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A GUIDE  
TO  
THE MAMMALS OF IRAN

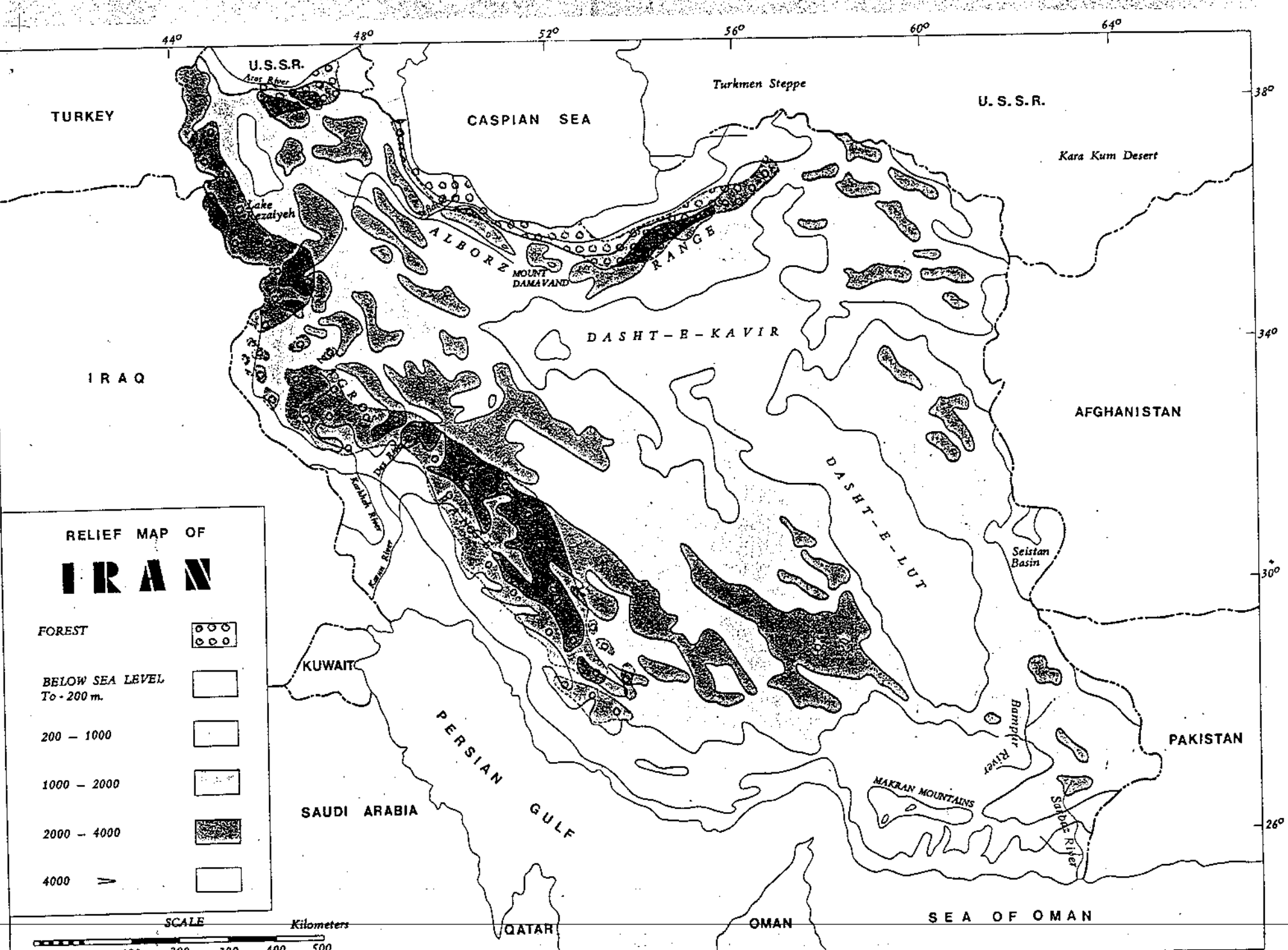
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