

Behavioural observations on Long-billed vultures (*Gyps indicus*) at Adarwadi nesting cliff in TamhiniGhat, Maharashtra

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Data Collection Period: 2009 - 2013
2014

1 Introduction

- The Long Billed Vulture (*Gyps indicus*) is one of the smaller Old World vultures that breeds in peninsular India and South-east Pakistan.
- The species has declined by over 97% throughout its range since the 1990's and has been listed as Critically Endangered [A2bce+4bce] on the IUCN Red List since the year 2002.
- The species has been poorly studied in its natural habitat and behavioral data is primarily only available from recent studies on captive populations.
- The formulation of effective conservation plans necessitates the identification and in-situ monitoring of current vulture populations.
- This is also a prerequisite in identifying conservation action required and preventing the complete extinction of the species.
- This project has been undertaken with the aim to enhance our understanding of the behavior of free-ranging vulture populations.

2 Study Site

- The study site is a westward-facing cliff at Adarwadi, Tamhini (Western Ghats), Maharashtra.
- Climate is primarily tropical with heavy monsoons averaging 5500-6500 mm of rainfall per year (Padhye et al. 2007).
- Coordinates of the nesting cliff are 18°27'6.20"N and 73°24'31.13"E to 18°26'46.94"N and 73°24'22.51"E
- Highway SH 60 passes 250-300 meters from the base of the cliffs.

3 Materials And Methods

- Non-invasive data collection.
- Data was collected from a distance of 300 meters from the base of the cliffs.
- Bi-monthly surveys over 3 $\frac{1}{2}$ years.
- Data collected using Nikon/Olympus 10x50 Binoculars.
- Continuous behavioral observations over 3 hours.
- Bones were collected from the base of the cliffs, when possible.

4 Abbreviations used

Alphabets used for Activities observed

- A Sitting
- B Comes out from inside and sits outside
- C Was sitting but went inside and/or inside and not visible anymore
- D Basking/Preening
- E Hop nests
- F Hop between nest and perch, and vice-versa
- G Take off, soar, and come back to the nest
- H Take off, soar, and go beyond visibility
- I Come, soar above nest, and then disappear
- J Soaring
- K Landing on ridge/nest/perch
- L Lands and then takes off (within 2-3 mins) again
- M Land and go inside the nest
- N Feeding chicks (parents have brought food)
- O Mating
- P Takes off and soars
- Q Was soaring, then disappeared

5 Observations and results

1. Activity at the nest site gradually increases towards noon, with peak activity and movement seen between 1430h – 1500h and then a steady decline after 1630h.
2. The vultures were most commonly seen sitting at the nests or soaring between 1430h-1500h. Preening, in most instances, was also observed at the same time.
3. The increase in afternoon activity is likely due to the availability of thermals and a more favorable temperature outside the nests during peak afternoons. The vultures use the thermal winds to soar.
4. A maximum number of 19 vultures seen at the nest site at any given time.
5. On average 2 fledgling chicks were observed each year.
6. A pair of vultures was observed mating twice in March 2013.
7. The most common activities seen in all the observations is Soaring and Sitting.
8. Nest 1 was used for the maximum instances followed by Nest 2 and Nest 3. Nest 10 was used the least amount of times.
9. Activities steadily pick up after the monsoons and remain intense until summer and again steadily decline towards the onset of the monsoons
10. Chicks were observed in Nest 1, Nest 3 and Nest 9.

