb*), chough (*Phyrhacorax phyrhacorax, zāg-e arča*), alpine chough (*Phyrhacorax graculus, zāg-e nūlzard*), and a number of eagles and buzzards, together with lammergeier (*Gypaetus barbatus, karges-e borūtdar*), are some of the more characteristic birds encountered in the mountains. Kestrels (*Falco tinnunculus, sorkpoštak*) are by far the most abundant raptors of this zone.

Many species with Himalayan affinities are found in the Nūrestān and Paktiā forests in eastern Afghanistan. Species such as the Himalayan monal pheasant (*Lophophorus impejanus, morġ-e zarrīn*), black-throat jay (*Garrulus lanceolatus, balūt'orak*), white-headed bulbul (*Hypsipetes leucocephalus, bolbol-e kalla-sefid*), and Himalayan black drongo (*Dicrurus macrocerus, šāhkarā*) occur in these forests. The ringed-necked parakeet (*Psitacula krameri, tūtī-e ṭawqī*) and salty-headed parakeet (*Psitacula himalayana, tūtī-e nūrestānī*) are summer visitors.

The arid semi-deserts and lowlands harbor few breeding birds. During spring and autumn migrations, the avifauna of this region is enriched by large concentrations of larks and pipits. Tree sparrow (*Passer montanus, gonješk-e šahrā'ī*), house sparrow (*Passer domesticus, gonješk-e kānagī*), and swallow (*Hirundo rustica, ġačī-e kānagī*) are common year round in towns and villages.

Mammals (pestāndārān). The rhesus macaque (*Macaca mulatta, šādī langūr*) is the only primate species besides man which occurs in Afghanistan. It is restricted to the Nūrestān and Paktiā forests, where it is found in fairly large numbers. Because of their destructive habits, they are not tolerated by local people near settlements and cultivations; but they are left unharmed in the forests.

The country harbors a rich assemblage of carnivores, but unfortunately most populations are experiencing drastic reductions in numbers. The cheetah (*Acinonyx jubatus venaticus, tāzī palang*), once common in the southern and western steppes, is now apparently extinct

due to reduction in its primary prey species, the goitered gazelle (*Gazella subgutturosa, ġazāl*) and onager (*Equus hemionus onager, ġūra-ķar*). Likewise, the Caspian tiger (*Panthera tigris virgata, babr*), once found in the wetlands of Āmū Daryā and the Morġāb basin, has been exterminated through habitat destruction and intensive hunting. Similarly human predation has depleted the numbers of snow leopard (*Uncia uncia, palang-e barfī*), which is found in alpine valleys of the Pamir plateau and northern Hindu Kush range. The leopard (*Panthera pardus, palang*) and lynx (*Lynx lynx, sīāhgūs*) inhabiting the central highlands have also declined in numbers during recent years. Among the smaller cats, the Pallas's cat (*Felis manul, pešak-e kūhī*) and desert cat (*Felis lybica, pešak-e daštī*), although not endangered, are experiencing intense human predation to supply the expanding fur trade.

Wolf (*Canis lupus, gorg*) and red fox (*Vulpes vulpes, rūbāh-e sork*) are widely distributed throughout the country in all life zones. They are found at elevations ranging from 300 m in the Sīstān basin up to 4,000 m in the alpine valleys of Badaķšān. Lack of any substantial records of sand fox (*Vulpes ruppelli, rūbāh-e daštī*) and Blanford's fox (*Vulpes cana, rūbāh-e kākī*) suggests that these two desert foxes have become very rare in Afghanistan. The jackal (*Canis aureus, šaġāl*), however, has maintained substantial numbers in the steppes and deserts. During summer months, jackals are occasionally also encountered in the mountains.

Of the two species of mongoose, the small Indian mongoose (*Herpestes auropunctatus, mūš'ormā-ye hendūstānī*) is common around Qandahār and in the Harī Rūd and Sīstān basin, while the status of the Indian grey mongoose (*Herpestes edwardsi*) is uncertain. The bears of Afghanistan are restricted to mountainous and forested zones. The Asiatic black bear (*Selenarctos thibetanus, ķers-e sīāh*) inhabits the Laġmān and Nūrestān forests (Povolny 1966), while the brown bear (*Ursus arctos, ķers-e nasvārī*) has apparently been exterminated in this region but still inhabits the Pamir mountains.

Eight species of Mustelids occur in Afghanistan. They have an extensive range and are found in varying habitats. Trapping by hunters has caused a decline in the numbers of such species as stone marten (*Martes foina, dala-ķaffak-e zard ṭawq*), ermine (*Mustela erminea, mūs-e ṭarzī*), and weasel (*Mustela nivalis, rāsū*) in the montane biomes. The common otter (*Lutra lutra, sag-e ābī*) occurs along watercourses of most rivers, and its range extends into the forested Konar region. The striped hyena (*Hyaena hyaena, kaftār*) is distributed in the steppes around Qandahār and in parts of the Kabul river valley.

