Journal of Threatened Taxa

Building evidence for conservation globally

www.threatenedtaxa.org

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

Note

Breeding site records of three sympatric vultures in a mountainous cliff in Kahara-Thathri, Jammu & Kashmir, India

Muzaffar A. Kichloo, Sudesh Kumar & Neeraj Sharma

26 June 2020 | Vol. 12 | No. 9 | Pages: 16166–16169
DOI: 10.11609/jott.5537.12.9.16166-16169

Journal of Threatened Taxa | www.threatenedtaxa.org | 26 June 2020 | 12(9): 16166–16169
ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)
DOI: https://doi.org/10.11609/jott.5537.12.9.16166-16169
#5537 | Received 07 November 2019 | Final received 15 June 2020 | Finally accepted 17 June 2020

NOTE

Breeding site records of three sympatric vultures in a mountainous cliff in Kahara-Thathri, Jammu & Kashmir, India

Muzaffar A. Kichloo [1], Sudesh Kumar [2] & Neeraj Sharma [3]

[1] Department of Environmental Sciences, Govt. Degree College, Thathri (Doda), UT of Jammu and Kashmir 182203, India.
[2] Department of Environmental Sciences, Govt. MAM College, Jammu (Jammu), UT of Jammu and Kashmir, 180006, India.
[3] Faculty of Life Sciences, Institute of Mountain Environment, Bhaderwah (Doda), UT of Jammu and Kashmir 182222, India.
[1] omar.mzfr@gmail.com, [2] sudesh1098@gmail.com, [3] nirazsharma@gmail.com (corresponding author)

Vultures occupy a vital position in an ecosystem as efficient scavengers. They are believed to have evolved with ungulates who provided the food in the form of sick, injured or depredated individuals (Mundy et al. 1992). Of late, they have started exploiting the vast food resources created by man in terms of animal waste (Naoroji 2006). They are hence considered the most successful raptors world over. Once abundant in the region, their population in the Indian subcontinent is on a continuous decline. It is mostly attributed to the food shortage, diclofenac, non-steroidal anti-inflammatory drugs (NSAIDs) poisoning, pesticides, and diseases among others (BirdLife International 2006, 2008; Swan et al. 2006; Prakash et al. 2007, 2012, 2019; Cuthbert et al. 2011a,b).

Of the nine vulture species occurring in India (Naoroji 2006; Praveen et al. 2016), six have been reported from the erstwhile state of Jammu & Kashmir (eBird 2020) and five from the upper Chenab catchment (Sharma et al. 2018). The current communication deals with the breeding records of three sympatric vultures, viz., Himalayan Vulture *Gyps himalayensis*, Egyptian Vulture *Neophron percnopterus,* and Bearded vulture *Gypaetus barbatus* from a mountain cliff in Kahara, Thathri (33.121^{0}N & 75.853^{0}E, ca. 1,500m), a part of upper Chenab catchment. The Himalayan vulture, a 'Near Threatened' species (Birdlife International 2017a) has a broad range extending from the Palearctic realms in the high altitudes of central Asian republics and the Himalaya from Afghanistan, northern Pakistan, northern India through southern Tibet and Nepal to Bhutan and central China to Singapore (Birdlife International 2020). Occurring at 600–2,500 m, they have been seen foraging up to 4,500m and even beyond (Ali & Ripley 1968; Grimmet et al. 2011)

The Egyptian Vulture, listed 'Endangered' (Birdlife International 2019), is widely distributed from northern Africa and southwestern Europe to southern Asia (Birdlife International 2020). Comparatively smaller than other vultures and an opportunist feeder (feeding on a vast range of food), it is the only living member of the genus *Neophron.* While other vulture species live in large groups, these are mostly seen either solitary or in pairs. The mating pair often remains together outside the nesting period, an unusual trait for raptors (Birdlife International 2020).

Editor: M. Zafar-ul Islam, Prince Saud al Faisal Wildlife Research Center, Taif, Saudi Arabia. **Date of publication:** 26 June 2020 (online & print)

Citation: Kichloo, M.A., S. Kumar & N. Sharma (2020). Breeding site records of three sympatric vultures in a mountainous cliff in Kahara-Thathri, Jammu & Kashmir, India. *Journal of Threatened Taxa* 12(9): 16166–16169. https://doi.org/10.11609/jott.5537.12.9.16166-16169

Funding: The study was funded by Institute of Mountain Environment, Bhaderwah Campus, University of Jammu.

