

BONELLI'S EAGLE

Records of predation on *Varanus griseus* and *Ptyonoprogne concolor* by *Aquila fasciata* in Agolai, Jodhpur, India



IUCN Red List:
Least Concern
(BirdLife
International 2016)

Images of Bonelli's Eagle at Agolai, Jodhpur. (A) ventro-lateral view (B) dorsal view from top (C) a fresh predation of Dusky Crag Martin catch in flight (D) another predation of a Desert Monitor was sighted near to the Bonelli's Eagle nest

Aves
[Class of Birds]

Accipitriformes
[Order of diurnal birds of prey]

Accipitridae
[Family of Hawks and Eagles]

Aquila fasciatus
[Bonelli's Eagle]

Species described by Vieillot in 1822

Prey-predator interactions are rarely observed in the field, and most attempts to identify and quantify their occurrence have focused on a narrow range of species. Raptors typically hunt and kill their prey. Small lizards and frogs are preyed upon by a great variety of animals (Duellman & Trueb 1986; Greene 1988; Zug 1993). Here we have recorded a predation upon Desert Monitor *Varanus griseus* and Dusky Crag Martin *Ptyonoprogne concolor* by Bonelli's Eagle *Aquila fasciata* in Thar Desert of Rajasthan.

Bonelli's Eagle is known to be a characteristic local and scarce resident breeding raptor species in countries surrounding the Mediterranean Sea and the Middle East (Gensbol 1987; Rocamora 1994). This raptor is also found commonly in the

southeastern Palaearctic region, Indochina, southeastern China and Indonesia (Cramp & Simmons 1980; BirdLife International 2018). It plays a key role as top predator in natural ecosystems (Rocamora 1994). Thus, this species can be considered as an ‘umbrella species’ (Rollen et al. 2016). Bonelli’s eagle is categorised as a species of Least Concern on the IUCN Red List of Threatened Species (BirdLife International 2018). This species is a resident to India, and is found almost throughout the subcontinent (Grimmett et al. 2011). However, Bonelli’s Eagle has not been recorded from the northeast and eastern part of the country.

Bonelli’s Eagle has been known to prey upon variety of small or medium-sized birds and mammals, including some reptiles and some instances on carrion (Ferguson-Lees & Christie 2006). Study has been done into various parts of the globe reporting about the

Global Distribution:

Native: Afghanistan; Albania; Algeria; Bhutan; Bosnia and Herzegovina; Bulgaria; China; Croatia; Cyprus; Djibouti; Egypt; France; Georgia; Gibraltar; Greece; Hong Kong; India; Indonesia; Iran, Islamic Republic of; Iraq; Israel; Italy; Jordan; Kuwait; Lao People’s Democratic Republic; Lebanon; Libya; Macedonia, the former Yugoslav Republic of; Mauritania; Montenegro; Morocco; Myanmar; Nepal; Oman; Pakistan; Palestinian Territory, Occupied; Portugal; Saudi Arabia; Serbia; Spain (Canary Is. - Vagrant); Syrian Arab Republic; Tajikistan; Thailand; Timor-Leste; Tunisia; Turkey; Turkmenistan; United Arab Emirates; Uzbekistan; Viet Nam; Yemen

Vagrant: Austria; Bangladesh; Belgium; Czech Republic; Denmark; Germany; Hungary; Kazakhstan; Kyrgyzstan; Luxembourg; Mongolia; Netherlands; Romania; Slovakia; Sri Lanka; Sweden (BirdLife International 2016)

