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VULTURES AND KITES FROM MARALA WETLANDS

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ABSTRACT

The family Accipitridae consists of approximately 254 known living species that include eagles, hawks, vultures and kites. Forty species from this family are extant in Pakistan, of which 24 are resident. Only six species from the Accipitridae family were observed at Marala Head; Marsh Harrier (*Circus aeruginosus*), Pariha Kite (*Milvus migrans*), White-Backed Vulture (*Gyps bengalensis*), Long-billed Vulture (*Gyps indicus*), Shikra (*Accipiter badius*) and Black-Winged Kite (*Elanus caeruleus*). The highest number of any species from this family observed was of *Gyps bengalensis* (23) in December. *Elanus caeruleus* was the most sparsely populated species observed at the study site. No specific study is available on this family's distribution and density from the study area for the study time period. However, studies on avifaunal diversity from different regions of Pakistan from different time frames help formulate an estimate on the individuals from this group. The study will help in providing sound basis for the future conservation activities regarding the family Accipitridae and their management, on sounder footing.

Keywords: Vultures, eagles, kites, marsh, wetland

INTRODUCTION

Vultures and Kites are raptors that belong to family Accipitridae, under the order Accipitriforme. There are 254 extant species that also include eagles and hawks. While, nearly 40 species have become extinct (Naturalis, 2019). The habits and habitat of this family vary significantly. They occupy tundra, desserts and rainforests. Some species from this group are avivorous, some carnivorous, while others are insectivorous and frugivorous (Kirschbaum, 2004). A variety of termites live in commensalistic or parasitic relationship with these raptors. There are 40 species from this family extant from Pakistan, of which 24 are resident, 3 partly migratory, 11 winter visitors and 1 winter vagrant (BCP, 2005).

Pakistan is situated at the junction of three major regions of Asia, Central Asia to the north, the Middle East to the west and the Indian Subcontinent to the east and southeast.

The fauna of Pakistan has an interesting and varied composition which is mainly due to its location in a transitional zone between two of the world's six major biological realms, i.e., palearctic and oriental, and its considerable diversity of habitats. Although, predominantly arid and semi-arid, Pakistan possesses a great variety of wetlands distributed almost throughout the country from the coastal mangroves and mudflats on the Indus delta to the glacial lakes of the high Himalayas.

Ecological studies of Marala Wetlands, a complex created by three rivers, i.e., Jammu Tawi, Chenab and Manawar Tawi, entering Bajwat area located 25 km from North of Sialkot city from the state of Jammu and Kashmir, were carried out between October, 2000 to September 2001 in relation to population density and diversity of individuals from the family Accipitridae.

No specific study is available on this family's distribution and density from the

study area for the study time period. However, studies on avifaunal diversity from different regions of Pakistan from different time frames help formulate an estimate on the individuals from this group. The study will help in providing sound basis for the future conservation activities regarding the family Accipitridae and their management, on sounder footing.

MATERIALS AND METHODS

Marala wetlands are located in the Bajwat Game Reserve that spans across approximately 5400 hectares to the north of Sialkot City. The State of Jammu and Kashmir lies in the north. Three rivers, i.e., Tawi, Chenab and Manawar Tawi, coming from Jammu and Kashmir, flow into Game Reserve and meet to enter the Head Marala water storage reservoir. River Jammu Tawi attracts a host of avifauna with associated marshes, supports extensive reed beds and an

RESULTS

abundant growth of submerged and floating vegetation, and in the first river, while going towards Bajwat. The area of study was from Kikar Post to Head Marala.

River Chenab runs in the northwest of the most of Bajwat villages. The area of study was from Kalyal to Head Marala marshy area. The aquatic and bela forest vegetation provides an open and undisturbed area for the waterfowl. River Manawar Tawi is located in the extreme west of Bajwat area and along the other side of Manawar, District Gujrat. The study area is from Rangpur Kuri to Head Marala. The Manawar Tawi is full of aquatic vegetation floating, submerged and bela forest.

Census of the Accipitridae population was conducted monthly by moving through the rivers and using binoculars (8 x 30 mm) and a counter. The field notes were recorded and literature for identification was used for confirmation where required.

