

National Studbook

Indian Wild Ass (*Equus hemionus khur*)

II Edition

Published as a part of the Central Zoo Authority sponsored project titled "Development and Maintenance of Studbooks for Selected Endangered Species in Indian Zoos" awarded to the Wildlife Institute of India vide sanction order: Central Zoo Authority letter no. 9-2/2012-CZA(NA)/418 dated 7th March 2012]

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केन्द्रीय चिड़ियाघर प्राधिकरण
Central Zoo Authority

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Foreword

Habitat loss, fragmentation and degradation coupled with poaching are limiting the growth of wild populations of several species; increasingly rendering them vulnerable to extinction. For species threatened with extinction in their natural habitats *ex-situ* conservation offers an opportunity for ensuring their long-term survival. Pedigree information contained in studbooks forms the basis for scientific management and ensures long term genetic viability and demographic stability of such populations.

The Central Zoo Authority (CZA) in collaboration with zoos in India has initiated a conservation breeding program for threatened species in Indian zoos. As a part of this endeavour, a Memorandum of Understanding has been signed with the Wildlife Institute of India for compilation and update of studbooks of identified species in Indian zoos.

As a part of the project outcomes the WII has compiled the II edition of the National Studbook of Indian Wild Ass (*Equus hemionus khur*) housed in Indian zoos. The recommendations contained in the studbook can form basis for the long term management of the species in captivity. It is hoped that the holding institutions will adopt the recommendations and keep the WII informed of changes in their populations on a regular basis to enable the timely update of the studbook.

(Dr. D.N. Singh, I.F.S.)
Member Secretary
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Acknowledgement

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Project team

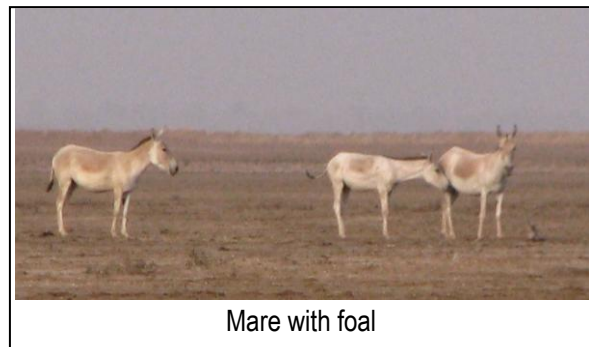
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Species Biology: Wild Ass (*Equus hemionus khur*)

Taxonomy

Kingdom	:	Animalia
Phylum	:	Chordata
Class	:	Mammalia
Order	:	Perissodactyla
Family	:	Equidae
Genus	:	<i>Equus</i>
Species	:	<i>hemionus</i> (Pallas, 1775)
Sub-species	:	<i>khur</i> (Lesson, 1827)



Indian wild ass (*Equus hemionus khur*) is an odd toed ungulate of the family Equidae that comprises of seven closely related species placed in a single genus *Equus* (George and Ryder, 1986; Oakenfull *et al.*, 2000). The extant species included in the genus *Equus* include caballines or true horses (*E. caballus* and *E. przewalskii*) and non-caballines: hemionid or Asian Wild Ass (*E. hemionus* and *E. kiang*), African Wild Ass (*E. africanus* ssp.) and Zebra (*E. greyvi*, *E. burchelli antiquorum* and *E. zebra hartmannae*) (Oakenfull, *et al.*, 2000; Orlando, *et al.*, 2009).

Asian Wild Asses include five geographically isolated subspecies of *E. hemionus* and *E. kiang* (Oakenfull, *et al.* 2000; Grubb, 2005; Kaczensky, *et al.* 2011).

1. *Equus hemionus hemionus* - the Mongolian Khulan (in northern Mongolia) (*E. h. luteus* - the Gobi Khulan or Dziggetai in southern Mongolia and northern China, is probably a synonym of *E. h. hemionus*)
2. *E. h. khur* – the Khur (India)
3. *E. h. kulan* – the Turkmen Kulan (in Turkmenistan, re-introduced in Kazakhstan, Uzbekistan, Ukraine and mixed *E. h. kulan* x *E. h. onager* in Israel)
4. *E. h. onager* - the Onager (Iran and re-introduced and mixed *E. h. kulan* x *E. h. onager* in Israel)
5. *E. h. hemippus* – the Syrian Wild Ass (Extinct, formerly from the eastern shore of the Mediterranean Sea south into the Arabian Peninsula)

The taxonomy of Asiatic Wild Ass remains to be fully elucidated; however, morphological, chromosomal and mitochondrial DNA analysis suggest the placement of Tibetan Wild Ass or Kiang (*Equus kiang*), as a distinct species (Ryder and Chemnick, 1990). The close relationship between Asiatic Wild Ass, with Kiang and Onager being considered as subspecies of *E. hemionus* (Schlawe, 1986) is not supported by recent phylogenetic studies carried out using molecular genetics and literature based supertree and supermatrix approaches (Price and Bininda-Emonds, 2009).

Morphology and Natural History

The Asiatic Wild Ass resembles horses most closely (Nowak, 1991). The coat colour varies ranging from light brown to reddish brown while the ventral surface rump and muzzle are white (Nowak 1991, Macdonald, 2006). A short erect mane continues as a dark brown stripe on the back occasionally with a white margin, with the end of the tail blackish. (Blanford, 1888 – 1891, Feh, *et al.* 2002). Each foot has a single toe with a solid hoof (Feh, *et al.* 2002). The species is characterized by a horse like; head and body length ranges between 200 cm to 220 cm, while shoulder height is between 110 cm to 120 cm with a body weight ranging between 200 – 260 kg (Blanford, 1888 – 1891, Feh, *et al.* 2002). Foals are born after a gestation period of 11 months with birth peak between April – September (Feh, *et al.* 2002).

Table 1: Morphometry and natural history traits of Asiatic wild ass

Trait	Range
Body Mass	200 – 260 kg
Body length	1.98 – 2.44 m
Breeding	Seasonal (April - September)
Average number of offspring	1
Gestation period	339 days
Weaning age	12 – 24 months
Age at sexual maturity	3 – 4 years
Longevity (free ranging)	12 years
Longevity (captive)	26 years

Source: Feh, *et al.*, 2001

Reproduction

Reproduction in Khur is similar to other equids in that they are polyestrous with estrus recurring until conception or the end of the breeding season. Age of first reproduction is typically one to several years later for males than for females. They do not experience a lactational anestrus, and can ovulate and copulate during lactation (Asa, 2002).

Habitat Ecology

The sub-species inhabits arid and saline thorn scrub in the Little Rann of Kutch (LRK) (Champion and Seth, 1968). An exotic thorny shrub; *Prosopis juliflora* was introduced in areas adjoining LRK during 1899 – 1900, subsequently plantation of the shrub was adopted for limiting the spread of the desert (Joshi, 1959). The area inhabited by the animal undergoes annual flooding during the monsoon season with the emergence of *Cyperus sp.* and *Scirpus sp.* (Shah, 1993).



Khur in Little Rann of Kutch

Seasonal variation in habitat preference is observed with medium and high density scrubland being utilised during summer and winter seasons while croplands were preferred during monsoons and winter due to the concentrated availability of resources (Shah, 1993). Pods of *P. juliflora* form a major component of diet of the Wild Ass during summer, as most of the ground becomes devoid of vegetation due to trampling by cattle.

They are generalist herbivores feeding on grasses during monsoon and winter. The preferred forage species include members of the Cyperacea family during monsoons and as the vegetation dries up (during late winter and summer) dried annual graminoid species and crops form a large part of their diet. During summer they browse on *Prosopis* pods and leaves. Equids primarily feed during the day (Pratt *et.al.* 1986); however, in irrigated tracts of their habitat Khur have adapted to become more active during the night, raiding resource rich croplands (Shah, 1993). Proximity to water is another critical factor regulating spatial pattern of habitat utilization as Wild Ass similar to other equids need to drink water at least once during the day (Shah, 1993).

Behavioural Ecology

Social organization and behaviour

Group size in the wild ass varies widely with fission-fusion occurring throughout the year. Groups consist of two primary social units, the family/breeding band consisting of multiple age classes of females, foals, yearlings and few (occasional) sub-adult males and dominant stallion and all-male groups (Shah, 1993). The group members have weak bonds except that of female-foal bond. Group fusion to form large family groups has been observed during monsoon when good quality food is abundant in the form of fresh grass (Shah, 1993).

Territoriality

Dominant males defend territories throughout the year with territorial males excluding other males from their territory. Dominance hierarchy in territorial males is defined by resource availability with higher ranked males holding territories that have access to safe and maximum vegetation biomass that attract post partum cycling females (Ginsberg, 1988). Territorial stallions soil themselves with mud/slush to advertize their dominance and urinate-defecate on the edge of their territories for marking territories during the breeding period (Shah, 1993).

Territories are defended by aggressive interactions between the dominant males and challengers with the loser being ostracized. The prime males holding the best territories try to herd all mares entering their territory while excluding all-male bands. The quality of resources available in the territory attracts mares for a limited duration during the mating season, allowing the territorial males exclusive mating rights with the females (Shah, 1993).