Competing interests: The authors declare no competing interests.

Acknowledgements: The authors gratefully acknowledge the Department of Wildlife Protection, Chenab Circle, Government of Jammu & Kashmir for their support and assistance in conducting this study. The authors are also thankful to the Rector, Bhaderwah Campus, University of Jammu for providing necessary logistics and travel support. The help rendered by Mr. Ajaz Ansari and Mr. Nissar Ahmed of IME during the field surveys is highly appreciated and duly acknowledged.

Bearded Vulture, the only member of genus *Gypaetus* distributed across the Palearctic, Afrotropical and Indo-Malayan regions is considered rare in some areas and thought to be declining (Ferguson-Lees & Christie 2001). In India, the species is fairly common throughout the Himalayas from Kashmir to Arunachal Pradesh (Naoroji 2006). The altitudinal movements occur during the winters when individuals occasionally hover as low as 600 m (Birdlife International 2020). It is listed as 'Near Threatened' on the IUCN Red List (Birdlife International 2017b), and its declining populations coincide with poisoning (accidental and targeted) as well as habitat degradation, disturbance of breeding sites and collision with power lines (Ferguson-Lees & Christie 2001).

Vultures are usually believed to compete for several types of resources including food (Petrides 1959; Konig 1983; Mundy et al. 1992; Hertel 1994) habitat and nest sites (Fernández & Donázar 1991; Margalida & Garcia 1999; Bertran & Margalida 2002). Evidence of interspecific aggression at nest sites has also been observed between sympatric vulture species (Blanco et al. 1997; Pascual & Santiago 1991; Aykurt & Kiraç 2001). The competition, resource apportionment and population density of vultures can sometimes allow sympatric species to have considerable overlap in resource use (Wiens 1977; Steenhof & Kochert 1988). We, through this communication, present the interesting breeding sight records of three large-sized vultures in a cliff mountain. The steep mountain block is characterised by rugged rocky outgrowths with narrow grassy slopes and scattered woody patches, deciduous at the base and conifers at the top. The cliff is a potential habitat for Himalayan Goral *Naemorhedus goral*, Rhesus Macaque *Macaca mulatta*, and Kashmir Gray Langur *Semnopithecus ajax*.

On July 11, 2019, while doing a reconnaissance survey for Eurasian Otter *Lutra lutra* in the Kalnai River at Kahara in district Doda of the union territory of Jammu & Kashmir, we spotted three active nests of vultures in

Image 1. Adult Himalayan Vultures at their nesting site.

Image 2. A Himalayan Vulture juvenile.

Image 3. Adult Bearded Vulture roosting near the nest.

Image 4. Nest of the Egyptian Vulture.

Image 5. Nest of the Bearded Vulture.

Image 6. Adult Bearded Vultures with juvenile.

rocky crevices of the cliffs (1,350–1,570 m) overlooking a deep gorge. Of these, two were of the Himalayan Vulture (Images 1 & 2) and one of Bearded Vulture (Image 3). Made of twigs and lined by dry grass, the nests mostly east-facing, were built on the ledges or in cavities and small caves on cliffs well protected from predators. The vultures preferred the inaccessible cliffs on the left bank for nesting, though a few active nests were observed along the right bank too. The right bank's drier slopes were exposed to a myriad disturbances, (road networks, habitations, stone crushers, micro-hydel power projects, etc.) and thus not ideal for nesting.

We visited the forward area again on 28 July 2019 and found two more nests, one belonging to the Egyptian and the other to the Bearded Vulture. The former made of twigs intertwined with fabric occupied one juvenile and an adult Egyptian vulture resting nearby (Image 4). The other massive nest of the Bearded Vulture (Image 5) observed a few hundred feet above, housed a juvenile and the parent birds (Image 6). The roosting sites for all the vultures were found close to the observed active nests.