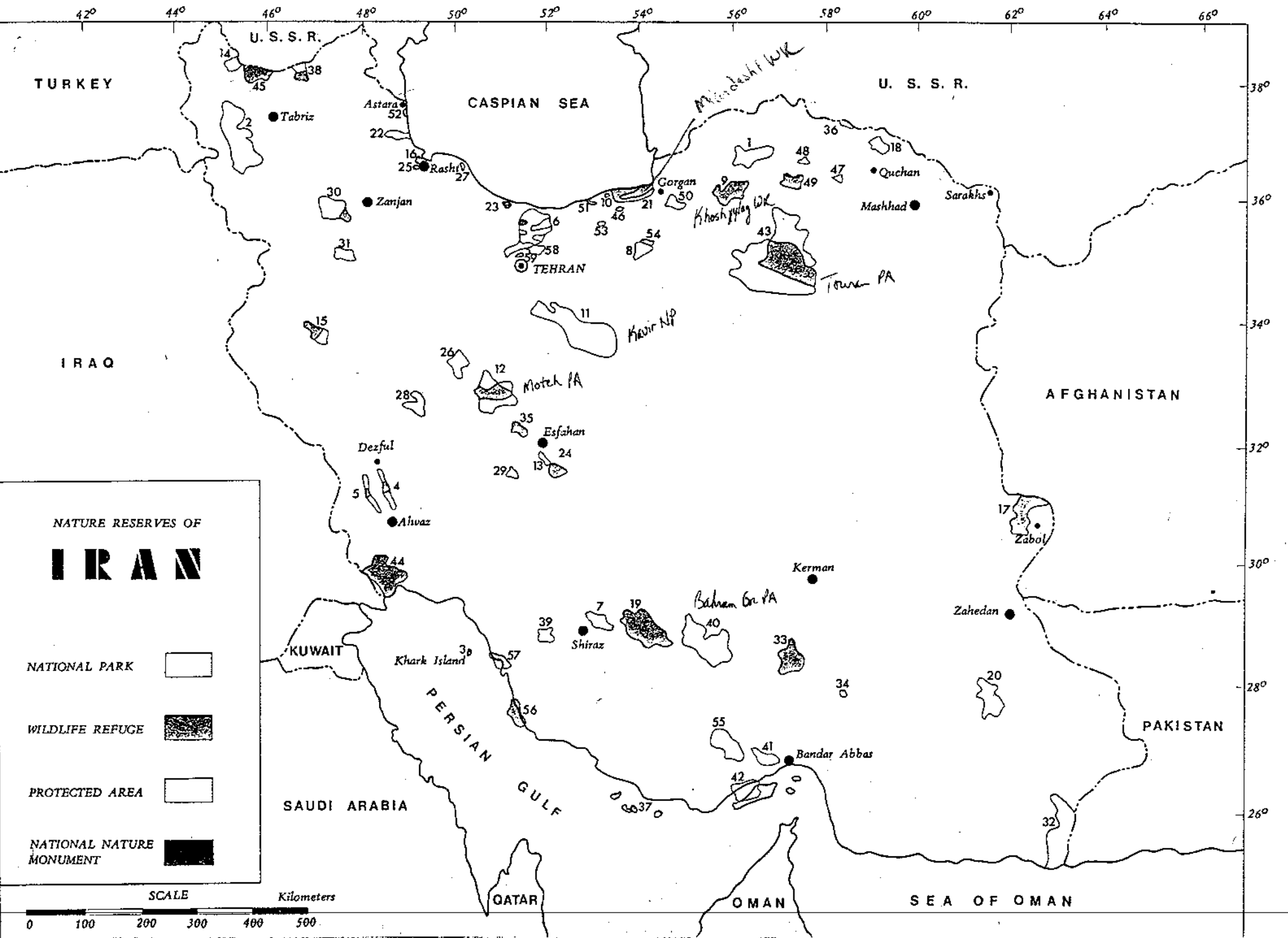
Introduction by  
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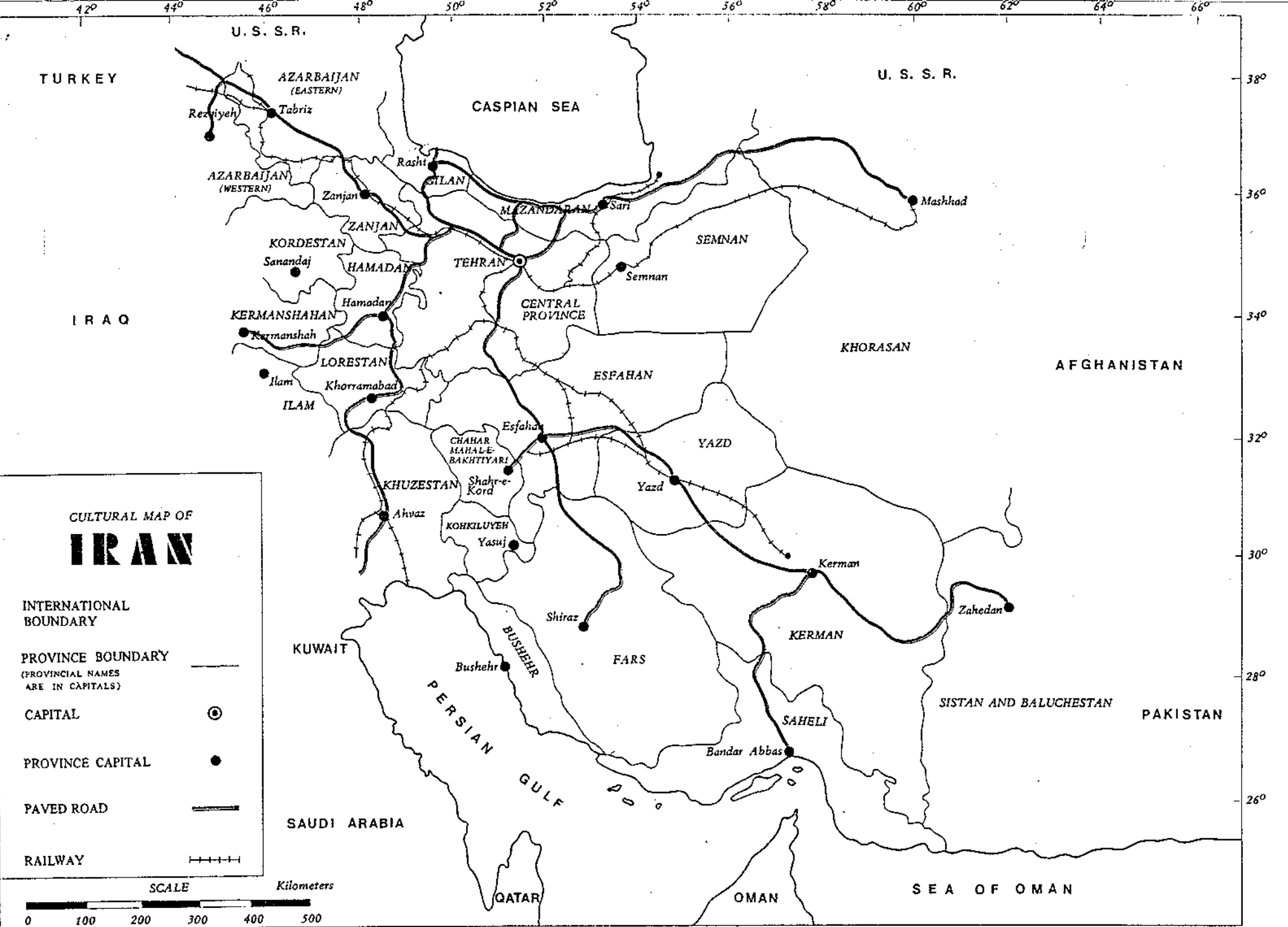