Reproductive behaviour

The reproductive behaviour of Khur is similar to other wild equids; the males are polygynous and mate with any estrous females that enter its territory while the females are polyandrous mating with a range of males whose territories they cross (Shah, 1993).

Estrous behaviour exhibited by domestic mares includes an increased frequency of urination, isolating itself from other mares and moving close to the stallion. The tail is deflected to one side or held straight out from the perineum, with a rhythmic eversion of the clitoris. The posture of estrous mares is characterized by a slightly lowered head, ears held back and to the side, and relaxed facial muscles. In response, the stallion exhibits a flehmen response over-marking with urine. Mounting is preceded by the stallion resting its head for a brief period on the mares' hindquarters.

Distribution

The historical distribution of the species extended across the arid zone of north-western Indian subcontinent; however, the present distribution is restricted to the Little Rann of Kutch in Gujarat (Corbet and Hill, 1992). The Khur presently have expanded their range from beyond LRK to the Rajasthan and Pakistan borders in the north and west and Nalsarovar Sanctuary and Bhal areas of Gujarat (Singh, 2001) along with an increase in their population (Shah, 2004).

Threats and Conservation Status

The population of Khur is vulnerable to disease threats as is evinced by outbreaks of *Surra* in 1958 and 1960 (Gee, 1963) and drought that resulted in severe population declines. Anthropogenic activities viz. construction of the Sardar Sarovar Project, grazing pressure from increased livestock presence, salt collection and land use changes are also potent threats (Goyal, *et al.* 1999; Shah, 1993; Sinha, 1993).

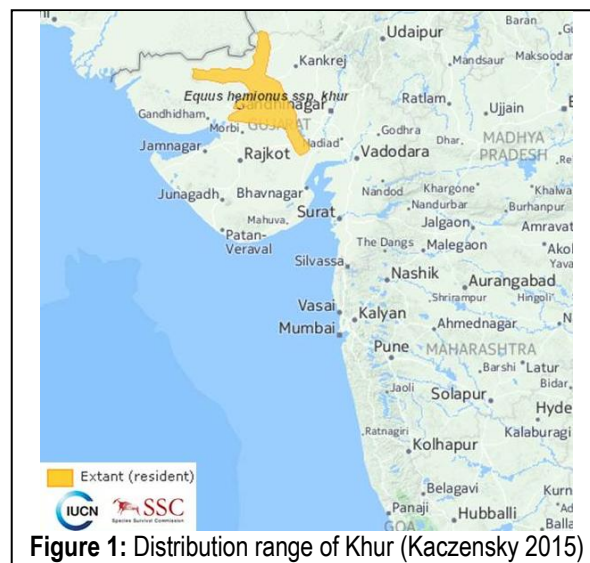
This species is assessed as Near Threatened (NT) because a population decline of at least 20% is projected over the next three generations, based on old prevailing and newly emerging risks, thus approaching Vulnerable (VU) under A3bcd (Kaczensky, 2015). They are listed as a Schedule I species in the Wildlife protection act (1972).

Status in Captivity

As of March 2001, there were 10 (5:5) Khur in captivity in four Indian zoos of which Sakkarbaug Zoo (Gujarat) had seven (5:2). The only breeding population in captivity is based in Sakkarbaug Zoo with the other zoos having only solitary individuals. With no captive Khur population elsewhere in the world, it is of paramount importance to upgrade the existing captive breeding centre at Sakkarbaug Zoo in Junagadh, Gujarat (Shah, 1996).

Methods

Data on individual history was collected by means of questionnaires, zoo visits and from the websites of CZA and ZIMS (Zoological Information Management System). Questionnaires were sent to the



institutions housing Khur in India, requesting information for each captive specimen. Data was entered in the Single Population Analysis and Records Keeping System (SPARKS v 1.66) (ISIS 2004) and subsequently exported to population management programme PMx v 1.2 (Ballou, *et al.* 2011) for further analysis.

Scope of the Studbook

The second edition of the National Studbook of Indian Wild Ass is a chronological record of the population of the species in Indian zoos. This edition lists data till December 2015 and includes all information made available by the holding zoos.

The quality of data available with reference to the analysis carried out is summarized in Figure 2. A total of 77 individuals are registered in the Studbook as per records provided by the two holding zoos. Complete information on dates of entry and exit viz. age was known for 29 specimens. Birth dates were known for 26 captive-born individual, while birth date estimates were known for 3 wild-born individuals. Complete parentage records were available for 14 including 14 with sire IDs and 26 with dam IDs. Acquisition dates of wild-born individuals were known for 51 specimens while death dates were known for all the 50 mortalities that occurred.

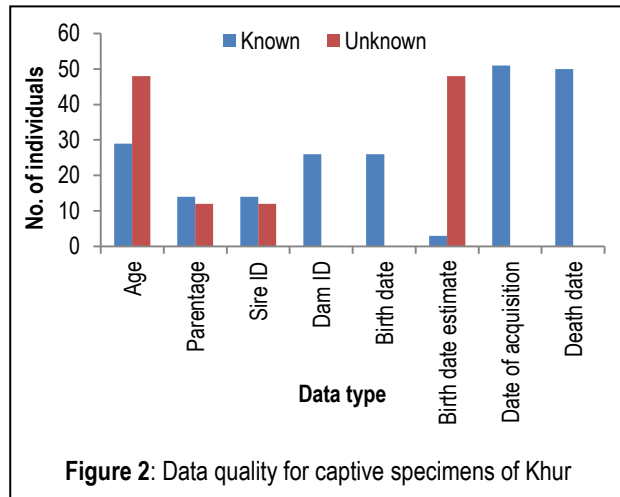


Figure 2: Data quality for captive specimens of Khur

Analysis

Demographic Analysis

Census trends

Khur have been housed at six Indian zoos since 1958 with a historical population of 77 individuals (40.36.1). This includes 51 (25.25.1) wild-born and 25 (14.11.0) captive-born individuals and one wild conceived specimen. An overview of the captive population is summarized in Table 2, and the details of individual specimens in the captive population are provided as Appendix - I.

Table 2: Summary of the historical population

	Males	Females	Unknown	Total
Total Studbook size	40	36	1	77
Total number of acquisitions from wild	25	25	1	51
Total number of births	14	11	0	25
Total number of wild-conceived individuals	1	0	0	1
Total number of deaths	22	27	1	50
Total number of LTFs (lost to follow up)	10	4	0	14
Total number of breeding individuals	3	9	0	12
Wild-born that have bred	1	6	0	7
Captive-born that have bred	1	3	0	4
Wild-conceived that have bred	1	0	0	1

The origin and development of this population are presented as the origin based census trends in Figures 3 and sex based census trends in Figure 4 respectively. The captive population was established with one wild-born (1.0.0) stallion and the first birth in captivity occurred in 1996. The current population of 13 (8.5.0) and includes one (0.1) wild origin and one wild conceived (1.0.0) specimen each. The remaining 11(7.4.0) specimens were born in captivity.

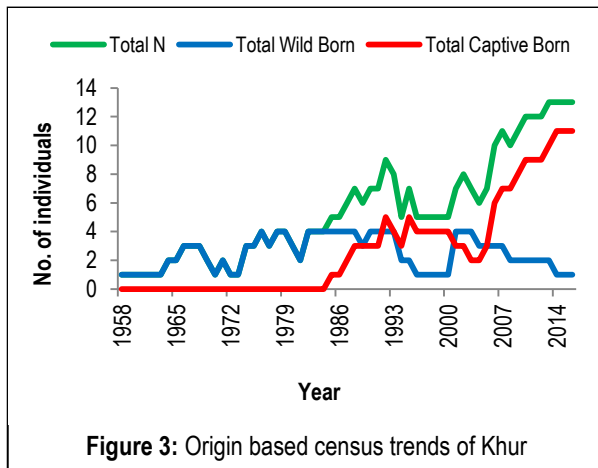


Figure 3: Origin based census trends of Khur

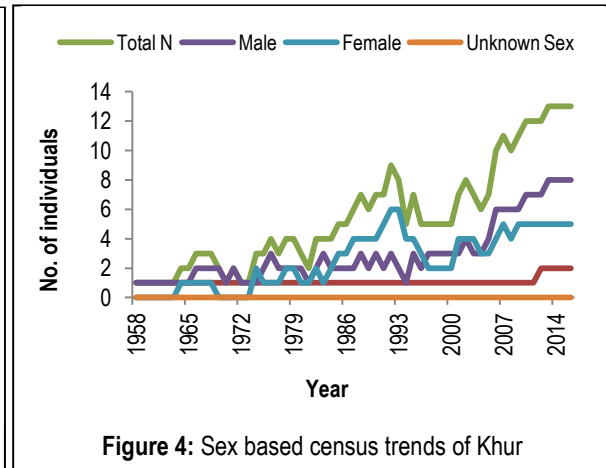


Figure 4: Sex based census trends of Khur

The first birth in captivity was recorded in 1996 and subsequently the proportion of captive origin specimens has increased with wild origin specimens (including the wild conceived specimen) being only 18% of the current captive population. The population is characterized by its small size having less than 10 individuals till 2006 and a male bias for most its history with a mean population of 5.5254 specimens each year that ranged between a maximum of 13 individuals and a minimum of 1 individual. Table 2 summarizes the historical population in captivity. Pedigrees of the captive specimens are presented in Appendix III.