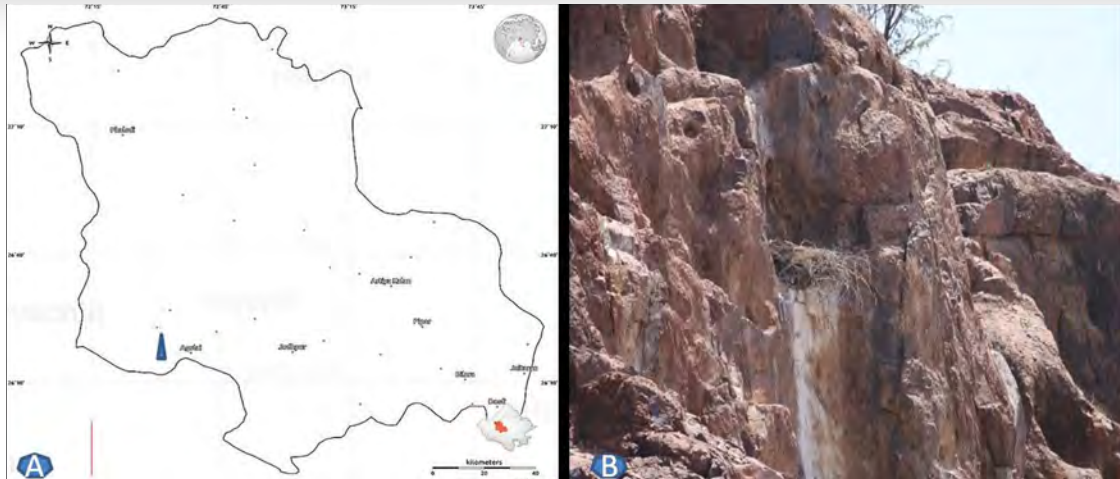
dietary items of Bonelli’s Eagle. European Rabbits *Oryctolagus cuniculus*, Grey Partridge *Perdix perdix*, and Chukar *Alectoris chukar* were reported in Turkey. Yosef (1996) reported that Sand Partridge *Ammoperdix heyi* was the major prey item in Israel. Eurasian Jackdaw *Corvus monedula*, Common Woodpigeon *Columba palumbus*, larks, gulls, ducks, rails, hare (*Lepus* spp.), rat (*Rattus* spp.) and green lizards (*Lacerta viridis*) were also commonly recorded (Sanchez 1998). Cano & Parrinder (1961) reports that ocellated lizard (*Timon lepidus* (= *Lacerta lepida*)) is a main dietary item in southern Spain. Similar records of predation upon waders, birds of prey and herons, (*Ardea* spp.) have also been recorded in France. Stork and rabbits are reported in North Africa as a dietary item (Brown 1970). Fawn of Blackbuck *Antilope cervicapra* are also reported as a prey by Kumar (1993).

We studied feeding habitat of this species in Rajasthan State. The recorded nests are from semi-arid regions and in mountains in Jodhpur district.

Study Area and Methods

Jodhpur district is an eastern part of the Indian Thar desert of Rajasthan. It has extreme semi arid deserted conditions where temperature reaches up to 49.5°C high and minimum of 5°C. A pair of Bonelli’s Eagle was recorded, flying overhead and on the nest while conducting field survey at Agolai, Jodhpur on 4 April, 2017.

The study area Agolai situated northern west to Jodhpur in Shergarh Tehsil and located in Jodhpur District of Rajasthan. The geographic location of study area is



(A) Representative map of Agolai, Jodhpur (B) The Bonelli's Eagle nest (Map source: <http://www.maphill.com>.)

26.16872°N & 72.39273°E at height of 287m. The vegetation of the region is thorny and scanty. The flora and fauna inhabiting are well adapted to desert condition, viz., Water deficiency and extreme of temperature. Bonelli's Eagle is a resident, diurnal, uncommon raptor. The bird is observed using a pair of binocular and identified by help of literature (Kazmierczak & Perlo 2006; Grimmett et al. 2011). The Desert Monitor was identified on the basis of morphotaxonomy as the lizards has distinctive nostrils comprising diagonal slits much closer to the eye than the tip of the snout (Smith 1935). The approx snout-vent length of the juvenile lizards measured as 310mm and 270mm of tail length. Whereas the prey bird was identified on the basis of close photography, flight pattern and regular flock flights monitoring around the hill (BirdLife International 2018).

Observation

While on exploration study at Thar Desert of Rajasthan, we came across events of predation by a pair of Bonelli's Eagle at Agolai on 4 April 2017, in Jodhpur district of Rajasthan. During the study around 12:00hr of about 40°C we located a nest (26.16872°N & 72.39273°E) on a rock cliff of a raptor. That is approximately 2km far from of Jodhpur-Jaisalmer highway no. 25. By reaching to the cliff we found a raptor movement with low and rapid flights. With the help of binocular and digital SLR camera we traced the nest and found another raptor sitting on the nest. We identified it as Bonelli's eagle with the help of identification key and field guides. The nest was about 15m above the ground level. There were two instances recorded within three hours as a fresh kill of Desert Monitor (scavenging behaviour) and Dusky Crag Martin as a fresh kill (predation). Firstly, within the three meter of radius a fresh killed desert monitor was found on the rock, due to the straight slope we could not reach to the lizard but with the help of camera we took

periodically close photographs. Almost three hours at 15:00hr we captured a Bonelli's Eagle holding Dusky Crag Martin as a fresh kill. There were a large flock of these birds roaming around the cliff. We again captured the moment of prey and predator relationship for next one hour with another catch by the Bonelli's Eagle.

Though, the raptors are known to feeding on variety of prey species, the present field note is an-observation about its dietary items and its feeding behaviour including predation and scavenging both as per the need of food or availability of feeding material.

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