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Tehran, Iran  
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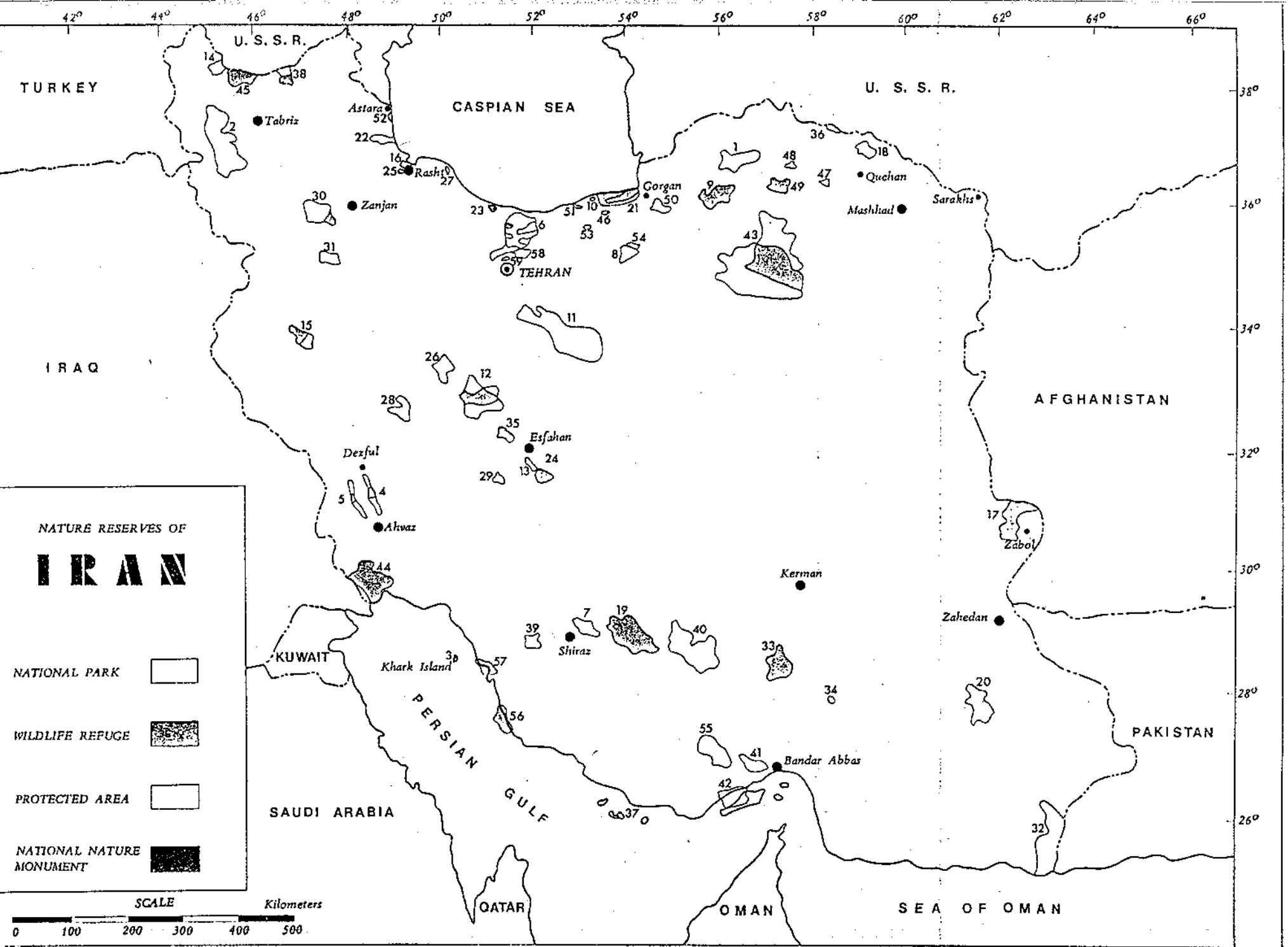
## Biotic Community Reserves OF IRAN

