

# NATIONAL STUDBOOK

## INDIAN WOLF (*Canis lupus pallipes*)

Component of Central Zoo Authority sponsored project titled  
“Maintenance of Studbooks for Selected Endangered Species in Indian Zoos”  
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Central Zoo Authority



# National Studbook of Indian Wolf (*Canis lupus pallipes*)

Published as a part of the Central Zoo Authority sponsored project titled  
“Development and maintenance of studbooks for selected endangered species in Indian zoos”

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## FOREWORD

Habitat loss, fragmentation and degradation, retaliatory killing coupled with disease threats have rendered Indian wolves prone to extinction. Despite protection measures in recent times free ranging populations continue to show declines; therefore, maintenance of viable *ex-situ* populations for ensuring their long-term persistence remains imperative. Scientific management that ensures their long-term genetic viability and demographic stability can ensure effective *ex-situ* conservation of Indian wolves. Pedigree information contained in studbooks forms the basis for this effort.

The Central Zoo Authority (CZA) in collaboration with zoos in India has initiated a conservation breeding program for threatened species in Indian zoos. Indian wolf is one of the species identified under this initiative. 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 part of the project outcomes, the WII has compiled the National Studbook of Indian wolf (*Canis lupus pallipes*). The recommendations contained in the studbook will form the 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**  
**Central Zoo Authority**



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Jaipur Zoo, Jaipur  
Arignar Anna Zoological Park, Chennai  
Sri Venkateswara Zoological Park, Tirupati  
Nehru Zoological Park, Hyderabad  
Sanjay Gandhi Biological Park, Patna  
Nawab Wazid Ali Shah Zoological Garden, Lucknow  
National Zoological Park, Delhi  
Jungle Mahal Zoological Park, Burdawan  
Sakkarbaug Zoo, Junagadh  
Rajkot Municipal Zoo. Rajkot  
Rajiv Gandhi Zoological Park and Wildlife Research Center, Pune  
Bannerghatta Biological Park. Bengaluru  
Sri Chamarajendra Zoological Gardens, Mysore  
Kamla Nehru Prani Sanghralaya Zoo, Indore  
Aurangabad Municipal Zoo, Aurangabad  
Sajjangarh Biological Park, Udaipur Zoo  
Jodhpur Zoo, Jodhpur

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**Authors**

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## Indian Wolf: Species Biology

The Indian wolf (*Canis lupus pallipes*) is a subspecies of grey wolf inhabiting semi-arid and arid areas. It has a wide distribution range that extends from the Indian subcontinent to Israel. High levels of conflict are reported from human dominated landscapes with incidents of livestock lifting attributed to them.

### Taxonomy

Kingdom	: Animalia
Phylum	: Chordata
Class	: Mammalia
Order	: Carnivora
Family	: Canidae
Genus	: <i>Canis</i>
Species	: <i>Canis lupus</i>
Subspecies	: <i>Canis lupus pallipes</i> (Sykes, 1831)



Wolves are placed in the family Canidae and the genera *Canis* includes species of wolves, jackals, and the domestic dog. The taxonomy and phylogeny of the wolves has been variously explained as including a single species *C. lupus* (Nowak 2009) or at most as two species with the second being *C. rufus* as suggested by Goldman (1937). Others consider *C. rufus* to be a subspecies of *C. lupus* (Lawrence and Bossert 1967; Wozencraft 2005), or a modern hybrid of *C. lupus* and *C. latrans*, coyotes (Reich et al. 1999). At the sub-species level descriptions based on the variations in physical features, behavioral aspects and geographical distribution suggest the presence of up to 32 sub-species of Gray wolf globally, of which 10 extant subspecies are from Eurasia (Aggarwal et al., 2007).

Two of these subspecies, the Tibetan wolf (*Canis lupus chanco*) whose range extends from the trans-Himalaya into Tibet and China, and the Indian wolf (*Canis lupus pallipes*) ranging over much of peninsular India inhabit the Indian subcontinent. Traditional taxonomy considers them as distinct relatives of other Gray wolves; however, recent molecular genetics studies contest this and suggest that the wolves from the Himalayas (Tibetan wolf, *Canis lupus chanco*) are the basal form that gave rise to the Indian wolf (*Canis lupus pallipes*). Further, the two are distinct enough to be treated as full species (Aggarwal et al., 2003). Sharma et al. (2004) suggested that wolf populations of Indian subcontinent have three divergent, ancient and parapatric mtDNA lineages; namely the *Canis lupus pallipes* clade (peninsular India, Iran, Iraq and parts of Arabia), Himalayan clade of *Canis lupus chanco* (Ladakh, Spiti, Tibet and Nepal) and the wolf-dog clade of *Canis lupus chanco* (northwest Jammu and Kashmir, i.e. Gilgit and Baltistan). The Indian wolf, *Canis lupus pallipes* possibly diverged from Grey wolf sub species (wolf-dog clade) about 400,000 years ago. Bardeleben et al. (2005) based on a combined analysis of nuclear and mitochondrial DNA suggested that the relationships among the wolf-like canids remains poorly understood due to their recent divergence. Aggarwal et al. (2007) proposed the revision of the taxonomy of the wolves in India and proposed a new species *Canis indica*. Conclusive evidence that fully elucidates the taxonomy and phylogeny of the wolves remains to be fully explained and the studbook uses the taxonomy suggested by Nowak (2009).

## General biology

Gray wolves resemble the domesticated dog breed (German shepherds or husky) in appearance; however, its large skull and teeth distinguish it from other closely related members of the family canidae. The animals are characterized by yellowish-brown coat colour interspersed with black (Prater 1980). Coat colour is usually lighter during summers as most of the fur is shed and only sparse long hair remain on its body, giving the species a characteristic thin, long-legged appearance (Habib, 2007). Adult wolves can be distinguished from juveniles in the field by their size, behaviour, and white markings that develop above the eyes, on the chin and under the throat (Jhala 2003).

Table 1: Morphometrics of Indian Wolf \*

Characteristics	Range
Body length (Nose tip to Tail tip)	103 to 145 cm
Shoulder height	57 to 72 cm
Body weight (Adult)	
Male	19-25 kg
Female	17-22 kg
Dental formula	I 3/3, C 1/1, PM 4/4, M 2/3 X 2 = 42
Length of canines	26 mm

\* The table is based on information from various sources

The front foot has five toes, including a short dewclaw, placed proximal to other four, whereas the hind foot has four toes. The legs are moderately long with digitigrade limb posture; the chest is narrow and keel-like with forelimbs seemingly pressed into chest, and elbows turned inward and paws outward (Young, et al. 1944). Wolves have long legs and powerful leg muscles, which facilitate tireless travel at a usual rate of 8 km per hour and a running gait of 55 to 70 km per hour (Mech, 1970). The extended rostrum provides abundant surface for the olfactory organ, allowing the wolf to detect odors of prey at distances up to 2.4 km under favorable conditions (Mech, 1974).



## Habitat ecology:

The Indian wolf inhabits areas dominated by scrub, grasslands and semi-arid pastoral agro-ecosystems (Jhala 2013); however, in the eastern parts of its range extending across parts of Odisha, Bihar and West-Bengal they are known to inhabit moister low density forested habitats (Shahi 1982). The availability of undisturbed patches that offer shade during the day and protection for whelping, denning and play areas for pups are crucial for habitat selection (Jhala 2013).

