

LATITUDINAL RANGE EXTENSION OF INDIAN WILD ASS  
(*EQUUS HEMIONUS KHUR*) IN GUJARAT – WESTERN INDIA

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ABSTRACT

The Wild ass (*Equus hemionus khur*) is protected under wildlife protection act and has been declared under schedule I and restricted to the parts of Gujarat, mainly in the protected areas (PA) of Wild ass Sanctuary and its fringes. However the number of wild ass has gone beyond the carrying capacity of the existing protected area. Till date most of the studies of the species are restricted to its status in and around the protected area. Except one publication, there are no reports of the species migrating to the lower latitudes and almost 100 km from the Protected Area. The observations on the species were made during various ecological studies, and the paper represents the south-east migration of the species towards lower latitudes. Such observations on the migration of the species may help in further designing the conservation management plan of the species as well as the landscape.

**Key words:** Indian Wild ass, Little rann of Kachchh, Bhal region

Introduction

The Wild ass (*Equus hemionus khur*) an endangered equid, listed as a Schedule I species of the Indian Wildlife Protection Act, 1972 and listed as endangered under IUCN Redlist A2abc+3bd ver 3.1 criteria, was once widespread in western arid landscape of Indian sub-continent extending to Syria in the west, through most of central Asia, up to the arid regions in North-West India, is now restricted to Rann of Kachchh in India (Spillet, 1968; Groves, 1974; Shah, 1993; Roberts, 1997; Shah and Qureshi, 2007). The region has been declared as the Wild Ass Sanctuary since 1973 to protect this unique population.

The Wild ass population was estimated to be 4000 in 1946 (Ali, 1946) which declined to 700 in early 1970s due to disease (Surra) and consecutive severe droughts (Shah, 1993). Since then population have shown increasing trend, 720 in 1976 to 4000 in 2004 (Shah and Qureshi, 2007). The protection of the Wild Ass habitat in form of Sanctuary has helped build-up the population.

The Wild ass distribution range is expanding with increase in Population (Shah, 1993). The Wild ass studies have largely confined to status assessment (Ali, 1946; Gee, 1963). There are plenty of publications (Shah, 1993; 1996, 2004; Prasad *et al.*, 1994; Goyal *et al.*, 1999; Shah and Qureshi, 2007) belonging to the Wild ass population status. However some recent newspaper reports suggest

range expansion of the species towards the Gujarat-Rajasthan boundary and India Pakistan boundary. The observations recorded in this paper are the opportunistic records. In a span of twelve years the range extension observations were recorded in the lower latitudes (southern) from the sanctuary.

Material and Methods

Opportunistic observations were taken during road travelling for various studies. Nikon 10 x 50 and Olympus 10 x 50 binoculars were used for macro level observation of the species. E-trex Garmin hand held GPS navigator was used to mark the geo-coordinates in latter three observations.

Results and Discussion

In a span of twelve years (2001 to 2013) total four sightings were made during multiple biodiversity studies (Table 1). All the observations were opportunistic. Herd of minimum 3 and maximum of 11 Wild ass were recorded (Fig. 2). The minimum distance recorded from the PA is 42 km on June 2008 from Viramgam to Malvan chowkdi road to maximum of 95 km on December 2001 near Hebatpur village in Dholera area.

Singh *et al.* (1999) and Singh (2000) reported southern latitudinal migration of the Wild ass, after which this is the only report of the species migrating south of the PA towards the Bhal region. Singh (2000) reported a herd of 18 Wild ass near Kala talav (near

The population of the wild ass above the carrying capacity of existing Little Rann protected area can be conserved by allowing species to acquire the niche in the corridors and adjoining landscapes.

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Table 1: Observations of the Wild ass outside the PA.

| Sr. No. | Date          | Lat Long                 | males | females | Foals | Total group size | Activity of the Wild ass group                 | Habitat                           | Minimum Distance (crow-fly) from the designated PA |
|---------|---------------|--------------------------|-------|---------|-------|------------------|------------------------------------------------|-----------------------------------|----------------------------------------------------|
| 1       | December 2001 | 22°21'48"N<br>72°10'53"E | 3     | 4       | 2     | 9                | Foraging                                       | Agriculture land with wheat crop  | 95                                                 |
| 2       | February 2008 | 23°03'39"N<br>72°15'00"E | 6     | 0       | 0     | 6                | Movement from one agriculture field to another | Agriculture land with cotton crop | 54                                                 |
| 3       | June 2008     | 23°05'40"N<br>72°07'29"E | 2     | 1       | 0     | 3                | Foraging                                       | Agriculture land                  | 42                                                 |
| 4       | July 2013     | 22°37'16"N<br>72°09'31"E | 3     | 6       | 2     | 11               | Movement in one direction                      | Dried water body                  | 70                                                 |

Blackbuck National Park, Bhavnagar District) in Bhal region. Singh (2000) also mentioned that Bhal region may support a moderate population of the species, as the man-animal conflict may rise in the fringes of the

Protected Area.