Name of Reserve	National Park	Protected Area	Wildlife Refuge	National Nature Monument	Name of Reserve	National Park	Protected Area	Wildlife Refuge	National Nature Monument	Name of Reserve	National Park	Protected Area	Wildlife Refuge	National Nature Monument
Abdolkarim Reza Shah	125,895				22 Lisar		31,250			43 Touran		1,376,200	434,200	
Abdolkarim Rezaiyeh	465,000				23 Khoshkedarán				227	44 Shadegan			296,000	
Abdolkarim Koko			312		24 Kolah Ghazi			48,683		45 Kiamaki			84,400	
Abdolkarim Gheh		10,633	5,240		25 Selke			360		46 Semeskandeh			937	
Abdolkarim Alborz	203,000	215,450	50	4,750	26 Haftad-Gholte		82,125			47 Shah-Jahan		28,000		
Abdolkarim Dou	48,075				27 Amirkelayeh			1,230		48 Salook		16,000		
Abdolkarim Ar		59,840			28 Oshtrankooh		93,950			49 Miandasht			52,000	
Abdolkarim Gh-Yeilagh			166,880		29 Tang-e-Sayad		27,000			50 Jahan-Nema		30,650		
Abdolkarim t-e-Naz			55		30 Angouran		96,130	28,600		51 Fereidoonkenar			148	
Abdolkarim Ar	609,438				31 Bijar		72,640			52 Astara			949	
Abdolkarim Teh		159,200	132,720		32 Bahukalat		382,430			53 Babolkenar		1,133		
Abdolkarim -Kuh		26,600			33 Khabr-va-Rouchoon			173,750		54 Dodangeh			6,700	
Abdolkarim Kan		92,715			34 Mehrouyeh			7,468		55 Hormod		151,284		
Abdolkarim toun		50,850	31,250		35 Ghamishloo			49,250		56 Mond			46,700	
Abdolkarim kesheem			6,701		36 Sarani	17,800				57 Helleh			42,600	
Abdolkarim toun			193,500		37 Sheedvar			160		58 Lar	73,500			
Abdolkarim loureh	53,780				38 Arasbaran		34,145	38,320		59 Latian			110	
Abdolkarim tegan			327,820		39 Arjan	65,750				Total Area Ha: 7,840,854    1,829,154    3,757,340    2,249,383    4,977				
Abdolkarim nbn		324,688			40 Bahram-e-Gour		385,000							
Abdolkarim kaleh			68,800		41 Geno	81,230				Number                    68                    11                    24                    31                    2				
					42 Hara	85,686								