Indian wolves, similar to other sub-species of gray wolves are territorial animals with pack size, prey density and prey size being important determinants of home range size (Jhala, 2003). Wolves inhabiting areas supporting high prey densities have smaller territories, while those subsisting on livestock and scavenging have larger home ranges. Territory size of packs ranged between 150 and 300 sq. km (Jhala 2003, Habib 2007), whereas territories of lone male wolves were observed to range between 181 and 227.6 sq. km (Jethva 2002).

The small body size of Indian wolves allows them to sustain themselves on smaller ungulates, lagomorphs and rodents (Habib 2007) thus allowing solitary individuals to survive. Further, the shedding of under fur and behavioural thermoregulation by effective use of the limited shade available in the marginal habitats inhabited by them enables them to live in hot and arid regions (Jhala 2003).

Wolves are capable of hunting prey much larger than they are; this is achieved by hunting in packs, using different strategies like stalking and rushing or chasing. Additionally the elongate cranium, with long jaws and powerful masseter muscles that are responsible for their powerful bite aid their predatory skills.

**Social organization and behaviour:**

Wolves are gregarious animals with a well-developed social system, with a family being a typical wolf pack (Mech 1970, 1999; Moehlman 1990, 1992). Adult parents guide activities of the group with a division-of-labor, the female plays a major role in pup rearing while the male is responsible for foraging and territory maintenance (Mech, 1999). The breeding or alpha male dominates all other wolves while the breeding female dominates all other wolves except the alpha male (Clark, 1971). The breeding male and female are responsible for territory (scent) marking (Rothman and Mech 1979). The breeding male though dominant at all other times is subordinate to a female with pups displaying submissive behavior, foraging food for her and the pups (Mech, 1999). The dominance hierarchy in wolves is thus a reflection of the age, sex, and reproductive structure of the group. Single wolves exist in proximity to packs and may even share kills on certain occasions (Jhala, 2003).



**Table 2: Life history traits of Indian Wolves\***

<b>Mating season</b>	October and November
<b>Gestation period</b>	62 – 63 days
<b>Litter size</b>	2 to 6
<b>Age at dispersal</b>	18 months

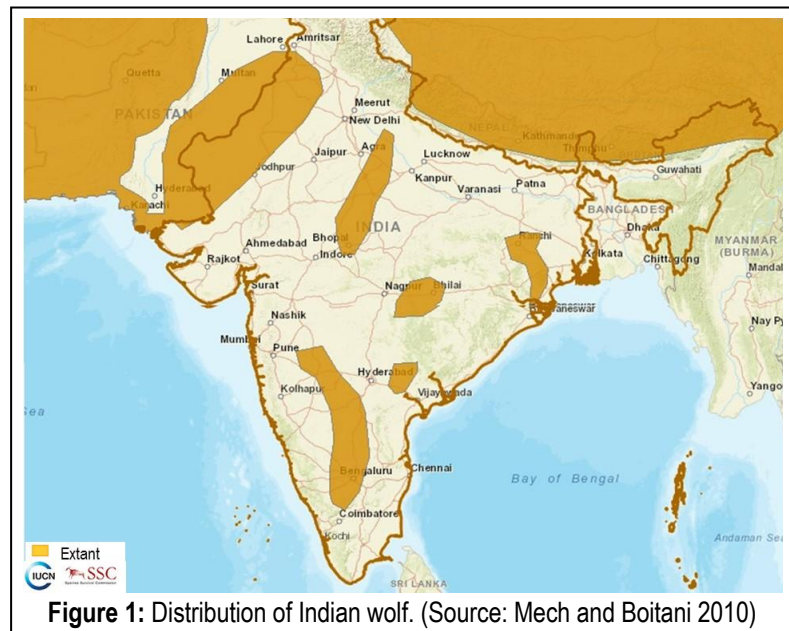
\* Based on information from various sources

## Reproduction:

Indian wolves breed in winter, with mating occurring sometimes in October – November and is restricted to the dominant (alpha) pair of the pack (Jhala, 2003). After a courtship that can last from days to months, wolves copulate during an estrus period of 5 to 7 days (Mech 1974). The mating pair is locked in a copulatory tie that usually lasts for 20- 30 minutes (Sheldon 1992). The gestation lasts for 62-63 days and the breeding (alpha) female begins excavating a den 15 days to a month prior to whelping, with occasional assistance from the alpha male (Mech 1970). The mother confines herself to the vicinity of the den 5-7 days prior to birth and usually whelp 2 to 6 pups inside the den. Pups are born blind, developing blurred vision by the age of 15 days with most milk teeth are erupting by 3 weeks of age. Weaning takes place at about 5 weeks of age (Mech 1970). The female remains near the pups for at least 2 months, while the male and other pack members hunt and feed both the female and the pups. Wolves in wild reach sexual maturity by 18 months of age and may disperse from their natal pack by this age.

## Distribution:

The subspecies *C. l. pallipes* has a wide distribution range, extending from India in the east to Turkey in the west, with populations reported from Pakistan, Iran, Iraq, Syria and Israel (Mendelssohn 1982, Shahi 1982, Mech and Boitani 2010). In India, they inhabit scrublands in three biogeographic zones that include the hot desert, the semi-arid zone and the Deccan plateau (Jhala 2013). Jhala (2013) reports a presence of the subspecies in much larger areas that are contiguous in the three biogeographic zones as compared to Mech and Boitani (2010).



## Threats and Status:

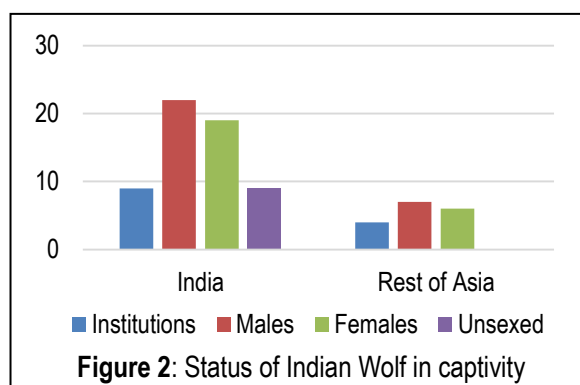
A majority of wolf populations in India inhabit human dominated landscapes, outside the protected area network, subsisting primarily on livestock. (Jhala, 2003; Singh and Kumara, 2006; Habib 2007; Habib et al. 2013). Livestock depredation by them has resulted in a negative perception leading to retaliatory killing by pastoralists across their range, thus effectively limiting recruitment and survival of populations (Habib et al., 2013). Pathogens such as canine parvovirus (CPV), canine distemper virus (CDV) and canine adenovirus (CAV) that cause diseases in dogs (*Canis familiaris*) and sympatric wild canid species are an additional threat (Laurenson et al., 1998; Belsare et al., 2014). Jethva and Jhala, (2004) found a wide prevalence of rabies and canine distemper and reported rabies as the major source of mortality amongst adult Indian wolves, thereby exerting a further negative impact on populations.



The IUCN Redlist considering the wide distribution range of the subspecies has listed it as a species of least concern (Mech and Boitani 2010); however, the Wildlife (Protection) Act of 1972 in view of the threats faced by the animal across its range in India places it in Schedule I Part I.

## Status in Captivity

The studbook records the presence of the subspecies at 12 zoos in India with a current population of 59 (29.30) individuals. A perusal of the Species360 website reveals its presence at only four institutions outside the country lying in the Asian region. The inventory of the Central Zoo Authority records the presence of the species at 17 institutions with a population size of 87 (34.39.14).



