A record of electrocution of Egyptian Vulture at Jorbeer, Rajasthan, India

Egyptian Vultures on pylon.

The Egyptian Vulture *Neophron percnopterus* is a resident species of northern India. It plays an important ecological role by removing municipal waste and animal carcasses.

Egyptian Vultures normally feed on carrion and generally prefer forested habitats to human-dominated areas. They quite often use electricity poles as resting sites during stopover in the winter time. This behaviour can have lethal penalty as some poles of the low-voltage networks in particular are awfully dangerous for the birds—when perching, and taking off—as they can get electrocuted. The poles are mainly hazardous for the juvenile and young vultures. Electrocution at power lines and supporting units is a major cause of non-natural mortality in birds of prey (Lehman et al. 2007).

Numerous populations of raptors including Black Kite *Milvus migrans*, Cinereous Vulture *Aegypus monachus*, Golden Eagle *Aquila chrysaetos*, Steppe Eagle *Aquila nipalensis*, Greater Spotted Eagle *Aquila clanga*, Common Kestrel *Falco tinnunculus*, and Saker Falcon *Falco cherrug* are known to be directly affected by electrocution as a result of unsustainably low adult and juvenile survival probability (Sergio et al. 2004; González et al. 2007; Jenkins et al. 2010; Perez-Garcia et al.

Table 1. Showing the yearly death rate of Egyptian Vulture from 2015 to 2019.

	Year	Total populations of Egyptian Vulture	Number of Mortality	death rate in %
1	2015	1310	19	1.45
2	2016	1610	22	1.37
3	2017	1800	31	1.72
4	2018	1850	24	1.30
5	2019	2240	33	1.47
		Total	**129**	**(Avg.) 1.46**

Wing injury of the Egyptian Vulture.

2011). The Egyptian Vulture is prone to electrocution due to its habit of perch on power lines in desert areas where no trees are available for roosting (Donázar et al. 2002; pers. obs.). Despite a wealth of information and data on deaths caused by accidents of avian interactions with power lines, problems persist throughout the world (Lehman 2001; Jenkins et al. 2010). Avian electrocutions are also widely reported from Europe and Africa, where persistent electrocution mortality has been implicated in Egyptian Vulture *Neophron percnopterus* declines (Angelov et al. 2012).

In Rajasthan, Thar Desert is an inhospitable area for migratory birds. In this hot and arid environment, about 510 species of birds can be seen in the Rajasthan State (Grimmett & Inskipp 2003).

The Thar Desert despite being one of smallest deserts of the world has a high avian diversity. The Thar Desert is not isolated and endemicity of avifauna is very low. Most of the birds of Thar Desert have wide distribution. Out

of endangered species of feathered creatures, five birds are Critically Endangered, one species is Near Threatened, one species is Endangered, and 11 species are Vulnerable.

Seven species of vultures have been observed at Jorbeer Area, Bikaner (Rajasthan)—The King Vulture *Sarcogyps calvus*, Cinereous Vulture, Eurasian Griffon Vulture *Gyps fulvus*, Himalayan Griffon Vulture *Gyps himalayensis*, Long-billed Vulture *Gyps indicus*, White-backed Vulture *Gyps bengalensis*, and Egyptian Vulture *Neophron percnopterus*. Of these, six species are winter migratory species. Only the Egyptian Vulture is resident.

In Bikaner, two subspecies of Egyptian Vulture are found including *N. p. ginginianus* (Latham 1790) and *N. p. percnopterus* (Linnaeus, 1758) all year round. Total population of Egyptian Vulture in Jorbeer, Bikaner is 2,240 including both juvenile and adults (Table 1). The place where maximum number of vultures are found

Egyptian Vulture not able to fly.

Electricuted vulture completely incapacitated.

in Jorbeer is on the 17.5 km-long power line. During the first few flying days, inexperienced birds are still anxious in the air, especially while perching or taking off, and have the propensity to crash into electric poles. Electrocution on badly designed power poles is increasingly shown to pose a threat for the populations of raptors. Egyptian Vulture is one of the Near Threatened species of the world and an Action Plan for Vulture Conservation (APVC) 2020–2025 has been taken up by

Egyptian Vulture mortality by power lines.

the MoEFCC, Government of India to prevent them from becoming a threatened species. Their population is declining rapidly. From last five years (2015–2019), 129 electrocution cases of the Egyptian Vultures in winter have been reported (Table 1). Highest mortality of *Neophron percnopterus* was reported in the year 2017. Average percentage of power line death is 1.46 in the last five years. The main threats to Egyptian Vultures are direct mortality caused by humans by electrocution, decrease accessibility of food, and habitat destruction.

The current report describes a single case of the rescue and rehabilitation after electrocution. On 10 May 2020, around 1310 hours, we found one more, one year old Egyptian Vulture at Shivbari Rural (27.989N, 73.365E), near Jorbeer Conservation Reserve, Bikaner, Rajasthan. It was incapacitated to fly due to wing injury. It was rescued for necessary treatment and rehabilitation. The Egyptian Vulture was depressed and unfit to fly due to electric shock with skin burn and wing bone damage. It was submitted to the local forest department.

The veterinarian provided treatment of Amoxicillin as an antibiotic and Meloxicam as pain killer drug along with dressing the wounds. An efficient way of avoiding such incidents is to deploy specially designed insulators on poles. Bikaner's Jorbeer is an unusual feeding destination for vultures in Asia (largest vultures' site). There are many dangers with food including electrocution, drugs, pesticides, and Feral dogs. Government of India should take care of every migratory vulture here and reduce the death rate.

This report highlights the urgent need to plan and retro-fit power lines in India with non-

hazardous support structures. With this report we provide information about power lines in Bikaner, Rajasthan as it continues to cause mortality of Egyptian Vultures, especially juvenile and young ones.

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Dau Lal Bohra[1] & Sradha Vyas[2]
[1&2] P.G. Department of Zoology, Seth G.B. Podar College, Nawalgarh, Jhunjhunu, Rajasthan 333042, India.
Email: [1]daulalbohara@yahoo.com (corresponding author)

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