Such migration or range extension of Wild ass can be due to

- Concentration of the Population in Southern fringe: As per Singh *et al.* (1999) the 51.6 % population of Wild ass is concentrated on the southern fringe, which has increased the competition for food, water and shelter in the southern region. Singh *et al.* (1999) also mentioned that the adjoining parts of the southern fringe have better cultivated crop lands than any other adjoining boundaries of the Protected Area.
- Poor annual precipitation and water availability: The spatial distribution of the Wild ass depends on the productivity of the habitat (Shah and Qureshi, 2007). It is likely that the less rainfall might lead to the scarcity of the water and food in and around



Fig. 1: Map showing various observations



Fig. 2: Species foraging in non protected area near Viramgam (June 2008)



the adjoining areas of PA, and the species migrated in the search of water availability and food.

- (c). Probable extension of the ecological carrying capacity of the Little Rann of Kachchh (LRK) landscape: The population of the Wild ass had reached to 4000 in the year 2004, which might be still increasing with better protection in last decade. The estimated carrying capacity of the Wild ass Sanctuary is considered to be above 2500 (Prasad *et al.*, 1994). However the current estimate is almost double the figure. This can be beyond the carrying capacity of the PA as well as the surrounding landscape leading some of the peripheral herds to move outside the PA in the surrounding landscape. Some of the herds might have migrated permanently to avoid conflicts with other herds. Such movements / migration may lead to a new establishment of a population in the Bhal region, as the Nal-Bhal region may act as a corridor for the species to migrate from LRK landscape to Bhal region in the Bhavnagar district. However, in the lower latitudes, the area of

Nalsarovar and the adjoining areas may serve as a corridor to the species (Fig. 1), which ultimately migrate to the Bhal region of the Bhavnagar district. This area has got some protection due to the Blackbuck National Park established in the Northern parts of the Bhavnagar district, about 50 km north to the district head quarter Bhavnagar. The population of the Wild ass above the carrying capacity of the existing Little Rann protected area can be conserved by allowing the species to acquire the niche in the corridors and adjoining landscapes.

#### Conclusion

The protection to the species is in action. If some protection and conservation efforts are made for the corridor and the Bhal region, it is likely that the Wild ass may find a new home in the Bhal region. However such significant migration of Blackbucks from Bhal region to the northern latitudes requires regular monitoring. The regular observations on Wild ass migration towards the Bhal region shall also be monitored by the authorities and the conflicts with other ungulates such as blackbucks also need to be assessed for the long term management and conservation of these two species.

#### Acknowledgement

The authors are thankful to Dr. Deepak Apte (Chief Operations Officer), fellow colleagues Dr. Swapna Prabhu, Dr. Bhavik Patel, Dr. Manan Shukla Ms. Nishigandha, and Rajesh Parmar of the Bombay Natural History Society (BNHS), Due acknowledgements to the colleagues of GEER Foundation Dr. Harshad Salvi, Dr. Sandeep Munjpara and Mr. Yashpal Anand.

#### गुजरात - पश्चिमी भारत में भारतीय जंगली गधे ( *इक्यूस हीमिओनस खुर* ) का अक्षांशीय रेंज विस्तार

दिशान्त पराशर्या और जानकी तेली

#### सारांश

जंगली गधा ( *इक्यूस हीमिओनस खुर* ) गुजरात के भागों मुख्यतः जंगली गधा अभयारण्य एवं इसके किनारे के संरक्षित क्षेत्रों में सीमित हो गया है। प्रजाति वन्यजीव संरक्षण अधिनियम के तहत संरक्षित है और इसे अनुसूची-I के अन्तर्गत घोषित किया गया है। तथापि, जंगली गधों की संख्या विद्यमान संरक्षित क्षेत्र की वहन क्षमता से बाहर चली गई है। अब तक प्रजाति के अधिकतर अध्ययन संरक्षित क्षेत्र में और इसके चारों ओर इसके स्तर तक सीमित है। एक प्रकाशन को छोड़कर, संरक्षित क्षेत्र से लगभग 100 कि.मी. और निचले अक्षांश तक प्रजाति के स्थानान्तरण करने की कोई सूचना नहीं है। विभिन्न पारिस्थितिकीय अध्ययनों के दौरान प्रजाति पर प्रेक्षण लिए गए तथा शोधपत्र निचले अक्षांशों की ओर प्रजाति के दक्षिण-पूर्व देशान्तरण का प्रतिनिधित्व करता है। प्रजाति के देशान्तरण पर इस प्रकार के प्रेक्षण प्रजाति के संरक्षण प्रबंध योजना एवं भूदृश्य अभिकल्पन में सहायता कर सकते हैं।

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Sponsored by: Department of Biotechnology, Ministry of Science and Technology, Government of India