Trends of Natality and Mortality

The small population size and the limited number of known age specimens in the captive population limits life table analysis (Traylor-Holzer, 2011)). A perusal of Figure 5 (patterns of natality and mortality) for the captive population indicates that for most of its history in captivity, the population had a mortality rate that exceeded natality rate, resulting in a limited growth in population size. Further the number of captive births is inadequate for the development of a demographically stable captive population.

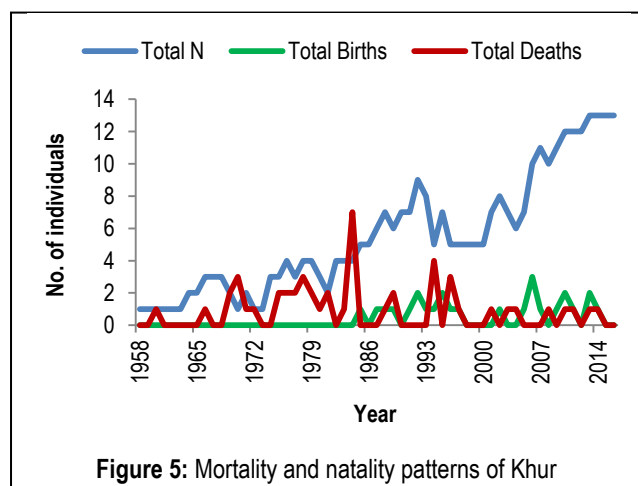


Figure 5: Mortality and natality patterns of Khur

Age distribution

The living population includes nine (6.3.) specimens in the reproductively active age classes with a likely inclusion of two more female foals in the forthcoming two years. The age distribution of the captive population indicates absence of individuals in a large number of age classes and few births

leading to a limited population growth. The poor birth rate can be attributed to the presence of only three reproductively active females and six males in the captive population. The age distribution suggests that further recruitment of specimens in the pre-reproductive and reproductive age classes is essential for effective management of the population for *ex-situ* conservation.

Living population

The living population of wild ass in captivity is maintained at Sakkarbaug Zoo, Junagadh and includes 13 (8.5.0) specimens. It includes one specimen of wild origin and one wild conceived specimen while the remaining 11 (7.4.0) are captive born. Details of the living population are presented in Appendix II.

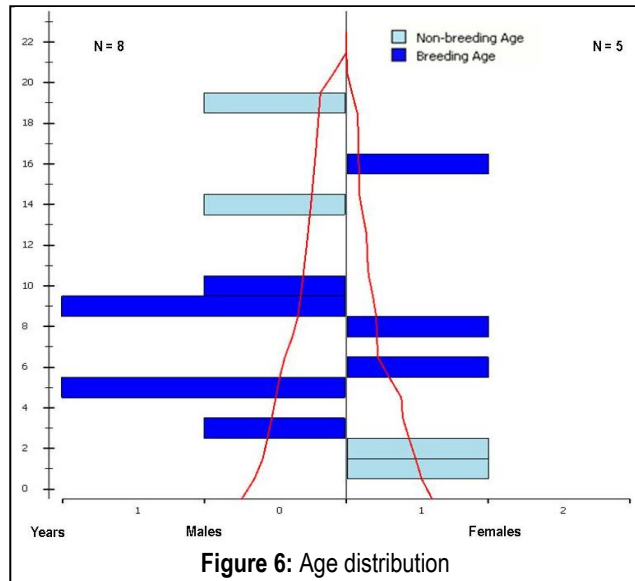


Figure 6: Age distribution

Table 3: Summary of the living population

	Males	Females	Unknown	Total
Total no. of living individuals	8	5	0	13
Total number of wild-born individuals	0	1	0	1
Total number of captive-born individuals	7	4	0	11
Total number of wild-conceived individuals	1	0	0	1
Total number of breeding individuals	2	2	0	4
Wild-born that have bred	0	1	0	1
Captive-born that have bred	1	1	0	2
Wild-conceived that have bred	1	0	0	1

Population growth rate and projection

Life tables summarize the vital rates i.e. fecundity and mortality of a population. The captive population of wild ass; however, comprises of only 77 specimens that includes a large proportion of unknown age individuals thus limiting meaningful life table analysis. The population growth rate, generation time and population projected after 20 years (Table 4) are based on the limited number of known age specimens and are only indicative of the population's vital trends. The extended generation time of females (8.9 years) is a cause of concern as it indicates the poor reproductive output of females and a male bias in births. Population projection for the next 20 years based

Table 4: Life Table Summary

	Males	Females	Population
Population growth rate λ	1.058	1.026	1.042
Generation time T	6.3 years	8.9 years	7.6 years
Projected N 20 years	12.3	7.6	19.9

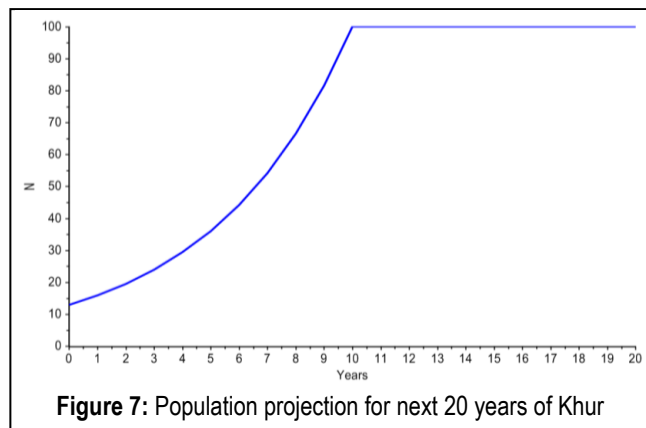


Figure 7: Population projection for next 20 years of Khur

on the life table analysis carried out for a maximum population of 100 specimens indicates that the target population could be achieved over the next 10 years and a stable population maintained thereafter.

Genetic Analysis

Genetic Summary

The captive population owes its origin to five (1.4) founders and retains only 79.70% of gene diversity brought in by these animals. The living population includes 11 captive origin specimens and one wild conceived and wild origin specimen each, this limits further enhancement of the gene diversity in the captive population. The population also has a high mean kinship value (Table 5) that indicates shared parentage at the level of both-parents to one-parent and one-grandparent.

The close relatedness is attributed to the small population size and only five founders having contributed to the captive population and the small population size that limit mating choices. The lack of potential founders in the captive population limits choices that can be used for maintenance of genetic diversity. The captive population retains the genetic diversity of 2.46 wild origin animals as is indicated by the founder genome equivalents present in the population. The limited number of captive births 25 (14.11.0) has resulted in a mean inbreeding level of 0.0250.

Table 5: Genetic Summary

Founders	5
Potential (additional) Founders	0
Living Animals	13
Living Descendants	11.00
Gene Diversity	0.7970
Population Mean Kinship	0.2030
Founder Genome Equivalents	2.46
Mean Inbreeding	0.0250
Ne/N	0.2424

Breeding Recommendations

The long-term maintenance of viable populations in captivity is dependent on their genetic viability and demographic stability. This is best achieved by regulating mating choices to ensure retention of maximum levels of genetic diversity in target populations. The mating choices for Indian wild ass in captivity were developed using “Mate Suitability Index’ (MSI) scores obtained using PMx and are summarized in Table 6. The small population size of the population and further of genetic diversity as a consequence of pairing other individuals in the captive population has resulted in their exclusion from the breeding recommendations. The inclusion of additional unrelated wild origin animals that are reproductively active is essential for maintaining a demographically stable and genetically viable population.

Table 6: Mate choices

Sire	Dam	MSI
00069	00064	1
00072	00064	1
00065	00064	3
00066	00064	3

A detailed description of MSI scores and how to use them is provided in box 1. The mating choices exercised should also aim at the avoidance of pairing multiple progeny of one set of parents with that of another set of parents to ensure retention of maximum genetic diversity in the population.

Box 1: Mate Suitability Index (MSI)

It is a numerical genetic assessment of a male-female pair that incorporates several variables into one ranking (MSI range is 1 to 7, with 1 being the most genetically beneficial).

The default value in the table is the *MSI* (Mate Suitability Index) value for each male–female pair. *MSI* is a composite score that integrates four genetic components into a single index:

Delta GD (dGD): Change in gene diversity (GD) of the population if one offspring is produced by the pair. Positive dGD increases the GD of the population, while negative dGD decreases GD.

Differences in MK values (MKDiff): Difference in the genetic value (mean kinship value) of the male and female. Breeding a pair with a large MKDiff is detrimental because it combines under-represented and over-represented genetic lines.

Inbreeding coefficient (F): Inbreeding coefficient of any offspring resulting from the pair (i.e., the kinship value for the pair). Inbreeding is considered to be detrimental to the fitness of the resulting offspring.

Unknown ancestry: The amount of unknown ancestry in the male and female. Incomplete pedigree information means that the genetic value and relatedness of a pair cannot be accurately calculated.