## PLATE 5 HIGH MOUNTAINS

Iran is a mountainous land. On clear days, mountains can be seen from any point in Iran. Highest of these are the Alborz Mountains, reaching an altitude of 5,774 meters on the crest of Mount Demavand. Peaks with elevations above 4,000 meters also occur in the Zagros Mountains of Southwest Iran, in Azarbaijan, and in Kerman Province.

The high-altitude vegetation of Iran is typified by spiny, cushion-like plants, quite unlike the high-mountain flora of Europe, but closely related to the flora of the Himalayas.

The SNOW VOLE, *Microtus nivalis* (lower left), is the most specialized high-mountain mammal of Iran. This species, common in the mountains of Europe, occurs as well in the Alborz and Zagros Mountains of Iran.

Total length of this species is about 170 millimeters. It is readily distinguished from other Iranian voles by its longer tail, which averages slightly more than half the length of the head and body. General coloration is a silvery-gray, and the coat is dense and downy.

This species occurs in relatively high numbers on slopes of loose rock above 3,000 meters. At the highest elevations it exists to the exclusion of other mammal species.

The PERSIAN IBEX, *Capra aegagrus* (upper right), sometimes called the Persian Wild Goat, is the progenitor of the domestic goat. It is an inhabitant of rocky mountains, and is found almost everywhere rocky mountains exist in Iran — from high mountain peaks to the edge of the plains, and from forest to desert.

The Persian Ibex has a stout build, short legs, and black tail. Males average about 90 centimeters at the shoulder and attain a maximum weight of 90 kilograms. Females are much smaller.

Adult males are quite distinctive, with a black beard and a black stripe on the shoulder. With increasing age, they become paler, and at advanced age they are a cream-

white on the sides and flanks. Males possess long, curving horns which sometimes exceed 140 centimeters in length. Each year, horn growth slows down during the breeding season. This period of growing inactivity produces a ring on each horn. Such rings, also present on the horns of Wild Sheep, can be used as a determination of age.

Females lack the above characteristics. Instead, they have short horns and a brownish coat. They are frequently mistaken for female Wild Sheep. The two species can easily be distinguished by the black tail of the Ibex and short, pale tail of the Sheep.

The Ibex is at home among cliffs. Although it ventures onto rolling hills and plains to feed or obtain water, it is never found far from steep, rocky terrain. When alarmed, it seeks refuge in the most precipitous of cliffs. Very old Ibex seem unable to climb properly and often take up residence at the base of mountains, where they usually fall prey to the larger carnivores.