From the field observations, it is evident that the mountain cliff provides potential breeding habitat for the vultures and possibly other birds of prey as well. The inaccessibility, rugged topography (for nesting) and the abundant food base (gorals, monkeys, langurs, pikas, and rodents) make it an ideal nesting location for the vultures. Further, the two adjoining townships (Thathri and Kahara) provide adequate food resources, as most of the Egyptian and Himalayan vultures are attracted to the carcases and carrion dumped at the municipal solid waste sites located ca. 8km downstream. The stony areas could possibly be used by the Bearded Vultures to break bones. The presence of iron-rich springs or rocks could be the other factors signalling their dominance. The authors further aim to study the resource apportionment and influence of habitat variables (climate, terrain, disturbance) on the nest site characteristics.

References

Ali, S. & S.D. Ripley (1968). *Handbook of the Birds of India and Pakistan*. Vol. I. Oxford University Press, Bombay.

Aykurt, A. & C.O. Kiraç (2001). Apparent predation attempt by a Lammergeier *Gypaetus barbatus* on Black Vulture *Aegypius monachus* chick in Turkey. *Sandgrouse* 23: 140.

Bertran, J. & A. Margalida (2002). Territorial behavior of Bearded Vultures in response to Griffon Vultures. *Journal of Field Ornithology* 73: 86–90.

BirdLife International (2006). *Livelihoods and the environment at Important Bird Areas: listening to local voices*. Cambridge, UK: BirdLife International, 40pp.

BirdLife International (2008). Understanding local needs: the role of Important Bird Areas in peoples livelihoods. http://www.birdlife.org. Downloaded on 15 June 2020

BirdLife International (2017a). *Gyps himalayensis* (amended version of 2017 assessment). The IUCN Red List of Threatened Species 2017: e.T22695215A118594518. Downloaded on 16 June 2020. https://doi.org/10.2305/IUCN. UK.2017-3.RLTS.T22695215A118594518.en

BirdLife International (2017b). *Gypaetus barbatus*. (amended version of 2017 assessment). The IUCN Red List of Threatened Species 2017: e.T22695174A118590506. Downloaded on 23 June 2020. https://doi.org/10.2305/IUCN.UK.2017-3.RLTS.T22695174A118590506.en

BirdLife International (2019). *Neophron percnopterus*. The IUCN Red List of Threatened Species 2016: e.T22695180A90559652. Downloaded on 21 June 2020. https://doi.org/10.2305/IUCN.UK.2016-3.RLTS.T22695180A90559652.en

BirdLife International (2020). IUCN Red List for birds. http://www.birdlife.org. Downloaded on 14 June 2020.

Blanco, G., J.M. Traverso, J. Marchamalo & F. Martinez (1997). Interspecific and intraspecific aggression among Griffon and Cinereous Vultures at nesting and foraging sites. *Journal of Raptor Research* 31: 77–79.

Cuthbert, R.J., M.A. Taggart, V. Prakash, M. Saini, D. Swarup, S. Upreti, R. Mateo, S.S. Chakraborty, P. Deori & R.E. Green (2011a). Effectiveness of action in India to reduce exposure of *Gyps* vultures to the toxic veterinary drug Diclofenac. *PLoS ONE* 6(5): e19069. https://doi.org/10.1371/journal.pone.0019069.

Cuthbert R.J., D. Ruchi, S.S. Chakraborty, S. Kumar, S. Prakash, S.P. Ranade & V. Prakash (2011b). Assessing the ongoing threat from veterinary non-steroidal anti-inflammatory drugs to Critically

Endangered *Gyps* vultures in India. *Oryx* 45: 420–426. https://doi.org/10.1017/S0030605311000135

eBird (2020). https://ebird.org/region/IN-JK. Electronic version accessed on 14 June 2020.

Ferguson-Lees, J. & D.A. Christie (2001). *Raptors of the world*. Christopher Helm, London, 872pp.

Fernández, C. & J.A. Donázar (1991). Griffon Vultures *Gyps fulvus* occupying eyries of other cliff-nesting raptors. *Bird Study* 38: 42–44.

Grimmett R., C. Inskipp & T. Inskipp (2011). *Birds of the Indian Subcontinent*. Helm Field Guides. Oxford University Press & Christopher Helm, London, 528pp.