1 = very beneficial (genetically) to the population;

2 = moderately beneficial,

3 = slightly beneficial;

4 = slightly detrimental,

5 = detrimental, should only be used if demographically necessary

6 = very detrimental (should be considered only if demographic considerations override preservation of genetic diversity)

“-“= very highly detrimental (should not be paired, due to high level of kinship of pair)

Using Pairwise Info

The default table of *MSI* values for pairs can be used to quickly assess the relative genetic value of a pair, subset of pairs, potential mates for one individual, and many other valuable data when making breeding recommendations. This can be especially helpful to quickly explore options for pairing individuals at one facility that houses numerous individuals of each sex or to quickly identify an alternative suitable mate if a recommended breeding fails.

Source: Traylor-Holzer, K. (ed.). 2011.

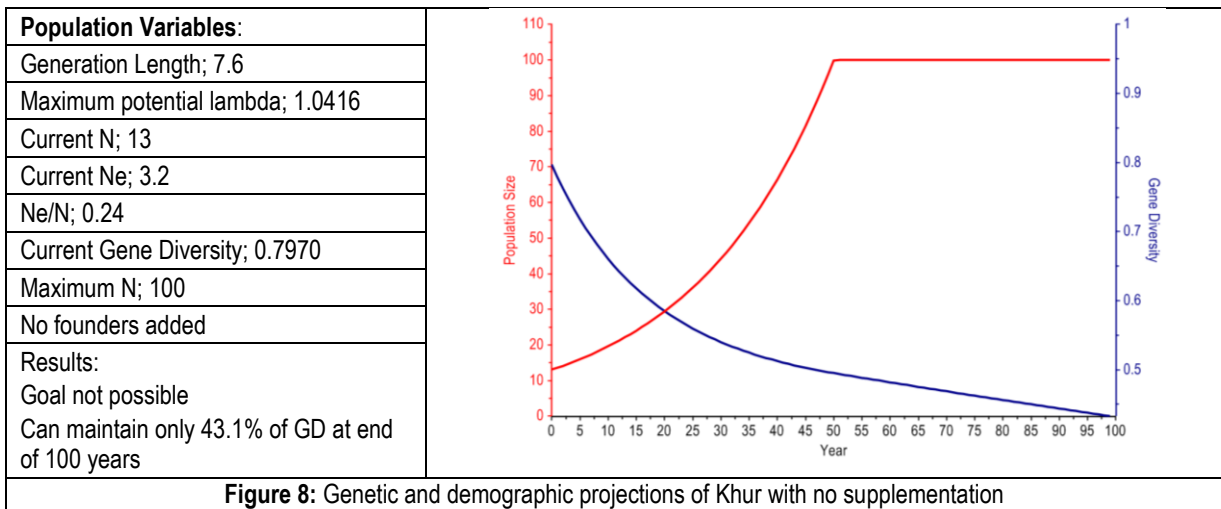
Targets for Population Management

Indian wild ass is listed under Schedule I of the Wildlife Protection act of India and as Vulnerable in the IUCN Red List and has a restricted range of distribution limited to the Little Rann of Kutch and adjoining areas. It is therefore imperative to manage the captive population in a manner that ensures maintenance of genetic viability, demographic stability and availability of surpluses for reintroduction/restocking.

The data obtained for the captive population was modelled using PMx (Ballou, *et. al.* 2011) to obtain deterministic projection of gene diversity and population size over time, based on the population characteristics. Two of the models run are presented here.

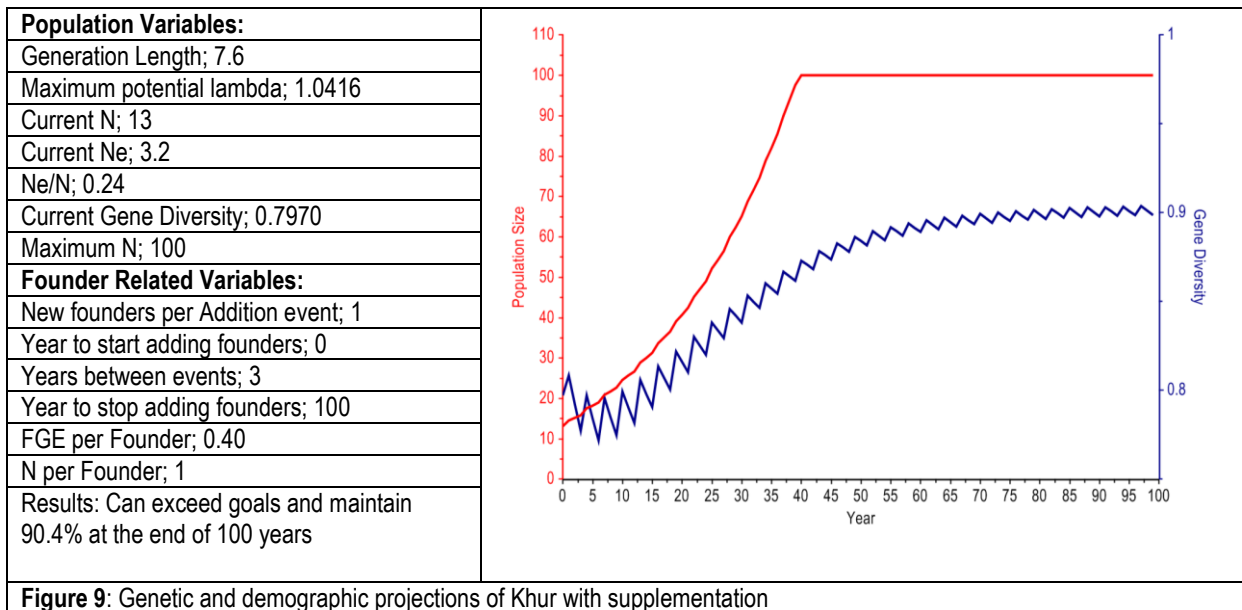
Scenario 1: Without supplementation

The first model was run retaining the current population characteristics (Figure 8) with the goal of retaining 90% genetic diversity at the end of 100 years. It revealed that the population would retain only 43.1% of the genetic diversity introduced by founders as compared to the desired 90% genetic diversity.



Scenario 2: With supplementation

The second model (Figure 9) was run by supplementation of one new effective founder every third year for the next 100 years and increasing the maximum captive population size to 100 animals. The model indicated that modifying the population characteristics ensured its survival over the next 100 years and that it could retain 90.4% of genetic diversity sampled from founder animals.



Conclusions and Recommendations

Indian wild ass has a limited range of distribution and is facing multiple threats to its survival; as a result, it has been placed in the Schedule I of the Wildlife Protection Act and in the IUCN Red list as Vulnerable. The maintenance of an ex-situ population both for insurance and reintroduction is essential towards ensuring the long term survival of the animal.

The current captive population is characterised by a total population size of 13 (8.5.0) individuals housed at two institutions in India. Birth events are sporadic and limited in number and the larger proportion of wild origin animals included in the population have failed to reproduce thus limiting

recruitment and the continuous low population size. The population shows low rate of increment ($\lambda=1.042$), retains 79.7% of the genetic diversity from 5 (1.4) founders and exhibits a high level of relatedness between specimens ($MK= 0.2030$). The continued poor reproductive output of both the captive and wild origin animals is suggestive shortcomings in the husbandry of the species.

Management interventions suggested for ensuring the desired growth and long term viability of the population include:

- i. Regulating mate choices according to the pairing recommendations included in the studbook.
- ii. Supplementation of the population periodically with wild origin animals to ensure demographic stability and genetic viability.
- iii. A review of existing husbandry practices followed to address shortcomings in the same may ensure improved reproductive output.
- iv. The creation of additional holding facility to house the target population size of 100 animals.

Implementation of these measures will ensure the availability of surpluses for reintroduction in suitable habitats if necessary at a future date.