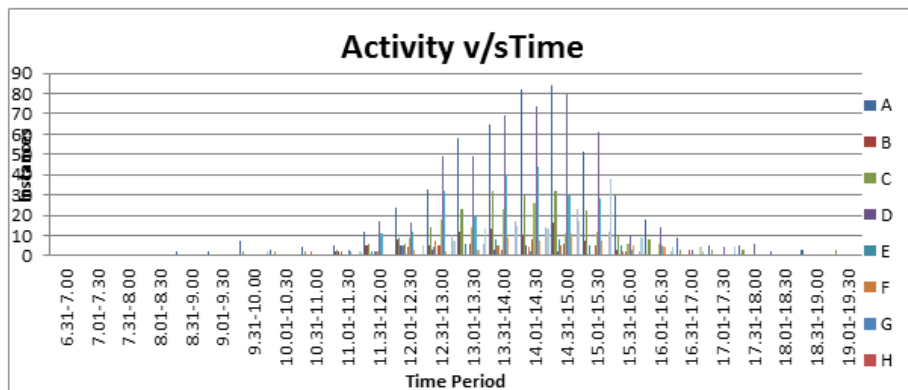


Figure 1: Activity observed vs time of the day

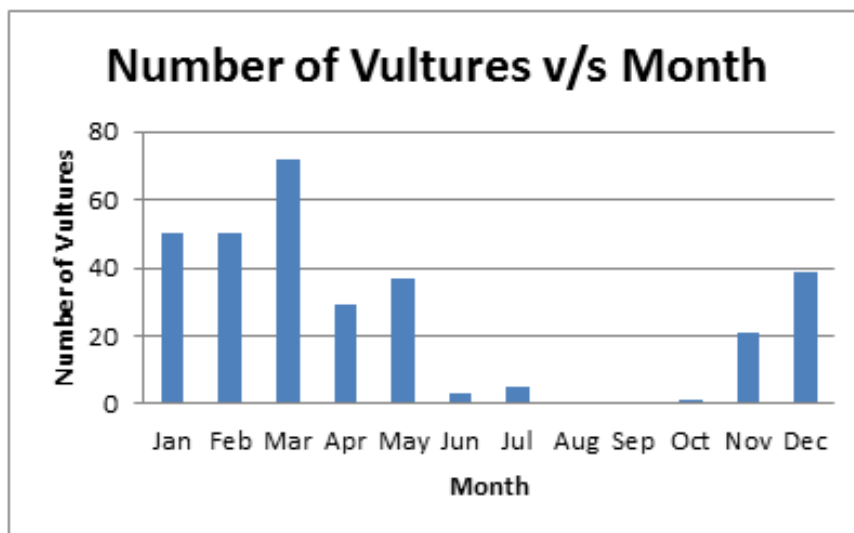


Figure 2: Number of Vultures observed for each month for the 4 year period

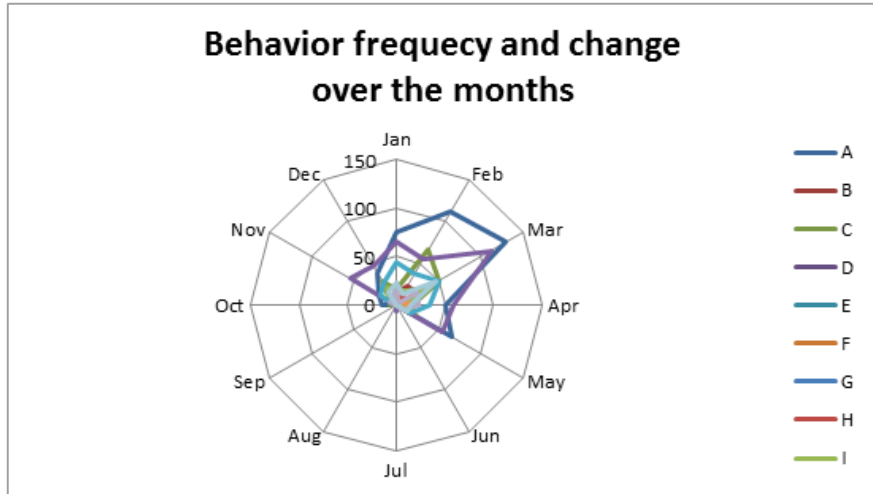


Figure 3: Frequency of certain Behavior against the months in which it was observed

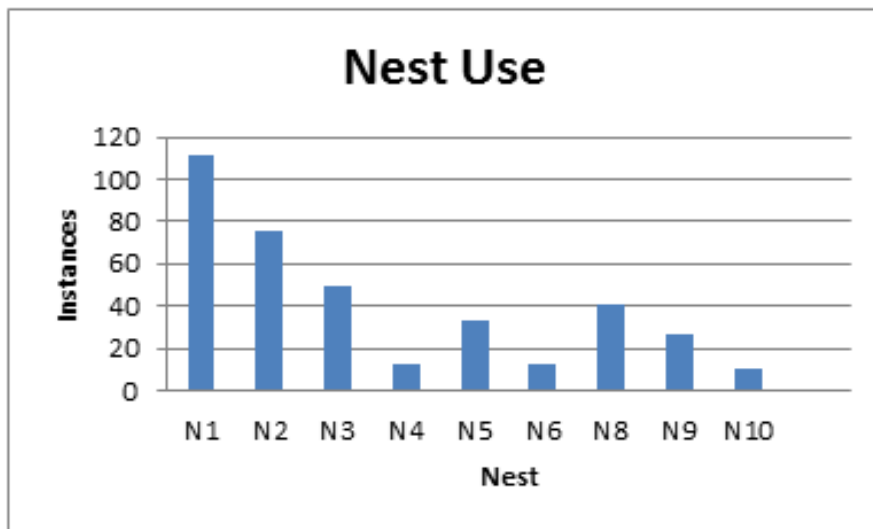


Figure 4: Nest used vs total number of times used



Figure 5: Vulture Nest N4



Figure 6: Long Billed Vulture (*Gyps indicus*) soaring



Figure 7: Vulture perching at P15



Figure 8: Adarwadi Nesting Cliffs and approach route



Figure 9: Nesting Site marked with P for perches and N for Nests

6 References

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