Hertel, F. (1994). Diversity in body size and feeding morphology within past and present vulture assemblages. *Ecology* 75: 1074–1084.

Konig, C. (1983). Interspecific and intraspecific competition for food among old world vultures, pp. 153–171. In: Wilbur, S.R. & J.A. Jackson (eds.). *Vulture Biology and Management*. University of California Press, Berkeley, USA, xxii+550pp.

Margalida, A. & D. Garcia (1999). Nest use, interspecific relationships and competition for nests in the Bearded Vulture *Gypaetus barbatus* in the Pyrenees: influence on breeding success. *Bird Study* 46: 224–229.

Mundy, P., D. Butchart, J. Ledger & S. Piper (1992). *The vultures of Africa*. Acorn Books and Russel Friedman Books: Randburg and Halfway House (South Africa), 460pp.

Naoroji, R. (2006). *Birds of Prey of the Indian Subcontinent*. Om Books International, India, 692pp.

Pascual, J. & J.M. Santiago (1991). Egyptian Vultures steal food from nestling Griffon Vultures. *Journal of Raptor Research* 25: 96–97.

Petrides, G.A. (1959). Competition for food between five species of East African vultures. *Auk* 76: 104–106.

Prakash, V., R.E. Green, D.J. Pain, S.P. Ranade, S. Saravanan, N. Prakash, R. Venkitachalam, R. Cuthbert, A.R. Rahmani & A.A. Cunningham (2007). Recent changes in populations of resident Gyps vultures in India. *Journal of the Bombay Natural History Society* 104(2): 128–135.

Prakash V., M.C. Bishwakarma, A. Chaudhary, R. Cuthbert, R. Dave, M. Kulkarni, S. Kumar, K. Paudel, S. Ranade, R. Shringarpure & R.E. Green (2012). The Population Decline of Gyps Vultures in India and Nepal Has Slowed since Veterinary Use of Diclofenac was Banned. *PLoS ONE* 7(11): e49118. https://doi.org/10.1371/journal.pone.0049118

Prakash, V., T.H. Galligan, S.S. Chakraborty, R. Dave, M.D. Kulkarni, N. Prakash, R.N. Shringarpure, S.P. Ranade & R.E. Green (2019). Recent changes in populations of Critically Endangered Gyps vultures in India. *Bird Conservation International* 29(1): 55–70. https://doi.org/10.1017/S0959270917000545

Praveen, J., R. Jayapal, & A. Pittie (2016). A checklist of the birds of India. *Indian Birds* 11(5&6): 113–172.

Sharma, N., S.K. Rana, P. Raina, R. Amir & M.A. Kichloo (2018). An annotated checklist of the birds of upper Chenab catchment, Jammu & Kashmir, India. *Journal of Threatened Taxa* 10(7): 11869–11894. http://doi.org/10.11609/jot.3464.10.7.11869-11894

Steenhof, K. & M.N. Kochert (1988). Dietary responses of three raptor species to changing prey densities in a natural environment. *Journal of Animal Ecology* 57: 37–48.

Swan G., V. Naidoo, R. Cuthbert, R.E. Green, D.J. Pain, D. Swarup, V. Prakash, M. Taggart, L. Bekker, D. Das, J. Diekmann, M. Diekmann, E. Killian, A. Meharg, R.C. Patra, M. Saini & K. Wolter (2006). Removing the threat of Diclofenac to Critically Endangered Asian vultures. *PLoS Biol* 4(3): e66. https://doi.org/10.1371/journal.pbio.0040066

Wiens, J.A. (1977). Competition and variable environments. *American Science* 65: 590–597.

Journal of Threatened Taxa

www.threatenedtaxa.org

PLATINUM OPEN ACCESS

ISSN 0974-7907 (Online) | ISSN 0974-7893 (Print)

June 2020 | Vol. 12 | No. 9 | Pages: 15967–16194
Date of Publication: 26 June 2020 (Online & Print)
DOI: 10.11609/jott.2020.12.9.15967-16194

Publisher & Host

WILD ZOOREACH Threatened Taxa

Member

FJN