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Historical Population of *Equus hemionus khur*

National Stud# Name	Sex	Birth Date	Sire	Dam	Location	Date	Local ID	Event
00001	M	????	WILD	WILD	INDIA JUNAGADH	6-Jan-58 6-Jan-58 9-Oct-72	1	Capture Transfer Death
00002	F	????	WILD	WILD	INDIA JUNAGADH	31-May-60 31-May-60 15-Nov-60	2 2	Capture Transfer Death
00003	F	????	WILD	WILD	INDIA JUNAGADH	18-Nov-64 18-Nov-64 19-Jul-69	5 5	Capture Transfer Death
00004	M	????	WILD	WILD	INDIA JUNAGADH	6-Dec-66 6-Dec-66 14-Dec-66	3 3	Capture Transfer Death
00005	M	????	WILD	WILD	INDIA JUNAGADH AHMEDABAD	6-Dec-66 6-Dec-66 31-Dec-70	4 4	Capture Transfer lft
00006	F	????	WILD	WILD	INDIA JUNAGADH	30-Oct-69 30-Oct-69 2-Nov-69	6 6	Capture Transfer Death
00007	F	????	WILD	WILD	INDIA JUNAGADH	25-May-70 25-May-70 23-Jun-70	7 7	Capture Transfer Death
00008	F	????	WILD	WILD	INDIA JUNAGADH	25-May-70 25-May-70 30-May-70	8 8	Capture Transfer Death
00009	F	????	WILD	WILD	INDIA JUNAGADH	25-May-70 25-May-70 24-Jun-70	9 9	Capture Transfer Death
00010	M	????	WILD	WILD	INDIA JUNAGADH AHMEDABAD	4-Jun-71 4-Jun-71 7-Jan-77	10 10 10	Capture Transfer lft
00011	F	????	WILD	WILD	INDIA JUNAGADH	4-Jun-71 4-Jun-71 7-Aug-71	11 11	Capture Transfer Death
00012 JULIYET	F	????	WILD	WILD	INDIA JUNAGADH	11-Oct-74 11-Oct-74 4-Sep-83	JULIYE JULIYE	Capture Transfer Death
00013	F	????	WILD	WILD	INDIA JUNAGADH	11-Oct-74 11-Oct-74 22-Apr-75	13 13	Capture Transfer Death
00014	M	????	WILD	WILD	INDIA JUNAGADH	10-Jan-75 10-Jan-75 30-Mar-75	14 14	Capture Transfer Death
00015	M	????	WILD	WILD	INDIA JUNAGADH AHMEDABAD	18-Jan-75 18-Jan-75 7-Jan-77	15 15 15	Capture Transfer lft
00016	M	????	WILD	WILD	INDIA JUNAGADH	31-Jul-76 31-Jul-76	16 16	Capture Transfer

National Stud# Name	Sex	Birth Date	Sire	Dam	Location	Date	Local ID	Event
						15-Aug-76		Death
00017	M	????	WILD	WILD	INDIA JUNAGADH	13-Nov-76 13-Nov-76 16-Jul-81	17 17	Capture Transfer Death
00018	M	????	WILD	WILD	INDIA JUNAGADH	13-Nov-76 13-Nov-76 3-Dec-76	18 18	Capture Transfer Death
00019	M	????	WILD	WILD	INDIA JUNAGADH	23-Mar-77 23-Mar-77 12-Sep-77	19 19	Capture Transfer Death
00020	?	????	WILD	WILD	INDIA JUNAGADH	5-Aug-77 5-Aug-77 19-Aug-77	20 20	Capture Transfer Death
00021	M	????	WILD	WILD	INDIA JUNAGADH HYDERABAD	24-Oct-77 24-Oct-77 15-Nov-77	21 21 21	Capture Transfer lft
00022	M	????	WILD	WILD	INDIA JUNAGADH	24-Oct-77 24-Oct-77 1-Dec-81	22 22	Capture Transfer Death
00023	F	????	WILD	WILD	INDIA JUNAGADH AHMEDABAD	8-Jan-78 8-Jan-78 23-Feb-78	23 23 23	Capture Transfer lft
00024	F	????	WILD	WILD	INDIA JUNAGADH	8-Jan-78 8-Jan-78 24-Jan-80	24 24	Capture Transfer Death
00025	F	????	WILD	WILD	INDIA JUNAGADH	1-Jun-78 1-Jun-78 4-Sep-78	25 25	Capture Transfer Death
00026	M	????	WILD	WILD	INDIA JUNAGADH	1-Jun-78 1-Jun-78 6-Sep-78	26 26	Capture Transfer Death
00027	M	????	WILD	WILD	INDIA JUNAGADH	1-Jun-78 1-Jun-78 23-Sep-78	27 27	Capture Transfer Death
00028	F	????	WILD	WILD	INDIA JUNAGADH	3-Jul-79 3-Jul-79 17-Jul-79	28 28	Capture Transfer Death
00029	F	????	WILD	WILD	INDIA JUNAGADH	3-Dec-79 3-Dec-79 6-Dec-79	29 29	Capture Transfer Death
00030	M	????	WILD	WILD	INDIA JUNAGADH NANDANKAN	1-May-81 1-May-81 30-Oct-84	30 30 30	Capture Transfer lft
00031	M	????	WILD	WILD	INDIA JUNAGADH AHMEDABAD	27-Jun-82 27-Jun-82 4-Sep-85	31 31 31	Capture Transfer lft
00032 TEPUDI	F	????	WILD	WILD	INDIA JUNAGADH	27-Jun-82 27-Jun-82 29-Aug-04	32 32	Capture Transfer Death
00033 HALAMAN	M	????	WILD	WILD	INDIA JUNAGADH	18-Sep-83 18-Sep-83 16-May-89	HALAMAN HALAMAN	Capture Transfer Death

National Stud# Name	Sex	Birth Date	Sire	Dam	Location	Date	Local ID	Event
00034	M	????	WILD	WILD	INDIA JUNAGADH	18-Aug-84 18-Aug-84 24-Aug-84	34 34	Capture Transfer Death
00035	M	????	WILD	WILD	INDIA JUNAGADH	18-Aug-84 18-Aug-84 24-Aug-84	35 35	Capture Transfer Death
00036	F	????	WILD	WILD	INDIA JUNAGADH MADRAS	18-Aug-84 18-Aug-84 19-Sep-84	36 36 36	Capture Transfer lft
00037	F	????	WILD	WILD	INDIA JUNAGADH	18-Aug-84 18-Aug-84 6-Sep-84	37 37	Capture Transfer Death
00038	M	????	WILD	WILD	INDIA JUNAGADH	23-Aug-84 23-Aug-84 18-Oct-84	38 38	Capture Transfer Death
00039	M	????	WILD	WILD	INDIA JUNAGADH	23-Aug-84 23-Aug-84 9-Sep-84	39 39	Capture Transfer Death
00040	M	????	WILD	WILD	INDIA JUNAGADH	23-Aug-84 23-Aug-84 11-Sep-84	40 40	Capture Transfer Death
00041	M	????	WILD	WILD	INDIA JUNAGADH MADRAS	23-Aug-84 23-Aug-84 19-Sep-84	41 41 41	Capture Transfer lft
00042	F	????	WILD	WILD	INDIA JUNAGADH	23-Aug-84 23-Aug-84 18-Oct-84	42 42	Capture Transfer Death
00043	F	????	WILD	WILD	INDIA JUNAGADH NANDANKAN	23-Aug-84 23-Aug-84 30-Oct-84	43 43 43	Capture Transfer lft
00044 JETHI	F	????	WILD	WILD	INDIA JUNAGADH	23-Aug-84 23-Aug-84 19-Oct-94	44 44	Capture Transfer Death
00045 AMAR	M	4-Oct-85	UNK	32	JUNAGADH AHMEDABAD	4-Oct-85 24-Feb-89	AMAR AMAR	Birth lft
00046 GAJARA	F	????	WILD	WILD	INDIA JUNAGADH	25-Oct-85 25-Oct-85 2-Oct-96	46 46	Capture Transfer Death
00047 SONIYA	F	27-Sep-87	00033	00032	JUNAGADH	27-Sep-87 23-Jun-94	SONIYA	Birth Death
00048	M	????	WILD	WILD	INDIA JUNAGADH	15-Jun-88 15-Jun-88 16-Aug-88	48 48	Capture Transfer Death
00049	M	13-Nov-88	00033	00044	JUNAGADH AHMEDABAD	13-Nov-88 12-Sep-91	RAJIV RAJIV	Birth lft
00050	F	????	WILD	WILD	INDIA JUNAGADH	28-Feb-89 28-Feb-89 3-Mar-89	50 50	Capture Transfer Death
00051 JOHN	M	23-Jul-89	00033	00032	JUNAGADH	23-Jul-89 4-Sep-10	51	Birth Death
00052 MADHAV	M	????	WILD	WILD	INDIA JUNAGADH	31-Jan-90 31-Jan-90	52 52	Capture Transfer