**Table 3:** Current Status of Indian Wolf in Indian Zoos

Zoo Name	CZA inventory *				Based on data made available by holding zoos			
	Male	Female	Unsexed	Total	Male	Female	Unsexed	Total
Jaipur Zoo, Jaipur	3	8	6	17	3	8	0	11
Arignar Anna Zoological Park, Chennai	2	2	0	4	2	2	0	4
Sri Venkateswara Zoological Park, Tirupati	1	1	0	2	1	1	0	2
Nehru Zoological Park, Hyderabad	1	1	0	2	0	1	0	1
Sanjay Gandhi Biological Park, Patna	1	1	0	2	--	--	--	--
Nawab Wazid Ali Shah Zoological Garden, Lucknow	1	1	0	2	2	1	0	3
National Zoological Park, Delhi	2	1	0	3	2	1	0	3
Jungle Mahal Zoological Park, Burdawan	3	4	0	7	--	--	--	--
Sakkarbaug Zoo, Junagadh	4	5	2	11	5	5	0	10
Rajkot Municipal Zoo, Rajkot	1	1	0	2	1	1	0	2
Rajiv Gandhi Zoological Park And Wildlife Research Center, Pune	1	0	0	1	1	1	0	2
Bannerghatta Biological Park, Bengaluru	2	2	0	4	2	2	0	4
Sri Chamarajendra Zoological Gardens, Mysore	6	3	6	15	6	3	0	9
Kamla Nehru Prani Sanghralhalaya Zoo, Indore	3	3	0	6	3	3	0	6
Aurangabad Municipal Zoo, Aurangabad	0	1	0	1	1	1	0	2
Sajjanganh Biological Park, Udaipur Zoo	1	0	0	1	--	--	--	--
Jodhpur Zoo, Jodhpur	2	5	0	7	--	--	--	--
<b>Total</b>	<b>34</b>	<b>39</b>	<b>14</b>	<b>87</b>	<b>29</b>	<b>30</b>	<b>0</b>	<b>59</b>

\* Source: <http://cza.nic.in/inventory.html> downloaded on 16/09/2017

--: Data not received

## 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 institutions housing Indian Wolf 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 and Conventions

- The studbook includes all specimens present in India for whom records were available from holding institutions, species taxon report from Species360 website.
- The mnemonics present in the SPARKS software were used for individual institutions and the same are listed in the location glossary (Appendix IV). The mnemonic India was used for all specimens acquired from the wild.
- Details of zoos providing information for Indian wolf in their collection are summarized in table 3. Zoos from which information was received have the specimens presently living listed in the table.
- The CZA inventory was used as a benchmark for population estimates and deviations from the same are based on records made available by the holding institutions and the <https://zims.species360.org> taxon report of Indian Wolf downloaded on 10<sup>th</sup> August 2017.

## Analysis

### Demographic Status

#### Historical Population:

The current edition of the studbook records 177 (96.77.4) specimens housed at 12 zoos in India. The first recorded entry of the species in captivity was at Kanpur Zoo, with wild origin male being acquired by the zoo. Growth in the population has been primarily due to captive births with 59 (29.30.0) wild origin specimens entering captivity. A total of 118 (67.47.4) births have occurred in captivity accounting for 66.66% of the historical population. Of these, the parentage records of 44 (21.19.4) specimens were unavailable. The captive births are attributed to 19 (9.10) specimens. The population since its inception has also witnessed 120 (68.48.4) deaths. A male bias is observed until 2008 in the population. Figure 3 and Table 4 summarize the trends of the historical population while Annexure I includes detailed event-wise information on individual specimens.

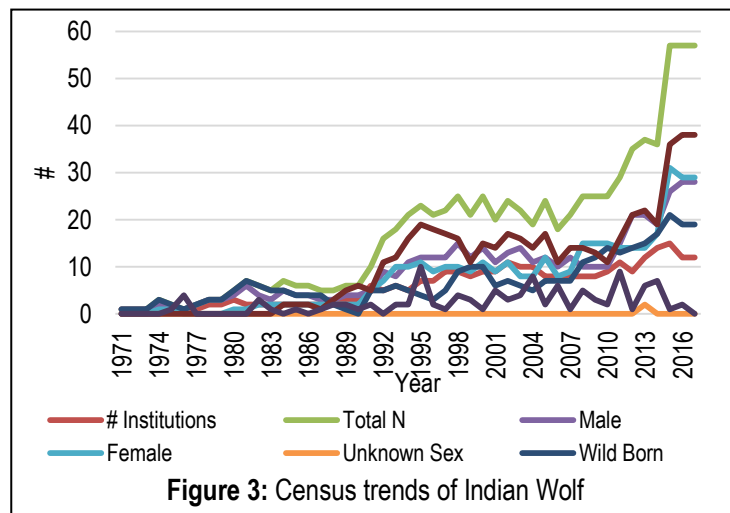


Figure 3: Census trends of Indian Wolf

Table 4: Summary of the historical population

	Males	Females	Unknown	Total
<b>Studbook size</b>	96	77	4	177
<b>Acquisitions from wild</b>	29	30	0	59
<b>Captive births</b>	67	47	4	118
<b>Unknown origin individuals</b>	21	19	4	44
<b>Deaths</b>	68	48	4	120
<b>Breeding individuals</b>	9	10	0	19

#### Living Population:

The living population based on data received from holding zoos includes 59 (29.30.0) specimens housed at 12 institutions; this includes 18 (8.10.0) wild

Table 5: Summary of the living population

# Individuals	Males	Females	Unknown	Total
<b>Living</b>	29	30	0	59
<b>Wild-born</b>	8	10	0	18
<b>Captive-born</b>	21	19	0	40
<b>Breeding</b>	6	3	0	9

origin specimens. Only 15.79% of the population 9(6.3.0); however, is reproductively active. Table 5 summarizes the status of the living population and Annexure II provides detailed information on living individuals in the population.

### Population Vital Rates

The population shows a declining trend with males and the overall population declining at a slow rate, while the females show a slow rate of increase. The captive population has an extended generation time of 6.0 years, though both males and females are sexually

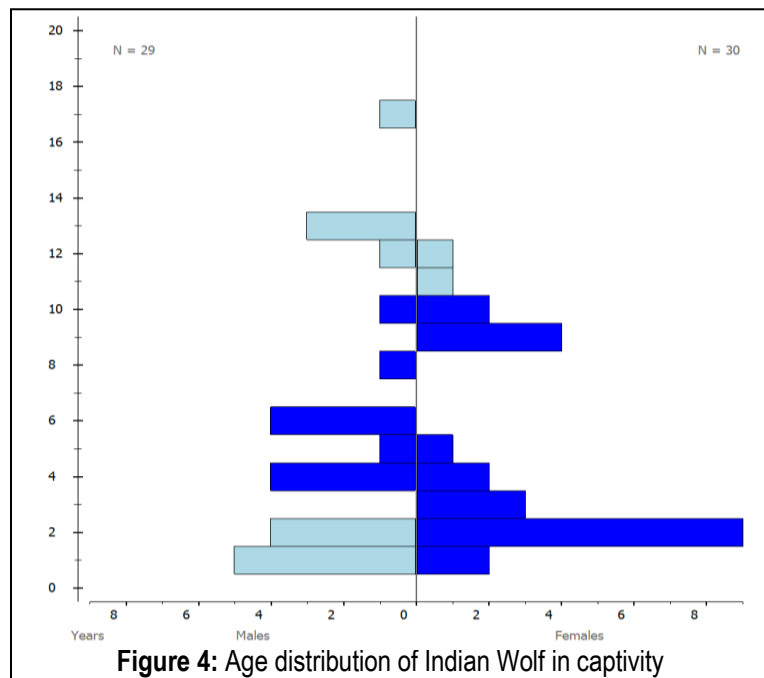
mature by 18 months of age. The sub-species further shows a high likelihood of long-term persistence in captivity as the projected population after 20 years is approximately 73 captive individuals. The accuracy of the life table analysis carried out to arrive at the conclusions is limited by the small size of the population and the ages of more than half the specimens being unknown.