The breeding season among ibex takes place in mid-to late November in Northern Iran, and somewhat earlier in the South. During this time, rival males fight with one another among the cliffs.

Twin lambs are normally produced in April or May in the North, and February or March in the South. During the lambing season, females withdraw to isolated areas among the cliffs. The lambs are extremely agile and follow the females a few days after birth.

The Persian Ibex selects a wide range of forage, depending upon that which predominates in the respective region. Given a wide selection, the Ibex apparently prefers a shrub diet in winter and broad-leaved plants in the growing season. Individual Ibex are often seen in trees, browsing on twigs.

Ibex frequently follow an annual migration. As winter approaches the herds usually move down to snow-free areas. However, in the coldest regions, they cannot avoid snow altogether, and often move up to ridges

where vegetation is exposed by high winds.

The LEOPARD, *Panthera pardus* (upper left), has a pattern of distribution which roughly coincides with that of the Persian Ibex. However the Leopard also ventures into extensive forest areas. It is present everywhere in Iran except extensive plains and farmland, and is relatively common wherever there are suitable wild prey, such as Wild Boar, Ibex, and Wild Sheep. Although widely persecuted in Southwest Asia, the Leopard has fared much better than the other large cats, because of its greater geographical and ecological range.

The Iranian Leopard is among the largest of the many races of Leopards. It is half-again larger than most African or Indian races. Adult Iranian Leopards may attain a weight of 90 kilograms.

The Leopard is often confused with the Cheetah in Iran. However the Leopard has rosettes of dark markings, whereas the Cheetah has solid spots; the Cheetah has facial stripes which the Leopard lacks; and the tail of the Leopard is spotted, whereas the Cheetah's tail is ringed toward the tip. There is really little similarity between the two in shape or stance—the Cheetah appearing more slender and dog-like.

The Iranian Leopard is considerably paler than African and Indian races. This has led to a confusion between the Iranian Leopard and the Snow Leopard (*Uncia uncia*). The Snow Leopard is smaller and grayer in general coloration. The rosettes of Snow Leopards are fewer in number than in Iranian Leopards, and more widely spaced. Skins produced to show evidence of Snow Leopards in Iran invariably prove to be quite typical skins of the pale Iranian Leopard. It is not likely that the Snow Leopard occurs in Iran. Its known range lies over 1,000 kilometers to the east of suitable Iranian habitat.

PLATE 14  
CENTRAL SHRUB STEPPE

Between the deserts and mountains of Central Iran are large expanses of rolling hills and broad plains. Many of the cities of Central Iran lie in this zone, where the climate is suitable for year-round living. This region has neither the severe heat of the desert, nor the severe cold of the mountains. The plains receive moderate amounts of rain and snow in winter, which residents augment by river water or underground aqueducts (qanats) to support agriculture.

The natural vegetation of this zone is often rich, consisting of shrubs with an admixture of grasses. Wherever vegetation has been properly managed within this zone, a wealth of wildlife can be found.

This plate represents an actual site in Mooteh Wildlife Refuge, near Isfahan.

The GOITERED GAZELLE, *Gazella subgutturosa* (upper right), occurs widely in rolling to flat steppe. It is found from Khuzestan in Southwest Iran, northward to Zanjan, eastward to Khorasan, and thence southward to the Seistan Basin. It ranges around the perimeter of the central desert, but it is replaced by the Jeeber Gazelle in the more arid parts of the central desert, and in Southern Fars. There is a small population of Goitered Gazelles on Khark Island in the Persian Gulf.

The Goitered Gazelle is the largest of Iranian gazelles. Males sometimes reach 75 centimeters at the shoulder and weigh 50 kilograms. Females are much smaller. The horns of the male are lyre-shaped and sometimes exceed 40 centimeters in length. Females do not usually have visible horns, but they often have the rudiments of horns beneath the skin. Females with very small but visible horns occur rarely in Western Iran. Males have white on the forehead; with increasing age, the entire face becomes white. The "goiter" of this species is, in fact, the prominent larynx, or "Adam's apple", usually seen only in the male.

The breeding season takes place in December and January. During that time, large herds form in low-lying areas. The males are very active during that time —

jousting and sparring, and are often engaged in high-speed chases across the plains.