National Stud# Name	Sex	Birth Date	Sire	Dam	Location	Date	Local ID	Event
						18-Feb-94		Death
00053 REVATI	F	10-Feb-91	UNK	00044	JUNAGADH	10-Feb-91 6-Jul-01	53	Birth Death
00054 SUJATA	F	27-Jun-92	UNK	00046	JUNAGADH DELHI	27-Jun-92 27-May-93	54 54	Birth lf
00055 MOTI	M	9-Jul-92	UNK	00032	JUNAGADH DELHI	9-Jul-92 27-May-93	55 55	Birth lf
00056 RADHA	F	19-Jul-93	UNK	00044	JUNAGADH	19-Jul-93 15-Aug-96	56	Birth Death
00057	M	11-Jun-94	UNK	00046	JUNAGADH	11-Jun-94 11-Jun-94	57	Birth Death
00058	M	23-Jun-95	UNK	00032	JUNAGADH	23-Jun-95 15-Aug-96	58	Birth Death
00059 AKBAR	M	23-Jul-95	UNK	00046	JUNAGADH	23-Jul-95 11-Jun-03	59	Birth Death
00060	F	17-Aug-96	UNK	00053	JUNAGADH	17-Aug-96 10-Sep-97	60	Birth Death
00061 RAUDRA	M	5-Jan-97	UNK	00032	JUNAGADH	5-Jan-97	10172	Birth
00062 BEGAM	F	~ 1994	WILD	WILD	INDIA JUNAGADH	18-Aug-01 18-Aug-01 22-Sep-08	62 62	Capture Transfer Death
00063 AISHA	F	~ 1994	WILD	WILD	INDIA JUNAGADH	18-Aug-01 18-Aug-01 16-Jun-14	10169 10169	Capture Transfer Death
00064 SITA	F	~ 1999	WILD	WILD	INDIA JUNAGADH	18-Aug-01 18-Aug-01	10170 10170	Capture Transfer
00065 RUSTAM	M	31-Jan-02	WILD	00062	JUNAGADH	31-Jan-02	65	Birth
00066 ABHEE	M	12-Nov-05	00065	00063	JUNAGADH	12-Nov-05	10175	Birth
00067 PAVAN	M	6-Jun-06	00065	00064	JUNAGADH	6-Jun-06	10176	Birth
00068 RUBY	F	27-Aug-06	00065	00062	JUNAGADH	27-Aug-06 13-Jan-13	10177	Birth Death
00069 HEUVAN	M	25-Nov-06	00065	00063	JUNAGADH	25-Nov-06	10178	Birth
00070 RUSHIKA	F	27-Oct-07	00065	00064	JUNAGADH	27-Oct-07	70	Birth
00071 ANGEL	F	29-Dec-09	UNK	00064	JUNAGADH MADRAS	29-Dec-09 19-Apr-12	71 ANGEL	Birth Transfer
00072 LUKKHO	M	26-Sep-10	00065	00063	JUNAGADH MADRAS	26-Sep-10 19-Apr-12	100380 100380	Birth Transfer
00073	M	31-Dec-10	00066	00064	JUNAGADH	31-Dec-10	10522	Birth
00074	F	28-Jan-11	00065	00068	JUNAGADH	28-Jan-11 16-Mar-11	74	Birth Death
00075	M	17-Jan-13	00066	00064	JUNAGADH	17-Jan-13	75	Birth
00076	F	18-Jun-13	00065	00070	JUNAGADH	18-Jun-13	76	Birth
00077	F	14-Aug-14	00066	00064	JUNAGADH	14-Aug-14	77	Birth
Totals: 40.36.1 (77)								

Living Population of *Equus hemionus khur*

National Stud# Name	Sex	Birth Date	Sire	Dam	Location	Date	Local ID	Event
Arignar Anna Zoological Park, Chennai								
00071 ANGEL	F	29-Dec-09	UNK	00064	JUNAGADH MADRAS	29-Dec-09 19-Apr-12	71 ANGEL	Birth Transfer
Total Arignar Anna Zoological Park, Chennai: 0.1.0(1)								
Sakkarbaug Zoo, Junagadh								
00061 RAUDRA	M	5-Jan-97	UNK	00032	JUNAGADH	5-Jan-97	10172	Birth
00064 SITA	F	~ 1999	WILD	WILD	INDIA JUNAGADH	18-Aug-01 18-Aug-01	10170 10170	Capture Transfer
00065 RUSTAM	M	31-Jan-02	WILD	00062	JUNAGADH	31-Jan-02	65	Birth
00066 ABHEE	M	12-Nov-05	00065	00063	JUNAGADH	12-Nov-05	10175	Birth
00067 PAVAN	M	6-Jun-06	00065	00064	JUNAGADH	6-Jun-06	10176	Birth
00069 HEUVAN	M	25-Nov-06	00065	00063	JUNAGADH	25-Nov-06	10178	Birth
00070 RUSHIKA	F	27-Oct-07	00065	00064	JUNAGADH	27-Oct-07	70	Birth
00072 LUKKHO	M	26-Sep-10	00065	00063	JUNAGADH MADRAS	26-Sep-10 19-Apr-12	100380 100380	Birth Transfer
00073	M	31-Dec-10	00066	00064	JUNAGADH	31-Dec-10	10522	Birth
00075	M	17-Jan-13	00066	00064	JUNAGADH	17-Jan-13	75	Birth
00076	F	18-Jun-13	00065	00070	JUNAGADH	18-Jun-13	76	Birth
00077	F	14-Aug-14	00066	00064	JUNAGADH	14-Aug-14	77	Birth
Total Sakkarbaug Zoo, Junagadh: 8.4.0(12)								
Totals: 8.5.0 (13)								

Pedigree Chart Report of *Equus heinous khur*

=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00001
 =====

WILD		WILD
	\	/
	dam \	/ sire
	\	/
	00001	

Sex: Male
Birth Date: ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00002
 =====

WILD		WILD
	\	/
	dam \	/ sire
	\	/
	00002	

Sex: Female
Birth Date: ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00003
 =====

WILD		WILD
	\	/
	dam \	/ sire
	\	/
	00003	

Sex: Female
Birth Date: ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00004
 =====

WILD		WILD
	\	/
	dam \	/ sire
	\	/
	00004	

Sex: Male
Birth Date: ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00005
 =====

WILD		WILD
	\	/
	dam \	/ sire
	\	/
	00005	

Sex: Male
Birth Date: ????
Last Location: AHMEDABAD
House Name:
Tattoo:
Tag/Band:

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=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00006
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00006
                Sex: Female
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

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=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00007
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00007
                Sex: Female
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

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=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00008
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00008
                Sex: Female
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00009
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00009
                Sex: Female
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00010
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00010
                Sex: Male
                Birth Date:   ????
                Last Location: AHMEDABAD
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00011
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
    \      /
    \  dam /
     \    /
      \  /
       \ /
        V
       00011

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00012
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
    \      /
    \  dam /
     \    /
      \  /
       \ /
        V
       00012

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00013
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
    \      /
    \  dam /
     \    /
      \  /
       \ /
        V
       00013

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00014
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
    \      /
    \  dam /
     \    /
      \  /
       \ /
        V
       00014

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00015
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:  ???
Last Location: AHMEDABAD
House Name:
Tattoo:
Tag/Band:
    \      /
    \  dam /
     \    /
      \  /
       \ /
        V
       00015

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00016
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            00016

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00017
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            00017

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00018
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            00018

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00019
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            00019

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00020
=====
WILD                                                    WILD
                                                    Sex: Unknown
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            00020

```



```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00021
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ????
                                                    Last Location: HYDERABAD
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00021
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00022
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ????
                                                    Last Location: JUNAGADH (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00022
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00023
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: AHMEDABAD
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00023
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00024
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: JUNAGADH (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00024
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00025
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: JUNAGADH (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00025
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00026
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00026
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00027
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00027
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00028
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00028
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00029
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:   ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00029
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00030
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:   ???
Last Location: NANDANKAN
House Name:
Tattoo:
Tag/Band:

      \      /
      dam\  /sire
           \  /
            \ /
             V
            00030
  
```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00031
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00031
Sex: Male
Birth Date:   ????
Last Location: AHMEDABAD
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00032
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00032
Sex: Female
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name: TEPUDI
Tattoo:
Tag/Band: 12 (unk)

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00033
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00033
Sex: Male
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name: halaman
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00034
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00034
Sex: Male
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00035
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00035
Sex: Male
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00036
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00036
                Sex: Female
                Birth Date:   ????
                Last Location: MADRAS
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00037
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00037
                Sex: Female
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00038
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00038
                Sex: Male
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00039
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00039
                Sex: Male
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00040
=====
WILD                                                    WILD
                \      /
                dam\  /sire
                \    /
                00040
                Sex: Male
                Birth Date:   ????
                Last Location: JUNAGADH (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00041
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00041
Sex: Male
Birth Date:   ????
Last Location: MADRAS
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00042
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00042
Sex: Female
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00043
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00043
Sex: Female
Birth Date:   ????
Last Location: NANDANKAN
House Name:
Tattoo:
Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00044
=====
WILD                                                  WILD
              \      /
              dam\  /sire
              \    /
              00044
Sex: Female
Birth Date:   ????
Last Location: JUNAGADH (dead)
House Name: jethi
Tattoo:
Tag/Band: 13 (unk)

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00045
=====
WILD                                                  WILD
dam\      /sire
  \    /
  00032 +
  TEPUDI
              \      /
              dam\  /sire
              \    /
              00045
Sex: Male
Birth Date: 4 Oct 1985
Last Location: AHMEDABAD
House Name: AMAR
Tattoo:
Tag/Band: 14 (unk)
+ Wild-caught...

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00046
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:  gajara
Tattoo:
Tag/Band: 15 (unk)
dam\  /sire
  \  /
   V
00046

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00047
=====
WILD  dam\  /sire  WILD  dam\  /sire  WILD  dam\  /sire  WILD
      \  /          \  /          \  /          \  /
       V            V            V            V
00032 +          00033 +
TEPUDI          HALAMAN
                Sex: Female
                Birth Date: 27 Sep 1987
Last Location: JUNAGADH (dead)
House Name:  soniya
Tattoo:
Tag/Band: 16 (unk)
dam\  /sire
  \  /
   V
00047
+ Wild-caught...

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00048
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
dam\  /sire
  \  /
   V
00048

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00049
=====
WILD  dam\  /sire  WILD  dam\  /sire  WILD  dam\  /sire  WILD
      \  /          \  /          \  /          \  /
       V            V            V            V
00044 +          00033 +
JETHI          HALAMAN
                Sex: Male
                Birth Date: 13 Nov 1988
Last Location: AHMEDABAD
House Name:
Tattoo:
Tag/Band:
dam\  /sire
  \  /
   V
00049
+ Wild-caught...

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00050
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date:  ???
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
dam\  /sire
  \  /
   V
00050