**Table 6:** Vital rates of the captive population

Demographic parameters	Male	Female	Total
<b>λ: Population growth rate</b>	0.952	1.003	0.977
<b>T: Generation time</b>	6.4	5.5	6.0
<b>N 20: Projected population after 20 years</b>	33.8	39.2	73

### Age Distribution:

Age distribution of 59 (29.30.0) known age living specimens indicates an almost equitable presence of individuals of both gender in the known age population. A female bias that exists in the reproductively active age classes however is not reflected in the number of reproductively active females (3) as shown in table 5. It also shows the presence of a small proportion of individuals of either sex in the post reproductive age class. The decline in population is attributed to the limited number [9 (6.3)] of active breeders in the population.



**Figure 4:** Age distribution of Indian Wolf in captivity

### Genetic Status

The genetic status of the living population is summarized in Table 7. Analysis indicates that it originates from seven founders despite the presence of 18 (8.10) wild origin specimens in the population. The living population of 59 specimens retains only 86.41% of the genetic diversity brought in by the seven founders. Further, the population has an unequal representation of the FGE with the population retaining

**Table 7:** Genetic summary

Genetic parameters	Current
<b>Founders</b>	7
<b>Living Animals</b>	59
<b>Percent Ancestry Known</b>	72%
<b>Gene Diversity (GD)</b>	0.8641
<b>Founder Genome Equivalents (FGE)</b>	3.68
<b>Mean Inbreeding (F)</b>	0.0374
<b>Population mean kinship (Mk)</b>	0.136
<b>Ne/N</b>	0.1823



the genetic diversity of only 3.68 wild origin individuals. Limitations in record keeping due to inadequate marking of individual specimens are reflected in only 72% of the specimens having proven pedigrees. The population also shows a high level of relatedness between individuals as is indicated by the value of population mean kinship. The presence of limited number of reproductively active specimens in the captive population is reflected in the low value of  $N_e/N$ .

## Pairing Recommendations

The pairing recommendations (table 8) for the sub-species in captivity have been arrived at based on 'Mate Suitability Index' (MSI) (Box 1 for details) that assesses changes in genetic diversity, differences in mean kinship and inbreeding coefficient as result of each pairing choice being exercised. Efforts have been made to pair individuals in a manner that maximizes the retention of genetic diversity while

minimizing inbreeding in the population as is indicated by the low MSI scores for most of the pairs. Pairing between 129 Male at Mysore with 167 female at Junagadh and 142 male at Delhi with 171 female at Indore has been recommended as the two sires are from lineages that are currently overrepresented in the population; however a complete exclusion of the two lineages from breeding would, result in the elimination of their representation in the population.

Table: 8 Pairing choices for captive Indian wolf

Sl.	Sire	Location	Dam	Location	dGD	MSI
1.	111	Junagadh	106	Junagadh	0.0337	2
2.	120	Delhi	112	Aurangabad	0.0499	1
3.	121	Mysore	177	Indore	0.0205	4
4.	124	Bannerghata	97	Junagadh	0.0492	4
5.	129	Mysore	167	Junagadh	0.0225	6
6.	130	Pune	109	Pune	0.0295	1
7.	135	Aurangabad	170	Indore	0.0498	4
8.	142	Delhi	171	Indore	0.0501	6
9.	149	Junagadh	150	Junagadh	0.0396	1
10.	161	Junagadh	110	Junagadh	0.0450	1
11.	172	Indore	116	Tirupati	0.0088	1
12.	175	Indore	99	Jaipur	0.0132	1
13.	176	Indore	133	Delhi	0.0198	1

### 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 *MSI* values for pairs helps in quickly assessing the relative genetic value of a pair, subset of pairs, potential mates for one individual, and many other valuable data when making breeding recommendations. It is 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.

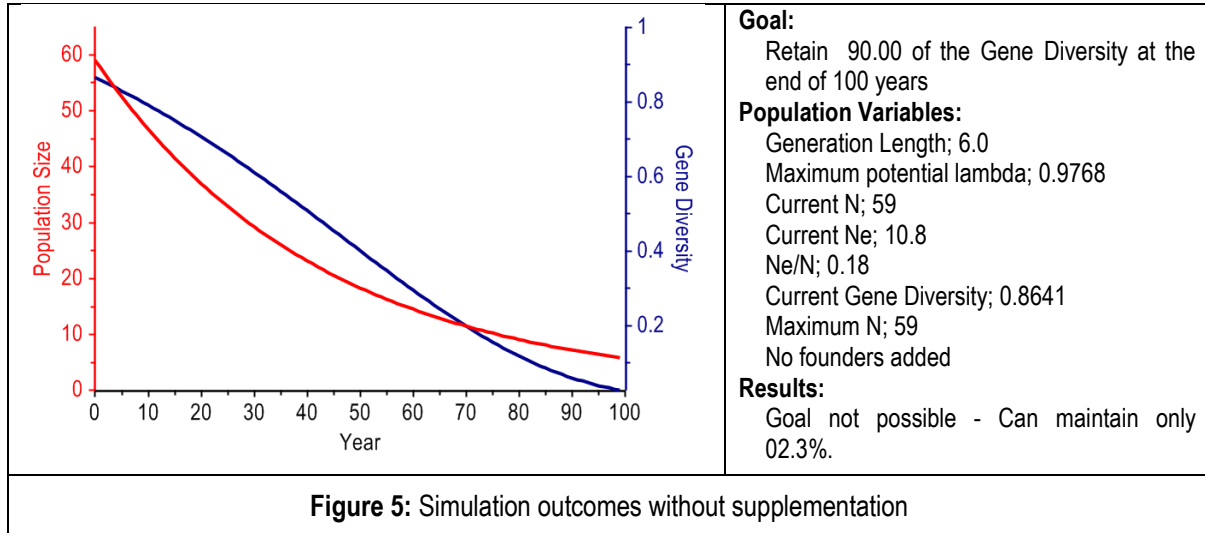
## Targets for Population Management

The current captive population of Indian wolf housed in zoos in India includes 59 (29.30) individuals. Eighteen (8.10) wild origin specimens are present in the population of which only seven have contributed to the population. The population, currently declining at a slow rate retains 86.41% genetic diversity introduced by the founders. It also shows reproductive activity between closely related individuals as is indicated by its population mean kinship: 0.136. It is therefore unlikely to achieve population targets of maintaining a genetically viable and demographically stable population.

Multiple simulations were run using PMx to determine the fate of the current population for assessing the effect of management interventions that result in increased population growth rate desired for achieving demographic stability and supplementation with effective founders for ensuring genetic viability; over the next 100 years. The outcomes of the scenarios run based on the status of the present population and with supplementation, using effective founders and increasing the population growth rate to ensure a genetically viable and demographically stable population over the next 100 years are presented below.