When pursued, the Goitered Gazelle tends to select a course and adhere to it. This behavioral tendency gave rise to the traditional Iranian sport of hunting gazelles by horse-back. Although the gazelle can easily out-run a horse, a skilled horseman could maneuver between a gazelle and its intended destination, and by skillful shooting, make a kill at the point of interception.

The CHEETAH, *Acinonyx jubatus* (upper left), was once common throughout the drier parts of Southwest Asia. With the destruction of rangelands in many places, and the subsequent reduction in prey such as gazelles and wild sheep, the numbers of Cheetah likewise declined. The Asian Cheetah was believed to be in serious danger of extinction twenty years ago. In Iran, following establishment of several reserves, and following a recovery of gazelles and wild sheep in many of those, the Cheetah has made a remarkable recovery. Highest numbers exist in Northeast Iran, especially in Khosh Yeilagh Wildlife Refuge. Outside Iran, the species is likely extinct in Asia.

There is no apparent difference between Iranian and African Cheetahs, except that the Iranian Cheetah has a long winter coat, doubtlessly due to the colder climate in which it lives.

The Cheetah has solid spots and prominent stripes in front of the eyes. Adult cheetahs stand about 60 centimeters at the shoulder. Unlike those of other cats, their claws cannot be retracted. Their feet are similar to those of dogs.

The Cheetah is the swiftest of mammals, sometimes attaining a speed of 110 kilometers per hour. In Khosh Yeilagh Wildlife Refuge, Cheetahs normally hunt along the skirts of the mountains, ambushing wild sheep, which comprise the greater part of their diet.

The breeding biology of Cheetahs is not well known, but each year cubs appear in Khosh Yeilagh in early September. They are about three months old at that

time. At birth, the cubs have a mantle of grey hair on their backs. They remain with the mother until about two years of age.

The COMMON FOX, *Vulpes vulpes* (lower left), is found throughout Iran, from sea level to above 3,500 meters. It is absent only from the drier deserts, where it is replaced by Ruppell's Fox. The Common Fox occurs in the Caspian Region, but seems to avoid forested areas.

In the European parts of its range, this fox is predominantly red in coloration, and is called the "Red Fox" That would be a misnomer in Iran, for this species is rarely red within its Iranian range. The most common coloration in Iran is that shown in this plate, but very dark forms can be seen, as well as those which are almost white. This fox can be distinguished in any color phase by the presence of black on the backs of the ears and a white-tipped tail. No other species of Iranian fox has both of these characteristics. Adult common foxes measure about one meter in total length.

This fox eats a wide range of plant and animal material. It eats large numbers of rodents, but also eats fruits, carrion and garbage. It is frequently seen in farmland, usually pre-occupied in its search for rodents.

The CAPE HARE, *Lepus capensis* (lower right) is a familiar Iranian mammal. It occurs in every Province, and resides in deserts, forests, and agricultural land. The highest numbers of hares occur along the Caspian beaches in wild pomegranate scrub.

Hares are quite variable in appearance within their wide Iranian range. Color varies from pale-gray to rich-brown. The smallest of specimens, weighing a bit more than one kilogram, are found in the drier parts of the country, whereas those of Northern Iran often weigh four kilograms. The hares of Northwest Iran are very similar to European hares. There is now a tendency to place European hares in this species, however.

The hare eats a wide variety of plant material, but clearly prefers a diet of shrubs in winter.



PLATE 27  
ENDANGERED SPECIES

Primarily as a result of the extensive system of National Parks and Wildlife Reserves in Iran, few Iranian mammals can now be regarded as "endangered", or threatened with extinction.

Where habitat has been protected, species such as the Cheetah (Plate 14) have increased substantially in numbers. The Persian Fallow Deer (Plate 22), which was actually believed to have been extinct, is increasing under intensive management.

For two species, the Caspian Tiger and the Persian Lion, conservation practices came too late, and both of these species are likely extinct in Iran.

The PERSIAN LION, *Panthera leo persica* (upper), was once found throughout the forested portions of Southwest Iran. It was commonly reported from the oak forest of the Zagros Mountains and the Riverine Forest of Khuzestan. The last reliable report of the Persian Lion in Iran was near Dezful in 1942. It is possible that a few lions existed beyond that time, but there is no probability that wild lions remain anywhere in Iran at this time.