```

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00051
=====

WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire
00032 + 00033 +
TEPUDI HALAMAN
Sex: Male
Birth Date: 23 Jul 1989
Last Location: JUNAGADH (dead)
House Name: john
Tattoo:
Tag/Band: 17 (unk)

+ Wild-caught... 00051

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00052
=====

WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire
00052
Sex: Male
Birth Date: ????
Last Location: JUNAGADH (dead)
House Name: madhav
Tattoo:
Tag/Band:

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00053
=====

WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire
00044 + UNK
JETHI
Sex: Female
Birth Date: 10 Feb 1991
Last Location: JUNAGADH (dead)
House Name: revati
Tattoo:
Tag/Band: 18 (unk)

+ Wild-caught... 00053

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00054
=====

WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire WILD dam\ /sire
00046 + UNK
GAJARA
Sex: Female
Birth Date: 27 Jun 1992
Last Location: DELHI
House Name: sujata
Tattoo:
Tag/Band:

+ Wild-caught... 00054

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00055
=====

WILD dam\ /sire WILD
00032 + UNK
TEPUDI
Sex: Male
Birth Date: 9 Jul 1992
Last Location: DELHI
House Name: moti
Tattoo:
Tag/Band:
+ Wild-caught... 00055

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00056
=====

WILD dam\ /sire WILD
00044 + UNK
JETHI
Sex: Female
Birth Date: 19 Jul 1993
Last Location: JUNAGADH (dead)
House Name: radha
Tattoo:
Tag/Band: 19 (unk)
+ Wild-caught... 00056

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00057
=====

WILD dam\ /sire WILD
00046 + UNK
GAJARA
Sex: Male
Birth Date: 11 Jun 1994
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band:
+ Wild-caught... 00057

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00058
=====

WILD dam\ /sire WILD
00032 + UNK
TEPUDI
Sex: Male
Birth Date: 23 Jun 1995
Last Location: JUNAGADH (dead)
House Name:
Tattoo:
Tag/Band: 20 (unk)
+ Wild-caught... 00058

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00059
=====

WILD dam\ /sire WILD
 \
 00046 + UNK
 GAJARA

 \
 00059
 \
 Sex: Male
 Birth Date: 23 Jul 1995
 Last Location: JUNAGADH (dead)
 House Name: akbar
 Tattoo:
 Tag/Band: 21 (unk)

+ Wild-caught...

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00060
=====

WILD dam\ /sire WILD
 \
 00044 + UNK
 JETHI

 dam\ /sire
 \
 00053 UNK
 REVATI

 \
 00060
 \
 Sex: Female
 Birth Date: 17 Aug 1996
 Last Location: JUNAGADH (dead)
 House Name:
 Tattoo:
 Tag/Band:

+ Wild-caught...

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00061
=====

WILD dam\ /sire WILD
 \
 00032 + UNK
 TEPUDI

 \
 00061
 \
 Sex: Male
 Birth Date: 5 Jan 1997
 Last Location: JUNAGADH
 House Name: RAUDRA
 Tattoo:
 Tag/Band: 24 (YELLOW)

+ Wild-caught...

=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00062
=====

WILD dam\ /sire WILD
 \
 00062
 \
 Sex: Female
 Birth Date: ~ 1994
 Last Location: JUNAGADH (dead)
 House Name: Begam
 Tattoo:
 Tag/Band:

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00063
=====
WILD                                                  WILD
              \      /                               Sex: Female
              dam\  /sire                           Birth Date: ~ 1994
              \    /                               Last Location: JUNAGADH (dead)
              00063                               House Name: AISHA
                                                Tattoo:
                                                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00064
=====
WILD                                                  WILD
              \      /                               Sex: Female
              dam\  /sire                           Birth Date: ~ 1999
              \    /                               Last Location: JUNAGADH
              00064                               House Name: SITA
                                                Tattoo:
                                                Tag/Band:

```

```

=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00065
=====
WILD          dam\  /sire          WILD
              \    /
              00062 +
              BEGAM
              \    /
              dam\  /sire          WILD
              \    /               Sex: Male
              00065               Birth Date: 31 Jan 2002
                                Last Location: JUNAGADH
                                House Name: Rustam
                                Tattoo:
                                Tag/Band:
+ Wild-caught...