### Scenario I:

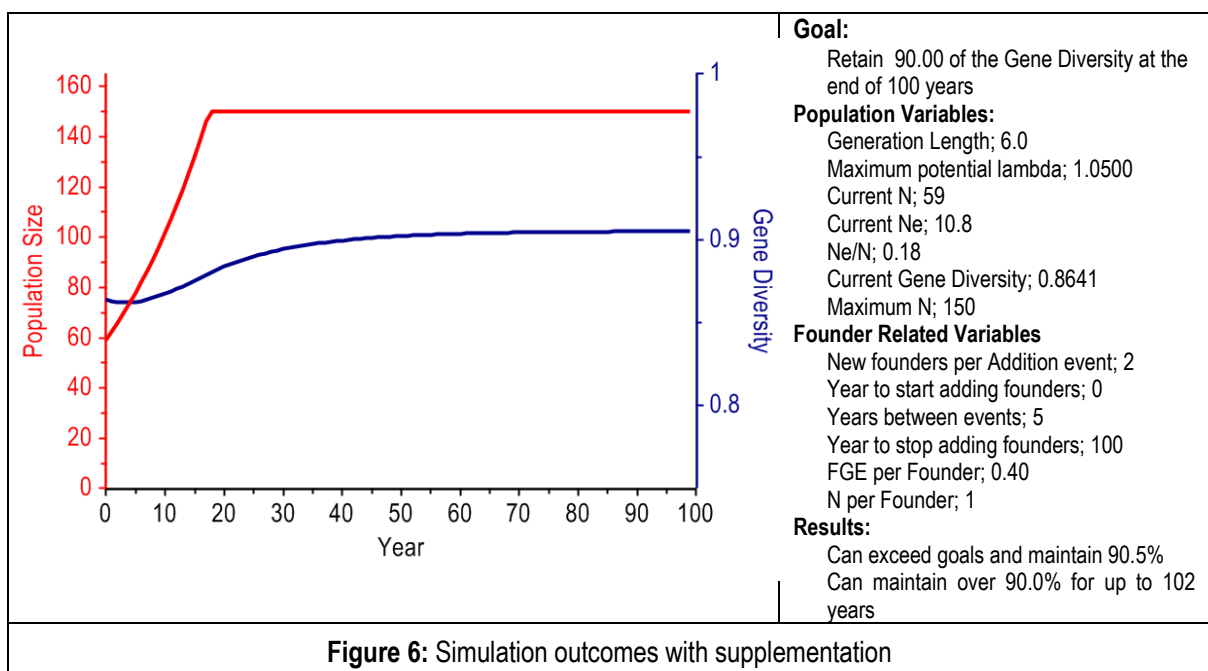
The simulation run using the current population variables indicates that the population was likely to decline over the next 100 years retaining only a limited amount of genetic diversity introduced by the seven founders. It would thus be unable to achieve the goal of maintaining a demographically stable and genetically viable population in captivity. The population variables used and the outcomes of the simulation are presented in Figure 5.



**Figure 5:** Simulation outcomes without supplementation

### Scenario II:

The outcomes of the simulation that involved increasing the population growth rate to 5% and increasing the maximum size of the population to 150 specimens with a supplementation with two effective founders every five years provided a population that was able to achieve the goals of maintaining 90% of the genetic diversity and a demographically stable population. The population and founder related variables, and the simulation outcome are presented as Figures 6.



**Figure 6:** Simulation outcomes with supplementation

## Conclusions and Recommendations

Indian wolf (*Canis lupus pallipes*) continues to face threats to their long term survival in their natural habitats across their distribution range in India and are accordingly listed in Schedule I of the Wildlife (Protection) Act of India 1972. The factors responsible for their decline remain operational and the populations across their range are showing declining trend. Further recent genomics studies have clearly demonstrated them to be genetically distinct from other populations of the sub-species. Maintenance of demographically stable and genetically viable ex-situ populations is thus crucial for ensuring the continued survival of the species.

The current captive population recorded in the studbook comprises of 59 (29.30) of which 18 (8.10) are of wild origin. Records on individual life history events are available for 72% of the population and nine (6.3) specimens are reproductively active, leading to representation of the genes of only a few individuals. Population simulations run using PMx software indicate that supplementation of the current population with two effective founders every five years and increasing the population growth rate to 1.05 and size to 150 specimens in Indian institutions can ensure that the population remains viable over the next 100 years.

The captive population of Indian Wolf therefore requires intensive management to ensure achievement of *ex-situ* conservation goals and following points need to be addressed :

Additional housing needs to be created to ensure availability of adequate space for holding the additional number of specimens needed for maintaining a genetically viable and demographically stable population.

The wild origin specimens that are currently present in the population should be assessed for relatedness using appropriate molecular genetics tools.

Packs that include unrelated individuals in the population should be formed using appropriate behavioural management techniques for ensuring optimum reproductive output.

Issues that limit optimum reproductive performance of the captive population *viz.* housing and husbandry practices and keeping of single/ incompatible animals need to be addressed for ensuring effective population growth.

The species is vulnerable to diseases that infect domestic dogs (*Canis familiaris*) and other carnivores. Appropriate interventions aimed at minimizing the likelihood of disease events occurring should be adopted to ensure a healthy population.

All animals entering captivity both through captive births and acquisition of wild origin specimens should be marked for individual identification using appropriate techniques. Complete records of all events in the life of each specimen should be recorded to enable the development of effective population management plans.

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Historical Population of Indian Wolf (*Canis lupus pallipes*) in Indian Zoos