Unfortunately, no material remains by which to describe the lion of Iran — no skin, skeletal material, photograph or detailed description. Interesting folklore remains, but none of these accounts can be used to give a scientific description. Black-maned males were sometimes reported.

There were early reports that lions sometimes attacked livestock accompanying caravans passing through Khuzestan. This would suggest that wild prey was scarce, for the lion clearly prefers wild prey when it is available. There are few if any documented accounts of unprovoked attacks of man, although lions reportedly wiped out the occasional hunting party. The lion has an undeserved reputation for ferocity. In fact, the lion has the mildest disposition of any of the great cats. In India, one can, with no danger whatever, sit beneath a tree with a wild lion, provided one makes no threatening gesture

toward the lion.

The Lion of India is probably quite similar, if not identical to the Persian Lion. The two are regarded as members of the same sub-species — *Panthera leo persica*, "the Lion of Fars". Fortunately, a small population of this lion remains in the Gir Forest of India.

The Lion of the Gir Forest differs from the African Lion in several external features. Unlike the African Lion, the mane of the "Gir" Lion does not extend onto the forehead. Adult "Gir" males have a distinct fold of skin on the belly. This "belly-fold" is absent in African Lions.

In Iran, the lion was formerly reported commonly in the oak forest, where its prey was said to have been primarily wild boars. In much of the Zagros Forest, the boar population has declined, as the forest has been cut and transformed into agricultural land. The reduction in suitable prey was probably a strong factor in the decline of the Persian Lion.

The impact of land transformation on wild animals is usually not fully appreciated. Few would even guess that much of Khuzestan was once densely forested (Page 62). Although many factors, e.g., shooting and poisoning, contributed to the demise of the Persian Lion, the fact remains that there is not sufficient habitat remaining in Iran for a viable population of lions. To restore the lion to Iran will require an intensive effort to protect suitable habitat and to restore populations of suitable prey species.

Dasht-i-Arjan, on the historical travel route between Shiraz and the coast, was reported to have been a favorite haunt of lions. It is recorded that females gave birth to their young among the dense reeds of that valley, and each year until the turn of the century a few cubs were captured there and brought to Shiraz.

There are hopes of restoring the Persian Lion to Iran in the future. Arjan National Park is among the areas being considered for re-introduction of this majestic creature — the symbol of Iran.

The CASPIAN TIGER, *Panthera tigris virgata* (lower), is genuinely endangered and likely extinct. It was formerly recorded from the Caspian region of Iran, and in parts of the Soviet Union and Afghanistan. No reliable reports of this Tiger have been received in Iran for almost twenty years, and for a longer period of time in Afghanistan. The status of the Caspian Tiger in the Soviet Union is unclear, but it is quite likely extinct there.

For the past six years, biologists of the Department of Environment have conducted an intensive search for the Caspian Tiger within the remaining un-inhabited parts of the Caspian Forest. They have employed bait stations, track surveys, and remote cameras, but no evidence of the tiger has emerged, and it is now believed that the Caspian Tiger is extinct in Iran.

It is likely that the domain of the Caspian Tiger was the low-land forest and marshes bordering the Caspian Sea. Nearly all the lowlands have been converted to agricultural land. As cutting progressed, the tiger likely withdrew to the Middle and Upper Forest Belt, to which it was not properly adapted.

Until about 25 years ago, regular reports of the tiger were received from the last remaining extensive stand of reeds in the Southeast Caspian region. There, the tiger was considered, rightly or wrongly, a killer of livestock, and was poisoned widely. The last reliable report of the Caspian Tiger was in 1958, in a scrub forest area within the present-day Mohammed Reza Shah National Park.

Skins and several photographs remain by which to describe this tiger. It appears that the Caspian Tiger was somewhat paler than the Indian Tiger and of a stockier build — apparently somewhat intermediate in form between the Indian and Siberian Tigers.

Concerned people throughout the world remain hopeful that the Caspian Tiger will appear somewhere within its former range. If this magnificent creature has, indeed, passed into oblivion, "another earth and another heaven must pass before we see another of its kind."