Table 1. Number of different species of family Accipitridae observed at head Marala wetland during different months (OCT. 2000 TO SEP. 2001)

Family/ Common Name	Scientific Name	Months											
		Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
Marsh Harrier	<i>Circus aeruginosus</i>	-	-	5	7	4	3	-	-	-	-	-	-
Pariha Kite	<i>Milvus migrans</i>	7	9	17	8	15	7	9	8	-	-	7	11
White Backed Vultures	<i>Gyps bengalensis</i>	5	4	23	7	-	27	19	-	-	7	5	9
Long-billed Vultures	<i>Gyps indicus</i>	7	9	13	8	7	19	13	-	-	-	8	17
Shikra	<i>Accipiter badius</i>	-	-	2	-	5	3	-	-	-	-	-	-
Black Winged Kite	<i>Elanus caeruleus</i>	2	-	-	4	-	-	3	-	-	-	-	4

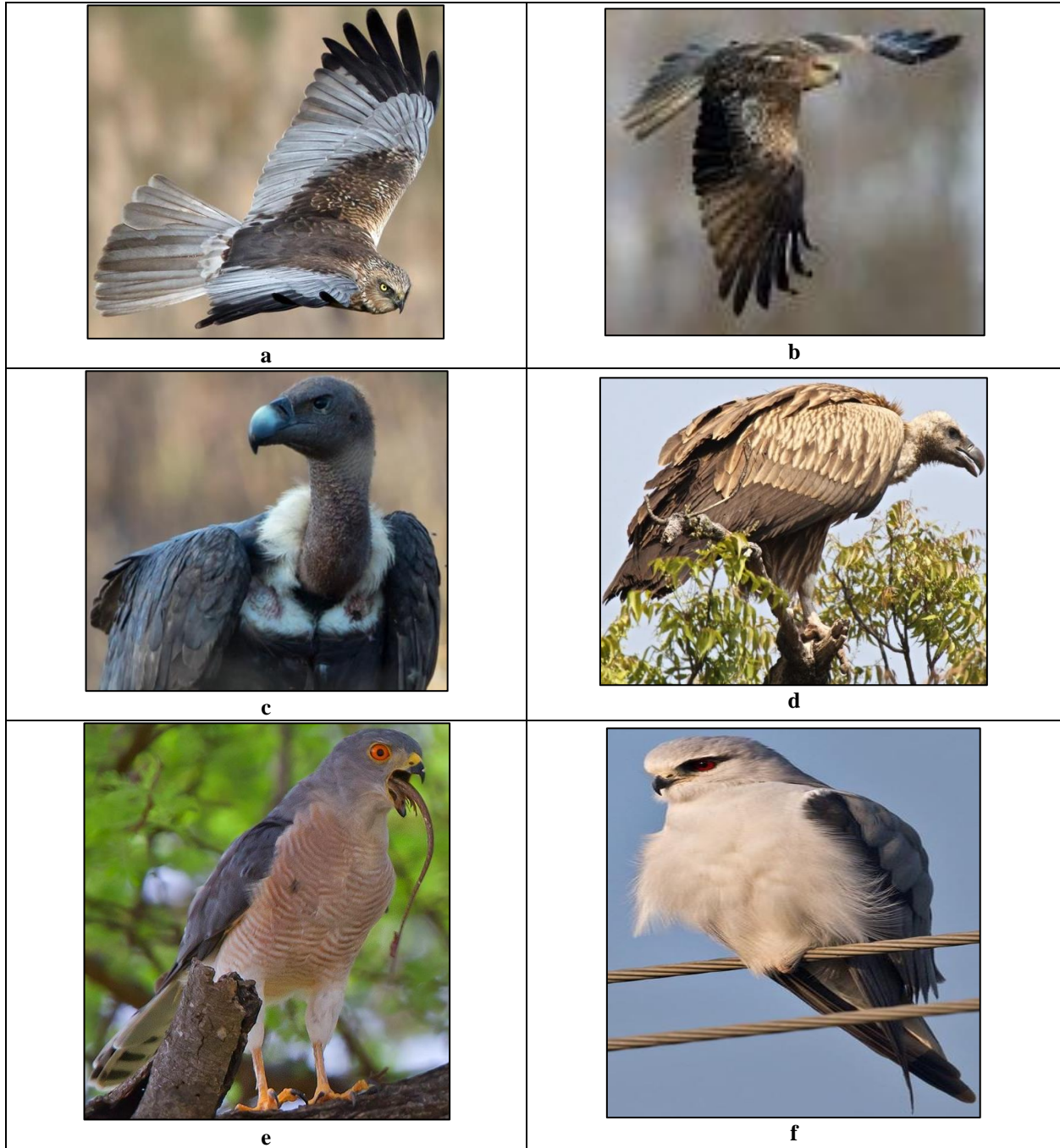


Figure 1. Accipitridae at Marala Head (a) *Circus aeruginosus* (b) *Milvus migrans* (c) *Gyps bengalensis* (d) *Gyps indicus* (e) *Accipiter badius* (f) *Elanus caeruleus*

