

## Survival of an adult Eurassian Griffon Vulture (*Gyps fulvus*) in summers at Jorbeer, Bikaner

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### ABSTRACT

*Eurassian griffon vulture (Gyps fulvus) is completely winter migratory in past years at Jorbeer. Eurasian griffons reaches Jorbeer area in flocks alongwith Himalayan griffons and Cinereous vultures. It stays October to March. An adult Eurassian Griffon Vulture has been recorded first time in summers (months of April, May, June, July and August) during 15 years of study period. It has shown earlier symptoms of sickness and not migrated to native place. Survival of Eurassian Griffon Vulture in 45<sup>0</sup>C - 49<sup>0</sup>C temperature have shown sign of adoption and tolerance to scorching heat of Thar desert. Adult Eurassian griffon vulture is healthy and feeding on carcasses. Survival of Eurassian griffon vulture in summers ensures its possibilities as resident vulture at Jorbeer and surrounding areas.*

**Key words:** Adult eurassian griffon vulture, Survival, Temperature, summers.

### INTRODUCTION

The Eurassian griffon vulture is a large old world vulture in the bird of prey family Accipitridae. The Eurassian griffon vulture is 92-122 cm long with a 2.3 - 2.8 meter wingspan and weight 6.2 to 10.5 kg. Extreme adult weights have been reported from 4.5 to 15 kg. It has dark brown upperside, with relatively distinct, thin, whitish streaks, mainly whitish rather fully feathered head and neck, dark grey cere and pale yellowish bill. Like other vultures, it is a scavenger, feeding mostly from carcasses of dead animals which it finds by soaring over open areas, often moving in flocks. The maximum recorded life span of the griffon vulture is 41.4 years of an individual in captivity<sup>3</sup>. It breeds on crags in mountains in southern Europe, north Africa and Asia, laying one egg. The population is mostly resident. Juvenils and immature individuals may migrate for or embark on long distance movements<sup>7,14</sup>. The large percentage of Ibreian and French non-adult Griffon vultures winter in the areas in and surrounding the strait of Gibraltar, due mostly dump feeding. The reasonal distribution, directional component and the importance of movements (up to 1,200 km.) of non breeding vultures, clearly indicate the existence of an actual migration rather than post-fledging dispersal. Although other authors had reported this migrating behaviour<sup>2,1,6,5,8</sup>. In this paper, I explore the survival and adoption of Eurassian Griffon Vulture in summers at Jorbeer, Bikaner.

### MATERIAL AND METHODS

#### Study Site -

The study area Jorbeer situated 12 km. away from Bikaner city. The geographical location of area is 20°30' North latitude and 73°50' East longitudes at height of 234.84 MSL. Bikaner district is western part of 'Thar' desert. Desert is known for extreme dry climate, where temperature reaches 49.50<sup>0</sup>C high and minimum -1<sup>0</sup>C to -2<sup>0</sup>C and low rain fall less than 100mm. Strong dust storms, shifting dunes, sparse

water bodies are the main features. Vegetation of the region is thorny and scanty. The flora and fauna inhabiting are well adapted to desertic condition i.e. water deficiency and extreme of temperature.

### Methods

The study is based on monitoring of Eurasian griffon vulture in regular intervals. Binocular was also used for a good view of vulture. Eurasian griffon vulture also observed around 2-3 kilometers from dump site. The activities of griffon vulture listed minutely.

### RESULT AND DISCUSSION

Nine species of vultures are recorded in Indian subcontinent (Ali and Riply (1983) of which seven species observed at Jorbeer, Bikaner<sup>11</sup> i.e. Long billed vulture (*Gyps indicus*), White backed vulture (*Gyps bengalensis*), Eurasian griffon vulture (*Gyps fulvus*), Himalayan Griffon vulture (*Gyps himalayensis*), King vulture (*Sarcogyps calvus*), Cinereous vulture (*Aegypius monachus*) and Egyptian vulture (*Neophron percnopterus*). All vulture species migrate in winter and stays October to March at Jorbeer.