The mountains of Afghanistan are the home ranges of five ungulate species. Over 2,500 Marco Polo sheep (*Ovis ammon poli, āhū-ye qešqār*) seasonally occupy the Pamir region (Petocz 1973). Siberian ibex (*Capra ibex sibericus, āhū-ye rang-e pāmīrī*) not only occur in the Pamir but also in the Darwāz peninsula and the Zēbak region of eastern Badaķšān and partially into Nūrestān.

Badaḡṣān urial (*Ovis orientalis, āhū-ye sork*) coinhabit much of the same range as Siberian ibex in southeastern Badaḡṣān. The alpine ibex (*Capra ibex ibex, āhū-ye rang*) is found in large numbers in the Hindu Kush, Paḡmān, and Kūh-e Bābā ranges, while the wild goat (*Capra aegagrus, āhū-ye moḡolī*) is largely found in the southern Hazārajāt mountains. The markhor (*Capra falconeri, mārḡor*) is one of the most spectacular and least known species among the country's feral goats. Four sub-species of markhor occur in Nūrestān, Laḡmān, the Paktiā forests, and Kūh-e Šāfi region of Kāpīsā and northern Badaḡṣān. Local hunting has been a major factor in reducing their numbers in recent years. The Bactrian deer (*Cervus elaphus bactrianus, gavazn-e bāḡtari*), once common in the wetlands of the Āmū Daryā, is also endangered because of habitat destruction and hunting pressure. The musk deer (*Moschus moschiferus, āhū-ye ḡotan*), which occurred in Nūrestān, has not been reported during recent years and may be extinct there. The wild boar (*Sus scrofa, ḡūḡ-e waḡṣī*) has an extensive ecological range and breeds successfully in swamps and reed beds along major river drainages in many parts of the country.

Of the insectivorous mammals, the long-eared hedgehog (*Hemiechinus auritus, ḡārpoštak-e ḡūšderāz*) and Afghan hedgehog (*Hemiechinus megalotis, ḡārpoštak-e afḡānī*) are sparsely distributed in the steppes and semi-deserts, while Brandt's hedgehog (*Paraechinus hypomelas*) is only recorded from the Jalālābād valley in eastern Afghanistan. Besides occurring in the lowlands, shrews (*Soricidae, mūshā-ye waḡṣī*) are also found in mountainous terrain, e.g., the centrally located Sālang and Šebar passes. The cape hare (*Lepus capensis, ḡargūš-e ḡākī*) is the most common Lagomorph species and has a wide range extending from the western steppes of Herat to the Pamir mountains. The Afghan pika (*Ochotona rufescens, pengmūš-e afḡānī*) occurs in sub-alpine valleys and is scattered from the Sālang pass to the Orūzḡān mountains, while the range of large-eared pika (*Ochotona macrotis, pengmūš-e ḡūšderāz*) is limited to the valleys of Badaḡṣān.

The long-tailed marmot's (*Marmota caudata, tabarḡān*) range is restricted to alpine valleys above 3,000 m. It occurs in the Pamir, Zēbak, and Darwāz valleys of Badaḡṣān and northern Hindu Kush as well as the centrally located mountains around Nāwar. Two arboreal species of squirrels, the giant flying squirrel (*Petaurista petaurista, kaftarmūš-e bozorg*) and arrow-tailed flying squirrel (*Hylopetes fimbriatus, kaftarmūš-e dombārīk*), inhabit the Nūrestān and Spīnḡar forests. During spring and summer, when not hibernating, the ground squirrel (*Spermophilus fulvus, senjāb-e zamīnī*) is abundant in the ḡaznī and Katawāz plains, while the long-clawed squirrel (*Spermophilopsis leptodactylus, senjāb-e bozorg*) occurs in clay and loess biotopes of northern Afghanistan. The rapidly expanding populations of smaller rodents, i.e., voles and gerbils (*Cricetidae*) and rats (*Muridae*), are posing serious problems to agriculture in the steppes. An expanding agricultural economy, reduction in predator numbers,

especially wild cats and foxes, and favorable weather conditions have fostered the increase.

Thirty-two species of bats have been identified in Afghanistan (Gaisler et al. 1968). Their preferred habitat is in warmer sections of the country, where they may be found in abandoned ruins and caves of the Sīstān basin and the steppes. To the east, common bats (*Myotis* and *Pipistrellus*) have been observed in Laḡmān and the Kabul river valley.

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iv. ETHNOGRAPHY

In their ethnolinguistic and physical variety the people of Afghanistan are as diverse as their country is in topography. Basically, however, they may be described as of Muslim religion, speakers of Indo-European languages, and of the Mediterranean sub-stock of the great Caucasoid human stock (see bibliog. under physical anthropology). Most groups north of the Hindu Kush mountains exhibit varying degrees of Mongoloid physical characteristics. Except in rural areas off the main lines of communications, few peoples maintain racial homogeneity. Many groups have practiced intermarriage for centuries; and composite communities exist in broad bands of ethnic gray zones (see