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NOTE

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

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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°N & 75.853°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).

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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; König 1983; Mundy et al. 1992; Hertel 1994) habitat and nest sites (Fernández & Donazar 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 carcasses 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.

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