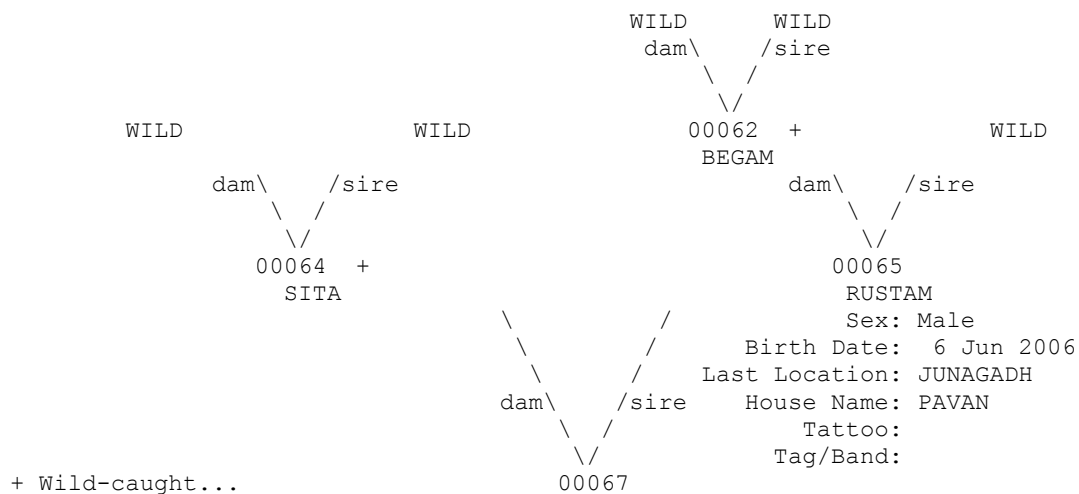
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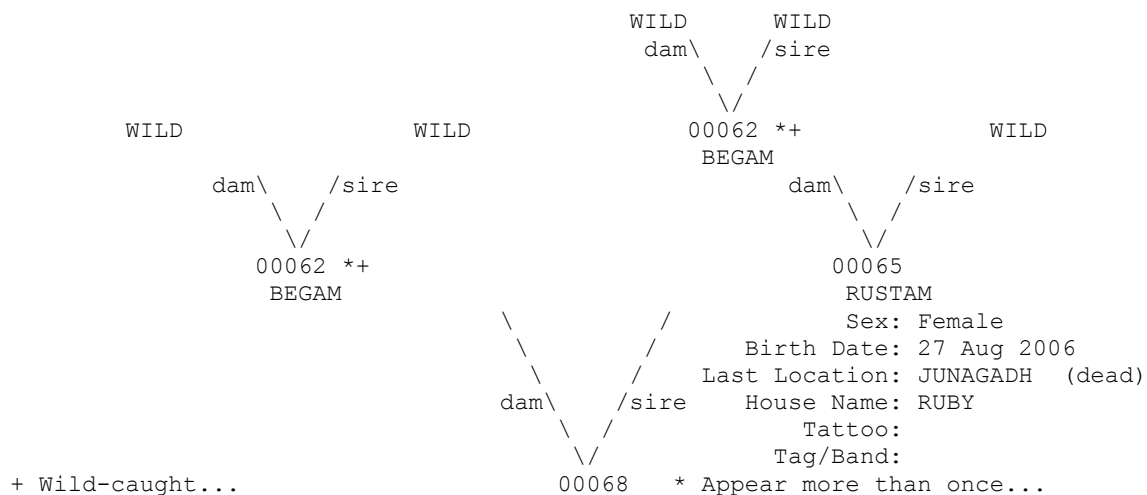
=====
Taxon Name: EQUUS HEMIONUS KHUR                      Studbook Number: 00066
=====
WILD          dam\  /sire          WILD          WILD
              \    /               dam\  /sire
              00062 +               00062 +
              BEGAM                BEGAM
              \    /               dam\  /sire
              dam\  /sire          WILD
              \    /               dam\  /sire
              00063 +             00065
              AISHA                RUSTAM
                                Sex: Male
                                Birth Date: 12 Nov 2005
                                Last Location: JUNAGADH
                                House Name: ABHEE
                                Tattoo:
                                Tag/Band:
              \    /
              dam\  /sire
              \    /
              00066
+ Wild-caught...

```

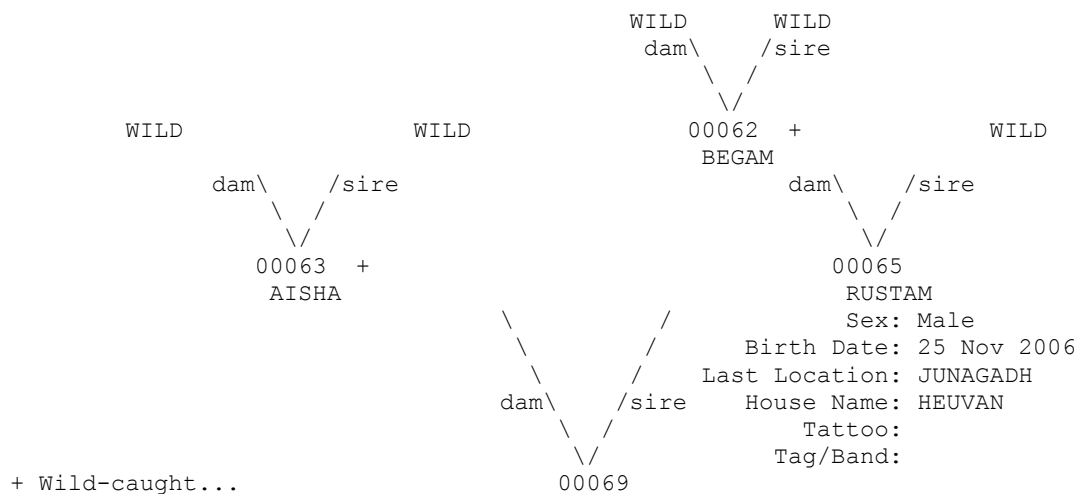
=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00067
 =====



=====
 Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00068
 =====



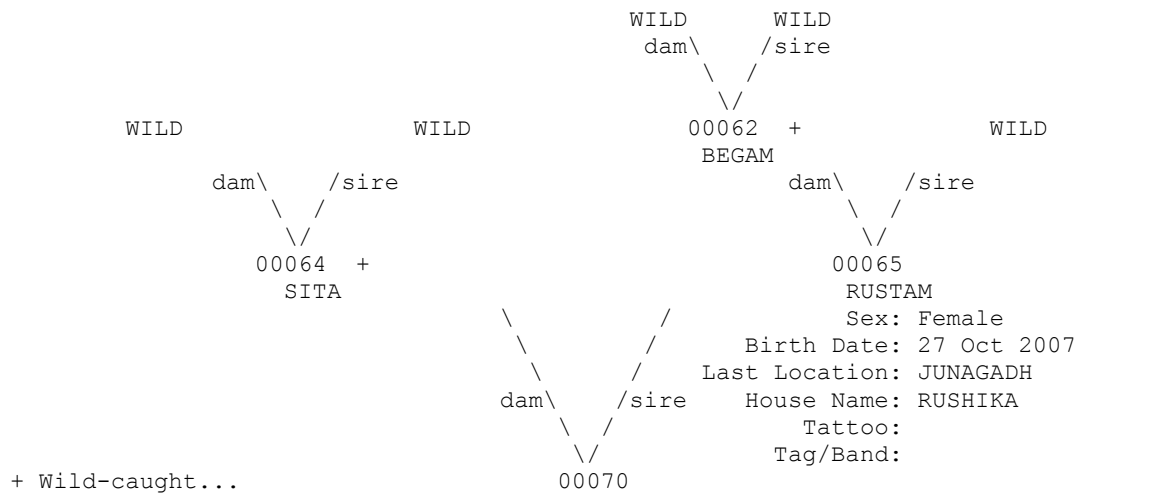
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=====

Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00070

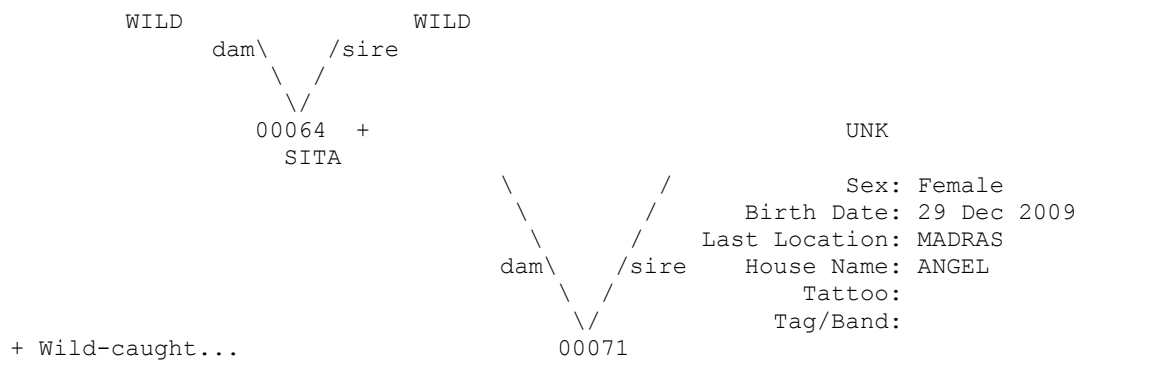
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=====

Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00071

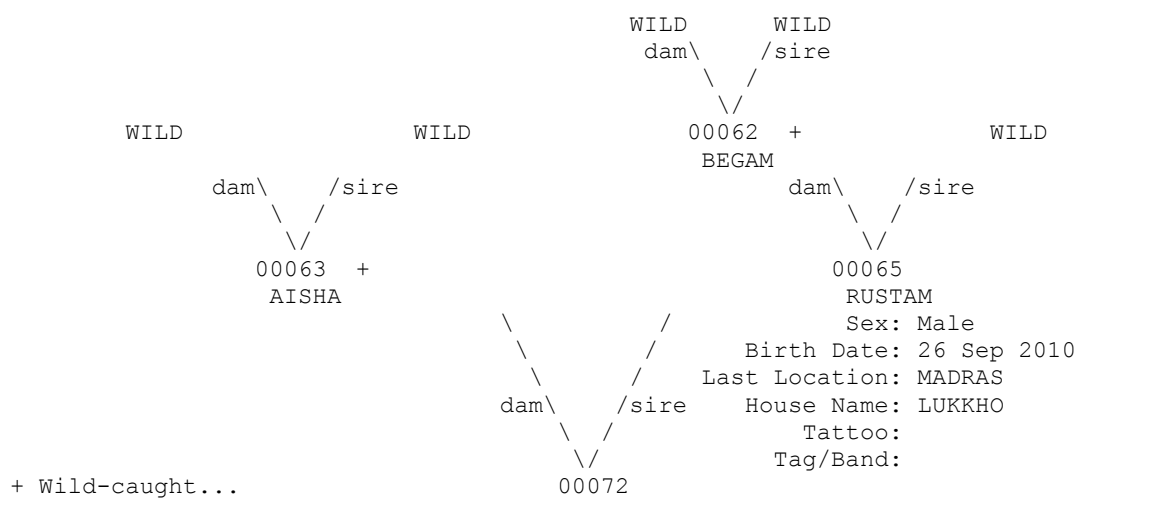
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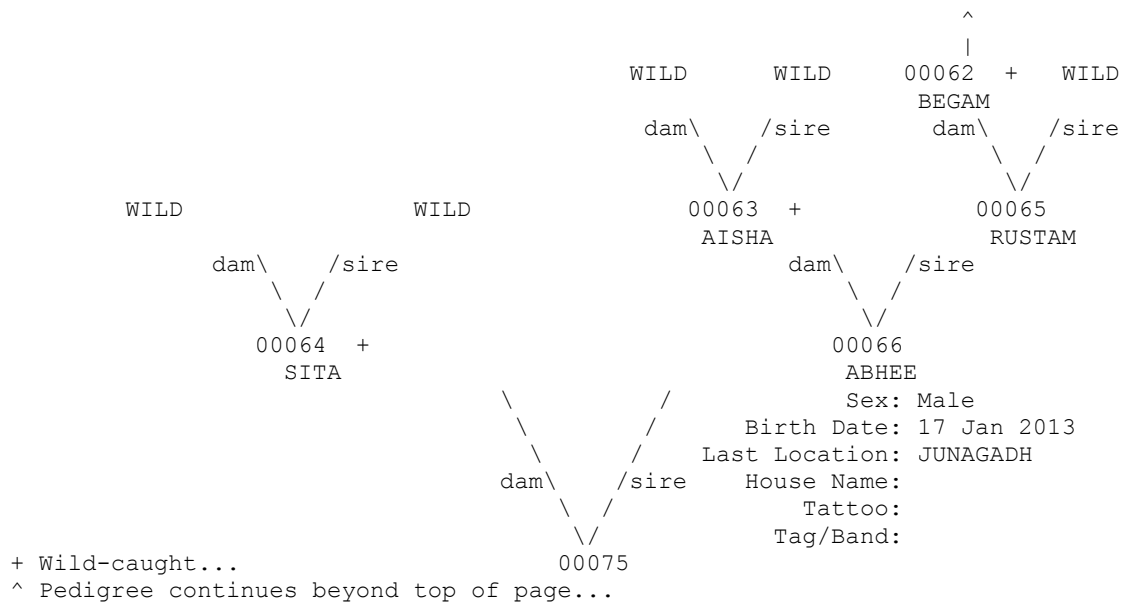
=====

Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00072

=====



=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00075
=====



=====
Taxon Name: EQUUS HEMIONUS KHUR Studbook Number: 00076
=====