DISCUSSION

The highest number of *C. aeruginosus* observed was during January (7). No individuals of this species were noticed during summer. Only one individual of *C. aeruginosus* was observed in Taunsa Barrage wildlife sanctuary during 2001-2002 and two during 2008-2009 (Bibi and Ali, 2013). In the study conducted at Taunsa Barrage Wildlife Sanctuary a decreasing population trend for this species was observed during 2009-2011 (Bibi and Ali, 2013). Five individuals of *C. aeruginosus* were observed at Keti Bunder wetland, District Thatha (Ali et al., 2016).

The highest number of *M. migrans* observed at the study area was seventeen in December. No individuals were observed from June to July. A maximum of 150 individuals of *Milvus migrans* were observed from Head Khanki, Punjab (Pakistan) (Altaf et al., 2013).

The highest population of *Gyps indicus* (19) was observed in March. However, no individuals were observed from May to July. This species is native to Pakistan, Nepal and India. It is a critically endangered species that is non-migratory (BirdLife International, 2017). Murn et al. (2014) cite a ninety-five percent decline in the population of *Gyps indicus* since 1995.

A study carried out in wetlands of Tolipir National Park reported the presence of 17 individuals of *Gyps bengalensis*, 31 individuals of *M. migrans*, 23 individuals of *Circus aeruginosus*, 11 individuals of *Elanus caeruleus* and 36 individuals of *Accipiter badius* (Faiz et al., 2015). Ten species belonging to the Accipitridae family were observed at Chotiari Reservoir (Rais et al., 2011). Four species (*G. barbatus*, *Gyps himalayensis*, *Accipiter nisus melaschistos* and *A. chrysaetos*) from this family were observed at Khunjerab National Park in May-June, 2006 (Qureshi et al., 2011). Nineteen species from this family, including *C.*

aeruginosus, *M. migrans*, *Accipiter badius* and *Elanus caeruleus* were reported from different areas of Sindh during 2008-2012 (Khan et al., 2014).

It is important for conservation studies to be successful that the root cause of the decline of any species be identified. Gilbert et al. (2006) reported fast waning numbers of vultures due to an anti-inflammatory drug, Diclofenac. The cause of mass vulture mortality was identified and then banned. The ban on usage of this drug had a significant effect on the population numbers of *Gyps indicus* (Chaudhry et al, 2012). A similar case reporting a colossal decline in the populations of *Gyps bengalensis* and *Gyps indicus* from India during a study conducted in 2000 indicated possibilities of a widespread disease (Prakash, 2003).

CONCLUSION

Only six species from the Accipitridae family were observed at Marala Head; Marsh Harrier (*Circus aeruginosus*), Pariha Kite (*Milvus migrans*), White-Backed Vulture (*Gyps bengalensis*), Long-billed Vulture (*Gyps indicus*), Shikra (*Accipiter badius*) and Black-Winged Kite (*Elanus caeruleus*). The highest number of any species from this family observed was of *Gyps bengalensis* (23) in December. *Elanus caeruleus* was the most sparsely populated species observed at the study site.

REFERENCES

- Ali A, Altaf M, Khan MSH (2016). Winter survey of birds at Keti Bunder, district Thatha, Pakistan. Punjab Univ J Zool., 31 (2): 203-208.
- Altaf M, Javid A, Irfan, Asif M, Munir, Ashraf S, Iqbal KJ, Umair M, Ali Z, Khan AM (2013). Diversity, distribution and ecology of birds in summer season at head Khanki,