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
1 NONE	M	~ 1971	WILD	WILD	INDIA DEALER KANPUR	~ 1971 ~ Dec 1971 19-Jun-73 05-Sep-76	Capture Transfer Transfer Death
2 NONE	F	~ 1974	WILD	WILD	INDIA DEALER KANPUR	~ 1974 ~ Dec 1974 ~ 1975 20-Nov-76	Capture Transfer Transfer Death
3 NONE	M	~ 1974	WILD	WILD	INDIA DEALER KANPUR	~ 1974 ~ Dec 1974 17-Apr-75 17-Apr-75	Capture Transfer Transfer Death
4 NONE	M	~ 1969	WILD	WILD	DHRANGADH JUNAGADH	20-Jan-76 20-Jan-76 22-Sep-85	Capture Transfer Death
5 NONE	M	~20 Apr 1976	WILD	WILD	INDIA KANPUR	~20 Apr 1976 24-May-76 ~ Oct 1976	Capture Transfer Death
6 NONE	F	????	WILD	WILD	INDIA KANPUR	~20 Apr 1976 24-May-76 ~ Oct 1976	Capture Transfer Death
7 NONE	M	~ 1972	WILD	WILD	DHRANGADH JUNAGADH	15-Mar-77 15-Mar-77 18-Oct-83	Capture Transfer Death
8 NONE	M	????	WILD	WILD	INDIA KANPUR	~25 Feb 1978 06-Mar-78 25-Nov-90	Capture Transfer Death
9 NONE	M	~ 1970	WILD	WILD	DHRANGADH JUNAGADH	07-Mar-81 07-Mar-81 02-May-82	Capture Transfer Death
10 NONE	M	~ 1970	WILD	WILD	DHRANGADH JUNAGADH	07-Mar-81 07-Mar-81 14-May-82	Capture Transfer Death
11 NONE	M	~ 1980	WILD	WILD	INDIA DEALER KANPUR	~ 1980 ~ Oct 1980 16-Mar-81 07-Jan-88	Capture Transfer Transfer Death
12 NONE	F	~ 1980	WILD	WILD	INDIA DEALER KANPUR	~ 1980 ~ Dec 1980 16-Mar-81 31-Dec-88	Capture Transfer Transfer Death
13 NONE	M	????	WILD	WILD	DHRANGADH JUNAGADH	~ 1982 01-Jan-82 11-Apr-82	Capture Transfer Death
14 NONE	F	????	WILD	WILD	DHRANGADH JUNAGADH	~ 1982 01-Jan-82 28-Jun-89	Capture Transfer Death
15	M	08-Feb-84	UNK	UNK	JUNAGADH NANDANKAN	08-Feb-84 30-Oct-84	Birth If
16	M	08-Feb-84	UNK	UNK	JUNAGADH	08-Feb-84 11-May-87	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
17	M	08-Feb-84	UNK	UNK	JUNAGADH	08-Feb-84 26-Mar-91	Birth Death
18 G1094	M	16-Apr-88	UNK	UNK	SINGAPORE	16-Apr-88 02-Apr-00	Birth Death
19 G230	F	16-Apr-88	UNK	UNK	SINGAPORE	16-Apr-88 04-May-99	Birth Death
20	M	23-Feb-89	17	14	JUNAGADH	23-Feb-89 25-Apr-89	Birth Death
21 NONE	M	~ 1 Mar 1991	WILD	WILD	INDIA KANPUR	~ 1 Mar 1991 10-Mar-91	Capture If
22	M	23-Feb-89	17	14	JUNAGADH AHMEDABAD	23-Feb-89 12-Sep-91 09-Sep-99	Birth Transfer Death
23	F	23-Feb-89	17	14	JUNAGADH	23-Feb-89 30-Jul-98	Birth Death
24 NONE AAZP.1	F	????	WILD	WILD	INDIA HYDERABAD MADRAS	???? 20-Jun-89 ???? 16-Sep-95	Capture Transfer Transfer Death
25 NONE AAZP.2	M	????	WILD	WILD	INDIA HYDERABAD MADRAS	???? 20-Jun-89 ???? 16-Sep-95	Capture Transfer Transfer Death
26 SAM AAZP.5	M	27-Dec-90	UNK	UNK	HYDERABAD MADRAS	27-Dec-90 28-Aug-92 14-Jan-93	Birth Transfer Death
27 NONE	M	~ 2 Sep 1991	WILD	WILD	INDIA JAIPUR KANPUR	~ 2 Sep 1991 ~ 1991 14-Sep-93 27-Feb-95	Capture Transfer Transfer Death
28 NONE	F	~ 2 Sep 1991	WILD	WILD	INDIA JAIPUR KANPUR LUCKNOW	~ 2 Sep 1991 ~ 1991 14-Sep-93 ~ Jun 1994	Capture Transfer Transfer If
29 NONE	F	~ 2 Sep 1991	WILD	WILD	INDIA JAIPUR KANPUR	~ 2 Sep 1991 ~ 1991 14-Sep-93 03-Apr-95	Capture Transfer Transfer Death
30 NONE AAZP.3	F	????	WILD	WILD	INDIA HYDERABAD MADRAS	~20 Mar 1991 03-Apr-91 ???? 12-Feb-96	Capture Transfer Transfer Death
31 NONE AAZP.4	M	????	WILD	WILD	INDIA HYDERABAD MADRAS	???? 03-Apr-91 ???? 24-Dec-91	Capture Transfer Transfer Death
32 NONE	M	~ 1984	WILD	WILD	INDIA JUNAGADH AHMEDABAD	???? 24-Aug-91 12-Feb-99 19-Nov-01	Capture Transfer Transfer Death
33	M	24-Feb-92	32	23	JUNAGADH BARODA	24-Feb-92 21-May-93 ~ 1994	Birth Transfer Death
34	M	24-Feb-92	32	23	JUNAGADH DELHI	24-Feb-92 27-May-93	Birth If



Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
35	M	24-Feb-92	32	23	JUNAGADH BARODA	24-Feb-92 08-Dec-95 ~ Sep 2005	Birth Transfer Death
36	M	24-Feb-92	32	23	JUNAGADH DELHI	24-Feb-92 26-Aug-99	Birth lft
37	F	24-Feb-92	32	23	JUNAGADH BARODA	24-Feb-92 21-May-93 ~ 1994	Birth Transfer Death
38	F	24-Feb-92	32	23	JUNAGADH DELHI	24-Feb-92 27-May-93	Birth lft
39	M	15-Jan-93	UNK	UNK	JUNAGADH	15-Jan-93 07-Sep-95	Birth Death
40	F	15-Jan-93	UNK	UNK	JUNAGADH	15-Jan-93 06-Apr-93	Birth Death
41 NONE	F	????	WILD	WILD	INDIA KANPUR	~24 Jul 1993 12-Aug-93 25-Mar-98	Capture Transfer Death
42	F	19-Dec-93	32	23	JUNAGADH BARODA	19-Dec-93 08-Dec-95 ~ 1996	Birth Transfer Death
43	F	19-Dec-93	32	23	JUNAGADH	19-Dec-93 17-Oct-98	Birth Death
44	F	19-Dec-93	32	23	JUNAGADH DELHI	19-Dec-93 26-Aug-99 ????	Birth Transfer Death
45	F	19-Dec-93	32	23	JUNAGADH	19-Dec-93 ????	Birth Death
46	M	27-Dec-94	32	23	JUNAGADH	27-Dec-94 03-Feb-95	Birth Death
47	M	27-Dec-94	32	23	JUNAGADH	27-Dec-94 19-Feb-95	Birth Death
48	M	27-Dec-94	32	23	JUNAGADH	27-Dec-94 21-Aug-99	Birth Death
49	M	27-Dec-94	32	23	JUNAGADH	27-Dec-94 29-Jun-04	Birth Death
50	F	27-Dec-94	32	23	JUNAGADH	27-Dec-94 07-Apr-95	Birth Death
51	F	27-Dec-94	32	23	JUNAGADH	27-Dec-94 16-Jun-02	Birth Death
52 RAMU AAZP.6	M	????	UNK	UNK	NANDANKAN MADRAS	???? 09-Mar-95 25-Nov-01	Birth Transfer Death
53	M	19-Jan-95	UNK	UNK	KANPUR	19-Jan-95 17-Jun-97	Birth Death
54	F	19-Jan-95	UNK	UNK	KANPUR	19-Jan-95 05-Apr-95	Birth Death
55 NONE	M	~ 1989	WILD	WILD	GUJARAT JUNAGADH	04-Jun-95 04-Jun-95 06-Jun-95	Capture Transfer Death
56 00-01CD-E1DO	M	21-Dec-95	32	23	JUNAGADH AHMEDABAD	21-Dec-95 12-Feb-99 ~ Sep 2005	Birth Transfer Death
57 00-01BD-8C76	M	21-Dec-95	32	23	JUNAGADH	21-Dec-95 13-Jul-04	Birth Death
58	M	21-Dec-95	32	23	JUNAGADH	21-Dec-95	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
						27-Sep-04	Death
59	F	21-Dec-95	32	23	JUNAGADH	21-Dec-95 30-Jul-98	Birth Death
60 00-01BD-8C76	F	21-Dec-95	32	23	JUNAGADH	21-Dec-95 12-Nov-06	Birth Death
61 NONE	F	~ 1997	WILD	WILD	INDIA NAINITAL LUCKNOW	~ 1997 ~ Aug 1997 11-Feb-99 17-Nov-11	Capture Transfer Transfer Death
62 NONE	M	????	WILD	WILD	INDIA LUCKNOW	~ Feb 1998 13-Mar-98 08-Jun-04	Capture Transfer Death
63 NONE 00-0200-8A92	M	~ 1997	WILD	WILD	INDIA JUNAGADH LUCKNOW	~ 1997 29-Mar-98 15-Mar-10 ~ Sep 2011	Capture Transfer Transfer Death
64 NONE	M	????	WILD	WILD	INDIA VISAKAPAT	???? ~ 1998 26-Dec-01	Capture Transfer Death
65 NONE	F	????	WILD	WILD	INDIA VISAKAPAT	???? ~ 1998 07-Nov-01	Capture Transfer Death
66 NONE	F	????	WILD	WILD	INDIA VISAKAPAT	???? ~ 1998 26-Dec-01	Capture Transfer Death
67 NONE	F	????	WILD	WILD	INDIA VISAKAPAT HYDERABAD	???? ~ 1998 17-Jul-02	Capture Transfer Transfer
68 G5846 AAZP.7	M	13-Jul-98	18	19	SINGAPORE MADRAS	13-Jul-98 01-Oct-05 13-Nov-08	Birth Transfer Death
69 G5835 PATTY 00-01BD-77DB AAZP.8	F	13-Jul-98	18	19	SINGAPORE MADRAS	13-Jul-98 01-Oct-05 26-Aug-06	Birth Transfer Death
70 10027	M	~ 1994	WILD	WILD	INDIA AURANGABA PUNE	~ 1994 ???? 10-Jan-09 24-Jan-09	Birth Transfer Transfer Death
71 LUSSY 000-617F-835 10120	F	~ Aug 1994	WILD	WILD	INDIA PUNE	~25 Apr 1995 01-May-95 12-Mar-13	Capture Transfer Death
72 NONE	F	????	WILD	WILD	INDIA LUCKNOW	~ Jan 1999 24-Jan-99 17-Nov-11	Capture Transfer Death
73	F	11-Sep-00	UNK	UNK	VISAKAPAT TIRUPATI	11-Sep-00 26-Jan-01 ~ Sep 2003	Birth Transfer Death
74	M	11-Sep-00	UNK	UNK	VISAKAPAT TIRUPATI	11-Sep-00 26-Jan-01 ~ Sep 2009	Birth Transfer Death
75	M	11-Sep-00	UNK	UNK	VISAKAPAT	11-Sep-00 02-Aug-08	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
76 270002	M	~ Aug 2000	UNK	UNK	JAIPUR DELHI	~ Aug 2000 31-Mar-01 09-Aug-04	Birth Transfer Death
77 270001	F	13-Aug-00	UNK	UNK	JAIPUR DELHI	13-Aug-00 31-Mar-01 25-Jan-12	Birth Transfer Death
78	M	08-Jul-02	UNK	UNK	VISAKAPAT HYDERABAD	08-Jul-02 17-Jul-02 ~ Sep 2003	Birth Transfer Death
79	M	08-Jul-02	UNK	UNK	VISAKAPAT HYDERABAD	08-Jul-02 17-Jul-02 ~ Sep 2014	Birth Transfer Death
80	M	08-Jul-02	UNK	UNK	VISAKAPAT	08-Jul-02 22-Jul-02	Birth Death
81	M	08-Jul-02	UNK	UNK	VISAKAPAT	08-Jul-02 27-Aug-02	Birth Death
82	F	08-Jul-02	UNK	UNK	VISAKAPAT	08-Jul-02 08-Aug-03	Birth Death
83	F	08-Jul-02	UNK	UNK	VISAKAPAT	08-Jul-02 06-Oct-04	Birth Death
84 NONE	F	????	WILD	WILD	INDIA LUCKNOW	~ Dec 2002 18-Jan-03 29-May-03	Capture Transfer Death
85	M	01-Feb-03	62	72	LUCKNOW	01-Feb-03 20-May-04	Birth Death
86	M	01-Feb-03	UNK	UNK	LUCKNOW	01-Feb-03 18-Jun-04	Birth Death
87 00-000D-8267	M	08-Feb-04	63	60	JUNAGADH	08-Feb-04	Birth
88 00-000D-8775	F	08-Feb-04	63	60	JUNAGADH	08-Feb-04 25-Jun-11	Birth Death
89 00-000D-7E68	M	08-Feb-04	63	60	JUNAGADH	08-Feb-04 23-Apr-08	Birth Death
90	M	08-Feb-04	63	60	JUNAGADH	08-Feb-04	Birth
91 00-000E-0440	M	08-Feb-04	63	60	JUNAGADH LUCKNOW	08-Feb-04 15-Mar-10	Birth Transfer
92	M	~ Feb 2005	WILD	WILD	INDIA LUCKNOW	~ Feb 2005 ~ Nov 2005	Capture Transfer
93	F	~ Feb 2005	WILD	WILD	INDIA LUCKNOW	~ Feb 2005 ~ Dec 2005	Capture Transfer
94	M	27-Dec-05	63	60	JUNAGADH	27-Dec-05 10-Dec-06	Birth Death
95	M	27-Dec-05	63	60	JUNAGADH	27-Dec-05 17-Dec-06	Birth Death
96	F	27-Dec-05	63	60	JUNAGADH	27-Dec-05 05-Feb-06	Birth Death
97 00-0200-5902	F	27-Dec-05	63	60	JUNAGADH	27-Dec-05	Birth
98	F	27-Dec-05	63	60	JUNAGADH	27-Dec-05 15-Feb-06	Birth Death
99	F	10-Feb-07	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH JAIPUR	10-Feb-07 15-Mar-10	Birth Transfer

