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Abstract: As a result of law enforcement in recent years, the gazelles recovered in Miandasht Wildlife Refuge, northeastern Iran. In this area, cheetah prey are well presented, and particularly the Persian gazelle. The largest sighted group of cheetahs numbered four, with three the most frequent. Since April 2000 until September 2004, twelve observations have been reported in the area. Some conservation measures are taken by the Iranian Cheetah Society.

Suite au récent renforcement de la loi, les effectifs de gazelles sont remontés au Refuge de la faune sauvage de Miandasht, au nord est de l'Iran. Dans cette zone, les proies du guépards sont bien présentes, et particulièrement la gazelle de Perse. Le plus grand groupe de guépard observé comptait 4 individus, mais les groupes sont plus fréquemment composés de trois individus. De avril 2000 à septembre 2004, douze observations ont été reportées dans la zone. Des mesures de conservation ont été prises par la «Iranian Cheetah Society».

Miandasht: New Hope for Cheetahs in Iran

by *Mohammad Farhadinia¹ and Hossein Absalan²*

Located near the city of Jajarm in North Khorasan province, north-eastern Iran, Miandasht Wildlife Refuge is a recently confirmed cheetah habitat in Iran. Since 1973 Miandasht (85,000 ha) has been under protection to conserve its rich biodiversity, particularly the Asiatic cheetah *Acinonyx jubatus venaticus*, Persian gazelle *Gazella subgutturosa* and Asiatic wild ass *Equus hemionus onager*.

Due to its strategic position between Golestan National Park to the north and Khar Turan NP to the south, Miandasht has always been seen as supporting the two reserves. Miandasht possesses a high diversity in its ecosystem types. Being unique among the Iranian reserves, Miandasht consists almost entirely of vast plains where a remarkable percentage of the eastern and northern areas is covered with halophyte plants, mainly families *Salsolaceae* and *Chenopodiaceae*. Hilly terrains inside the reserve form a

buffer zone with dense scrubland, and some semi-mountainous regions form the southern borders.

A permanent salty river limits the northern boundary, providing an appropriate refuge for wildlife, particularly wild boar (*Sus scrofa*), Persian gazelle and the cheetah.

Background

Miandasht was always considered as cheetah habitat functioning as a backup for the adjacent reserves. It was estimated that, just before the end of the

1970s, a population of approximately 8,000 Persian gazelles roamed its rich rangelands, providing a reliable prey base for the cheetah, which was fairly common in the area. Unfortunately, no official report on the cheetah population is available.

Due to weakening conservation measures after the 1979 revolution, the area was occupied by more than 50,000 head of livestock belonging to local villages. Moreover, the area was invaded by local poachers, who chased the gazelles on powerful motorbikes. Eight cheetahs, including a mother and her cub, were killed by a car in February 1982. Livestock pressure, doubled by drought, led to degradation of the range and most of the herders sold their stock and went to work on farms.

Threats

At present, Miandasht Wildlife Refuge faces a variety of major problems. Poachers have had a great impact on the gazelle population, but as a result of law enforcement in recent years Miandasht has become relatively safe, so that there is an invaluable opportunity for the gazelles to recover.

Grazing by around 15,000 head of livestock (mainly sheep) has been another major problem in habitat degradation which has reduced the high quality rangelands for the gazelles. Moreover, the presence of several livestock herd dogs (not guard dogs) with each flock, and distribution of the flocks throughout the southern half of the area interrupts security. The herders are not nomadic and rely mainly on the area's rangelands for a considerable part of the year. Officially they have been allowed inside the area only during winter and have had to leave by the end of March. The buffer zone, approved in July 2004, was a great step towards conserving Miandasht.

Present status

The main prey for the cheetah in Miandasht is the gazelle, whose population is estimated to be around 300. The wild boar is common in the north, where the dried beds of numerous seasonal rivers have provided a good habitat for the animals, which damage the crops of adjacent farmlands. The question is whether the wild boar, particularly

young animals, could be considered as a source of food for cheetahs, and this is part of ICS's long-term surveys in Miandasht. Various species of rodents are abundant on which the cheetah can feed.

So far, there have been no confirmed reports of cheetahs attacking livestock in Miandasht. The largest sighted group of cheetahs numbered four, with three the most frequent, apparently a mother with two grown cubs. The surveys have revealed that the cheetahs prefer to hide and rest in the dried bed of seasonal rivers, which provide them with good camouflage and shade during hot summers.

Due to improved conservational measures in recent years, the cheetah population has had an invaluable opportunity to recover. Since April 2000 cheetahs have been repeatedly reported in the area:

1. April 2000, a single cheetah was seen at night near the guard post by a game guard.
2. Feb 2003, a game guard watched a mother and two adolescents eating a gazelle for nearly an hour in the western buffer zone.
3. March 2003, four cheetahs were encountered by a villager in the foothills, and three days later the same group was seen by game guards almost 20 km to the west.
4. May 2003, a game guard viewed a cheetah with his binoculars while searching the foothills for gazelles.
5. July 2003, a cheetah was sighted chasing a hare in the north of the buffer zone.
6. July 2003, two cheetahs were briefly seen.
7. Sep 2003, a solitary cheetah escaped up the mountains after encountering local youths in the eastern area.
8. Nov 2003, a local practitioner saw a cheetah with a seese partridge (*Ammoperdix g. griseogularis*) in its mouth at a waterhole.
9. Dec 2003, a group of three cheetahs (mother with two yearling cubs) were filmed by Hossein Absalan.
10. Jan 2004, a group of three cheetahs was seen.
11. June 2004, a solitary cheetah was seen by Mohammad Farhadinia and Reza Goljani.

12. Sep 2004, a cheetah cub was encountered by a game guard.

The last two reports show that, despite the presence of livestock until end of March, the cheetahs are still in the area and have bred.

Conservation measures

Since early 2004, the Iranian Cheetah Society (ICS) has been conducting a long-term survey to evaluate the habitat parameters for the cheetah, its prey and rival species, and an investigation is continuing, with cooperation from the Veterinary Faculty, University of Tehran, to study endo and ecto-parasites in rodents which could play a role between the livestock and the wildlife population. On the other hand, socio-economic studies have been carried out with the aim of increasing awareness among the local people and reducing cheetah-human conflict. Moreover, ICS plans to launch field safaris in Miandasht because of its high potential for ecotourism, which would be a great step forward for the area.

As a result of recent efforts, the frequency of gazelle observation has tripled in comparison with 2003, and indicates relatively high security in the area. This doubles our hope for cheetah survival in Miandasht.

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