- Punjab, Pakistan. *Biologia (Pakistan)*, 59 (1): 131-137.
- BCP (2005). Bird's of Pakistan Checklist. Retrieved from: <http://www.wildlifeofpakistan.com/PakistanBirdClub/BirdsofPakistanChecklist.htm>
- Bibi F, Ali Z (2013). Measurement of diversity indices of avian communities at Taunsa Barrage Wildlife Sanctuary, Pakistan. *J Anim Plant Sci.*, 23(2): 469-474.
- BirdLife International (2017). Gyps indicus. The IUCN Red List of Threatened Species 2017: e.T22729731A117875047. <http://dx.doi.org/10.2305/IUCN.UK.2017-3.RLTS.T22729731A117875047.en>.
- Chaudhry MJI, Ogada DL, Malik RN, Virani MZ, Giovanni MD (2012). First evidence that populations of the critically endangered Long-billed Vulture Gyps indicus in Pakistan have increased following the ban of the toxic veterinary drug diclofenac in south Asia. *Bird Conserv Int.*, 22 (4): 389-397.
- Faiz AH, Abbas FI, Ali Z, Zahra L (2014). Avifaunal diversity of Tolipir National Park Azad Jammu And Kashmir Pakistan. *J Anim Plant Sci.*, 25(3 Supp. 2): 404-409.
- Gilbert M, Watson RT, Virani MZ, Oaks JL, Ahmed S, Chaudhry MJI, Arshad M, Mahmood S, Ali A, Khan AA (2006). Rapid population declines and mortality clusters in three Oriental white-backed vulture Gyps bengalensis colonies in Pakistan due to diclofenac poisoning. *Oryx*, 40 (4): 388-399. <http://doi.org/10.1017/S0030605306001347>.
- Khan MZ, Tabbassum F, Ghalib SA, Zehra A, Hussain B, Siddiqui S, Yasmeen G, Gabol K, Abbas ND, Jabeen T, Samreen N, Iqbal MA (2014). *Can J Pure Appl Sci.*, 8 (1): 2697-2713.
- Kirschbaum K (2004). Accipitridae, Animal Diversity Web. Accessed at <https://animaldiversity.org/accounts/Accipitridae/>
- Petersson L (2016). IBC1314305. Photo of Western Marsh-harrier Circus aeruginosus at Södergårdsviken, Sweden. Accessible at hbw.com/ibc/1314305.
- Petersson L (2016). IBC1295053. Photo of Black-winged Kite Elanus caeruleus at Chambal Safari Lodge, India. Accessible at hbw.com/ibc/1295053.
- Mauriravasini (2012). IBC1093990. Photo of Shikra Accipiter badius at Meru National Park, Kenya. Accessible at hbw.com/ibc/1093990.
- Murn C, Saeed U, Khan U, Iqbal S (2014). Population and spatial breeding dynamics of a Critically Endangered Oriental White-backed Vulture Gyps bengalensis colony in Sindh Province, Pakistan. *Bird Conserv Int.*, 25 (4): 415-425.
- Naturalis Biodiversity Center (2019). Catalogue of Life: 2019 Annual Checklist. IT IS Species. Retrieved from: <http://www.catalogueoflife.org/col/browse/tree/id/b555241e73b541bdb5e4e976284b8ae9>.
- Prakash V, Pain DJ, Cunningham AA, Donald PF, Prakash N, Verma A, Gargi R, Sivakumara S, Rahmani AR (2003). Catastrophic collapse of Indian white-backed Gyps bengalensis and long-billed Gyps indicus vulture populations. *Biol Conserv.*, 109 (3): 381-390.
- Qureshi R, Khan WA, Bhatti GR, Khan B, Iqbal S, Ahmad MS, Abid M, Yaqub A (2011). Measurement of diversity indices of avian communities at Taunsa Barrage Wildlife Sanctuary, Pakistan. First report on the

- biodiversity of Khunjerab National Park, Pakistan. *Pak J Bot.*, 43(2): 849-861.
- Rais M, Khan MZ, Abbass D, Akber G, Nawaz R, Islam SU (2011). A Qualitative Study on Wildlife of Chotiari Reservoir, Sanghar, Sindh, Pakistan. *Pakistan J Zool.*, 43(2): 237-247.
- Shapiro D (2016). IBC1121054. Photo of White-rumped Vulture *Gyps bengalensis* at Veal Krous, Cambodia. Accessible at hbw.com/ibc/1121054.
- Stepanek P (2019). IBC1572203. Photo of Black Kite *Milvus migrans* at Židlochovice, Czech Republic. Accessible at hbw.com/ibc/1572203.
- Vasanthan PJ (2010). IBC958498. Photo of Indian Vulture *Gyps indicus* at Thengumarahada, India. Accessible at hbw.com/ibc/95849.