Eurassian griffon vulture is totally winter migratory vulture in Jorbeer area. It arrives in flocks in early October and departs in last week of March. Eurassian griffon were observed feeding on carcasses and roosting in trees of *prosopis cineraria* and *Salvadora oleodies* near dump stand as 20-35 carcasses dumped per day by the Municipal Board. In past years the maximum of n=650 Eurassian griffons recorded in winters at Jorbeer. Griffon vulture population use carcass dump as feeding grounds and feed on dump become highly suitable profitable because large amount of predictable food availability. The feeding and roosting site both were close together at Jorbeer, indicates the high suitability of utilization carcass dumps as food source because it reduces utilization of energy while seaching for food. The increase in Eurassian griffon vultures was related to livestock availability<sup>10</sup>.

An adult Eurassian griffon vulture shown its presence in summers during 15 years of research study. It is very surprising survival of Eurassian griffon vulture in 45-49<sup>0</sup>C temperature. It's one of migratory griffon vultures, which stayed at Jorbeer in winters. Eurassian griffon vultures arrives in flocks and completely winter migratory. Adult Eurassian griffon has regularly monitored in month of April, May, June, July and August. Initial stage it has shown some symptoms of sickness and laziness, but now it is healthy. It feeds on carcasses and drink water near by local ponds. Eurassian griffon is now alone but few local Egyptian vulture, small raptor Lagor falcon, short toad snake eagle, spotted Owlets and Black ibis, Cattle egrets are feeding associates of griffon vulture. Most of the time it perches alone on trees and grounds. Eurassian griffon is showing sign of loneliness and waiting for its partners.

**Fig. 1 (a) (b) - An adult Eurassian griffon vulture (*Gyps fulvus*) sitting alone at Jorbeer area in summers**





Recently for the first time a long billed vulture's nest with chick and a small colony of fourteen critically endangered long billed vultures has been recorded in Kolayat Tehsil of Bikaner. They are incredibly surviving in 45<sup>o</sup>C - 47<sup>o</sup>C temperature. It is first nesting of any vulture in Bikaner and surrounding areas during fifteen years of research studies<sup>13</sup>.

Eurassian griffon vultures are highly sensitive to environmental changes<sup>9</sup>. They breeds exclusively on mountains cliffs, spending the spring and summer months in the arid steppic mountains region Balochistan<sup>17</sup>. An increase in the number of Eurassian griffon spending the winters in India<sup>4</sup>. The Eurassian griffon vultures breeds in Himalayas but is seen throughout the Indian plains to Deccan plateau during winters, similarly the young Himalayan griffon wintering in the Himayalan foothills and sometimes as far sour as kutch in Gujrat<sup>18</sup>. Eurassian griffon vulturtes breeds in Eurasia but migrates of Africa and South Asia. The geographic ranges of these vultures overlap<sup>16</sup>. The *Gyps fulvus* also breeds throughout Balochistan and parts of Sindh, Kohistan and salt range, during winters numbers migrates to indus plains. They migrate down to warmes foothills and plains in winter.

Veterinary use of the non-sterioidal anti-inflammatory drug (NSAID) diclofinac has been observed to be the major cause of the collapse of three Gyps species. Diclofenac poisoning of vultures is thought to occur when they feed on carcasses of treated livestock. At postmortem examination, these birds showed extensive visceral gout, deposits of uric acid on and within internal organs due to kidney failure<sup>15</sup>. But vultures at Jorbeer have not exhibited overt sign of Diclofenac and Acelofenac contamination and toxicity. Even no single vulture were observed sick or diseased during long term study. Vultures were always injured and killed by feral dogs<sup>12</sup>.

#### Recommendations -

- 1.Regular monitoring of adult Eurassian griffon vulture should be done according to behaviour.
- 2.The mature trees must be saved for future nesting possibilities at Jorbeer area.
- 3.Feral dogs are main threat for vultures. A infrastructure plan is required to fall this major problem.

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