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STATUS OF JACKALS AND FOXES (FAMILY: CANIDAE) FROM SELECTED HILL AREAS OF PAKISTAN

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ABSTRACT

The family Canidae consists of coyotes, dogs, foxes, jackals, and wolves. The IUCN red list reports 38 species under this family. This study was conducted in Azad Jammu and Kashmir, Pakistan. Conserved areas of Tolipir National Park, Banjosa Game Reserve, Pir Chanasi National Park, Pir Lasura National Park and Dhirkot Nature Reserve were studied from 2008 to 2010. *Vulpes vulpes griffithi* (Kashmir or hill fox) is a flexible hunter. It mainly feeds on hares, rodents, reptiles and occasionally small birds. In absence of vertebrate prey, they may subsist on insects and fruit. *Canis aureus* (Golden Jackal) is a very adaptable animal which readily enters mountainous areas, forest plantations and riverine thickets. Only two species (*Vulpes vulpes griffithi* and *Canis aureus*) belonging to the family Canidae were found in the study area. The local sightings of *C. aureus* were 35% in BGR, 45% in DNR, 28% in PCNP and 40% in PLNP. Local sightings of *V. vulpes* species were 18% in BGR and 16% in PCNP. It was not observed in Tolipir National Park, Pir Lasura National Park and Dhirkot Nature Reserve.

Key words: Wolf, dogs, coyotes, fox, jackal

INTRODUCTION

The family Canidae consists of coyotes, dogs, foxes, jackals, and wolves. The IUCN red list reports 38 species under this family. However, some species have an unknown status and two (*Dusicyon avus* and *Dusicyon australis*) are even extinct. Even though they hold an important position in the food chain, only some species from this group have been properly researched. Possible factors affecting their numbers include alterations in their habitat, variation in the accessibility of food and a dwindling population either due to excessive killing by humans or by predators (Fleming et al., 2017).

The diet of the species within this family vary. Some smaller species are more frugivorous while others are predominantly

insectivores. Nevertheless, the larger species like wolves, tend to be hypercarnivorous (Miller and Fowler, 2015). The dog family shares an interesting relationship with humans. Not only do they act as carriers to disease-causing pathogens like fleas (Dobler and Pfeffer, 2011) but they also are a threat to the livestock (Grzimek, 2002).

Kabir et al. (2017) cite that the numbers of Grey wolf are dwindling in Pakistan, their study suggest ways by which their population may be stabilized. However, there are obstacles to carrying these plans out. The most important being the reliance of the local people on livestock, hunt game (prey of wolf); creating a competition for food and loss of habitat when the density of forests decreases due to deforestation for fuel wood.

Coyotes are resident species of North America with an increasing population trend. However, they have not been previously reported in the study region.

Some other members of the dog family from possibly found in other regions of Pakistan include *Cuon alpinus*, *Vulpes bengalensis*, *Vulpes cana* and *Vulpes rueppelli*.

MATERIALS AND METHODS

This study was conducted in Azad Jammu and Kashmir, Pakistan. Conserved

areas of Tolipir National Park, Banjosa Game Reserve, Pir Chanasi National Park, Pir Lasura National Park and Dhirkot Nature Reserve were studied from 2008 to 2010. Local population and forest rangers were interviewed to confirm presence of species mentioned in literature. Fauna was also identified using pointers such as paw prints, excreta and their signature howling. Cameras were also set in multiple locations.



a



b



c

Figure 1. Species belonging to family Canidae; a: Coyote (*Canis latrans*), b: Golden Jackal (*Canis aureus*), c: Grey wolf (*Canis lupus*) (Image credit: IUCN)

RESULTS AND DISCUSSION

Table: List of mammalian species of family Canidae recorded from AJK.

S No.	Names	Pictures	Food	Breeding season	Remarks	Status	
						Local sightings (%)	Global *
1	<i>Canis aureus</i> Golden Jackal		Feeds on Zizphus, Chitinous Pieces of dung Beetles (<i>Helicopriss bucephalus</i>), Scorpions (<i>Palaenmneus</i> species), Beetles (<i>Anthia sexguttata</i>), Desert Jirds (<i>Meriones Hurrianae</i>), small Mongoose (<i>Herpestes auropunctatus</i>), lizards, snakes, birds, grass, chital, nilghai, frogs, rodent and ghost crabs, crane –fly larvae (<i>Tipulidae</i> spp.), Gerbils, Date Palm Jaman (<i>Syzygium cummizizyphus jujube</i>), Mulberries (<i>Morus alba</i>) & fruit of Pipal tree (<i>Ficus religiosa</i>).	March Litter size: 4-5	Very adaptable animal, readily entering mountainous areas, forest plantations and riverine thickets. Adapted to dry open country, avoids extensive natural forest.	(35- BGR) (45-DNR) (28-PCNP) (40-PLNP)	LC
2	<i>Vulpes vulpes griffithi</i> Kashmir or hill fox		Adaptable hunters. Feed mostly on hares, rodents, reptiles and occasionally small birds. In absence of vertebrate prey, they may subsist on insects and fruit. Marmots may form major portion of their diet in summer. Besides, domestic stock and field mice are also optional sources of food.	Late winter-early spring Litter size: 4-6	Inhabits temperate regions in the mountains. Largely nocturnal but may be seen hunting by day in desert areas. Normally live singly and not social in hunting habits.	(18- BGR) (16-PCNP)	LC

* 2008 IUCN Red List Category (<http://www.iucnredlist.org/apps/redlist/details/>)

Abbreviations: *LC = Least Concern

Two species from the Canidae family were found in the five National Parks surveyed. *Vulpes vulpes griffithi* (Kashmir or hill fox) is a flexible hunter. It mainly feeds on hares, rodents, reptiles and occasionally small birds. In absence of vertebrate prey, they may subsist on insects and fruit. Marmots may form major portion of their diet in summer. Besides, domestic stock and field mice are also optional sources of food. According to Grzimek (2002) *V. vulpes* have a good adaptation to different types of topographies, except for dense forests. They may produce three to twelve cubs in a litter. *V. vulpes* are usually nocturnal. They prefer to hunt and live alone. Local sightings of this species were 18% in BGR and 16% in PCNP. It was not observed in Tolipir National Park, Pir Lasura National Park and Dhirkot Nature Reserve. Global status of this species according to IUCN is of Least Concern with a stable population trend. Their numbers may possibly be low as they are hunted for fur and prey competition (Grzimek, 2002).

Canis aureus (Golden Jackal) is a very adaptable animal which readily enters mountainous areas, forest plantations and riverine thickets. The golden jackal is a wolf-like canid that is native to Southeast Europe, Southwest Asia, South Asia, and regions of Southeast Asia (wiki). The highest population of *C. aureus* observed was in DNP (45%) and Pir Lasura National Park (40%) and lowest in Pir Chanasi National Park (28%) and was completely not reported in Tolipir National Park. Global status of this species according to IUCN is of Least Concern with an increasing population trend. The Golden Jackal is both a predator and a scavenger; an omnivorous and opportunistic forager with a diet that varies according to its habitat and the season (Heptner and Naumov, 1998).

CONCLUSION

Only two species (*Vulpes vulpes griffithi* and *Canis aureus*) belonging to the family Canidae were found in the study area. The local sightings of *C. aureus* were 35% in BGR, 45% in DNR, 28% in PCNP and 40% in PLNP. Local sightings of *V. vulpes* species were 18% in BGR and 16% in PCNP. It was not observed in Tolipir National Park, Pir Lasura National Park and Dhirkot Nature Reserve.

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