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
100	M	10-Feb-07	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	10-Feb-07 27-Feb-10	Birth Death
101	M	10-Feb-07	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	10-Feb-07 07-Jan-08	Birth Death
102	M	10-Feb-07	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	10-Feb-07 19-Apr-07	Birth Death
103 00-06B7-80FB	M	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08 27-Dec-08	Birth Death
104 00-01BD-791A	M	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08 18-Aug-09	Birth Death
105 00-06B7-8378	F	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08 29-Dec-10	Birth Death
106 00-06B7-5166	F	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08	Birth
107 00-01BD-3C07	F	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08 07-Dec-11	Birth Death
108 NONE SURUT	M	????	WILD	WILD	SURAT JUNAGADH	26-Dec-09 26-Dec-09 25-May-11	Capture Transfer Death
109 GATTY 000-6B72-053 10099	F	~ Aug 2007	WILD	WILD	INDIA PUNE	~ 2 Aug 2008 16-Aug-08	Capture Transfer
110 NONE 0006B7-7B79	F	????	WILD	WILD	INDIA LUCKNOW JUNAGADH	???? ~ 2008 20-Mar-10	Capture Transfer Transfer
111 NONE	M	????	WILD	WILD	INDIA JAIPUR JUNAGADH	???? ~ 2008 20-Mar-10	Capture Transfer Transfer
112 WOLF1	F	~ 2008	WILD	WILD	INDIA AURANGABA	~ 1 Dec 2008 28-Jan-09	Capture Transfer
113	M	????	UNK	UNK	JAIPUR	????	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00065847C							
114 00064EE73A	F	????	UNK	UNK	JUNAGADH JAIPUR	???? ????	Birth Transfer
115 0006EFDBOD	M	????	UNK	UNK	JAIPUR TIRUPATI	???? 24-Sep-13	Birth Transfer
116 NONE 0006EFD755	F	????	WILD	WILD	INDIA TIRUPATI	???? 31-May-13	Capture Transfer
117 NONE 270004	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 22-Sep-15 ????	Capture Transfer Transfer Death
118 NONE 270004	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 22-Sep-15 ????	Capture Transfer Transfer Death
119 NONE 270005	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 15-Mar-13 11-Apr-13	Capture Transfer Transfer Death
120 NONE 270005	M	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 15-Mar-13	Capture Transfer Transfer
121 RAJA M00300	M	~ Feb 2007	WILD	WILD	INDIA MYSORE	~25 Apr 2010 01-May-10	Capture Transfer
122 RANI M00301	F	~ Jan 2008	WILD	WILD	INDIA MYSORE	~25 Apr 2010 01-May-10 07-Aug-16	Capture Transfer Death
123 M00303 AMOGH 0006DD5B1E GW002	M	13-Jan-11	121	122	MYSORE BANNERGHA	13-Jan-11 15-Nov-12 18-Jul-15	Birth Transfer Death
124 M00304 ALOK 9.56E+14 GW001	M	13-Jan-11	121	122	MYSORE BANNERGHA	13-Jan-11 15-Nov-11	Birth Transfer
125 M00305 JAGU 9.56E+14	M	13-Jan-11	121	122	MYSORE	13-Jan-11 11-Jun-11	Birth Death
126 M00306 AYUSH 9.56E+14 GW003	M	13-Jan-11	121	122	MYSORE BANNERGHA	13-Jan-11 15-Nov-12	Birth Transfer
127 M00307 AAKRITI 9.56E+14	F	13-Jan-11	121	122	MYSORE	13-Jan-11 08-Jun-11	Birth Death
128 M00308 KUSUMA 9.56E+14	F	13-Jan-11	121	122	MYSORE	13-Jan-11 17-Jun-11	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
129 M00302 PRUTHVIK 9.56E+14	M	13-Jan-11	121	122	MYSORE	13-Jan-11	Birth
130 George 10158	M	~ Jan 2000	WILD	WILD	INDIA PUNE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
131 M00812 PRATHIKSHA 9.56E+14	F	08-Dec-11	121	122	MYSORE	08-Dec-11	Birth
132 M00809 SHRAVAN 9.56E+13	M	08-Dec-11	121	122	MYSORE	08-Dec-11 15-Dec-13	Birth Death
133 270005	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 22-Sep-15	Capture Transfer Transfer
134 270005	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 22-Sep-15 21-Jan-16	Capture Transfer Transfer Death
135 M00811 JAGAN JACK1 9.56E+14	M	08-Dec-11	121	122	MYSORE PUNE AURANGABA	08-Dec-11 10-Oct-12 11-Apr-15	Birth Transfer Transfer
136 ULLAGADDI 9.56E+14 M00871	M	~ Jan 2009	UNK	UNK	INDIA MYSORE	~ Jan 2009 ~ Jun 2012 09-Aug-14	Birth Transfer Death
137 M01010 VISHNU 00074D5F6A AAZP.9	M	31-Dec-12	121	122	MYSORE MADRAS	31-Dec-12 17-Oct-14	Birth Transfer
138 M01011 KESHAVA 00074D512F	M	31-Dec-12	121	122	MYSORE	31-Dec-12 04-May-13	Birth Death
139 M01012 GURU 00071552CB	M	31-Dec-12	121	122	MYSORE	31-Dec-12	Birth
140 M01013	F	31-Dec-12	121	122	MYSORE	31-Dec-12 13-Jan-13	Birth Death
141 MNW1	M	31-Dec-12	121	122	MYSORE	31-Dec-12 06-Jan-13	Birth Death
142 270003 SRIKANTHA 00071537ED	M	31-Dec-12	121	122	MYSORE DELHI	31-Dec-12 26-Mar-14	Birth Transfer
143 MNW2	?	18-Dec-13	UNK	UNK	MYSORE	18-Dec-13 14-Jan-14	Birth Death
144 M01087	M	18-Dec-13	UNK	UNK	MYSORE	18-Dec-13 22-Feb-14	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
145 MNW3	?	18-Dec-13	UNK	UNK	MYSORE	18-Dec-13 14-Jan-14	Birth Death
146 MNW5	?	28-Jan-14	UNK	131	MYSORE	28-Jan-14 28-Jan-14	Birth Death
147 M01110 ARPITHA 00074D3BB6	F	28-Jan-14	UNK	131	MYSORE	28-Jan-14	Birth
148 MNW4	?	28-Jan-14	UNK	131	MYSORE	28-Jan-14 14-Mar-14	Birth Death
149 WLF007	M	~ Dec 2010	WILD	WILD	INDIA JODHPUR JUNAGADH	~ 2014 ~ Jun 2014 16-Mar-16	Capture Transfer Transfer
150 WLF009	F	~ Nov 2013	WILD	WILD	INDIA JAIPUR JUNAGADH	~ 2014 ~ Aug 2014 22-Jan-16	Capture Transfer Transfer
151 65931364	F	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
152 0006593CEF	M	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
153 0006585E9D	M	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
154 GW004	F	01-Jan-15	UNK	UNK	JAIPUR BANNERGHA	01-Jan-15 08-Apr-16	Birth Transfer
155 GW005	F	04-Jan-15	UNK	UNK	JAIPUR BANNERGHA	04-Jan-15 08-Apr-16	Birth Transfer
156 00065917AD	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
157 6594610	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
158 0006584CBA	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
159	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
160 000647DB0D	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
161 KARAN U00064E0E26 WLF006	M	10-Sep-12	WILD	WILD	INDIA UDAIPUR JUNAGADH	10-Sep-12 ???? 09-Sep-15	Capture Transfer Transfer
162 M01204 DUGU	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
163 M01205 RUHI 0007152A91	F	26-Dec-15	121	122	MYSORE RAJKOT	26-Dec-15 08-Mar-17	Birth Transfer
164 M01206 SURYA	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
165 M01207 SRIJAN	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
166 M01208 GEETHU	F	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
167 DIVYANGI WLF005	F	~ Feb 2013	WILD	WILD	INDIA JUNAGADH	~ Dec 2015 ~ 7 Jan 2016	Capture Transfer
168 M01209 RAHIL 0007152AA	M	09-Jan-16	139	147	MYSORE RAJKOT	09-Jan-16 08-Mar-17	Birth Transfer
169 M01211	M	10-Jan-16	129	131	MYSORE MADRAS	10-Jan-16 01-Jul-16	Birth Transfer
170 WF1	F	~ 2008	WILD	WILD	INDIA INDORE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
171 WF2	F	~ 2008	WILD	WILD	INDIA INDORE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
172 WM1	M	~ 2009	WILD	WILD	INDIA INDORE	~ 1 Feb 2012 09-Feb-12	Capture Transfer
173 AAZP12	F	~ 2014	UNK	UNK	UNKNOWN MADRAS	~ 2014 23-Sep-16	Birth Transfer
174 AAZP11	F	~ 2013	UNK	UNK	UNKNOWN MADRAS	~ 2013 23-Sep-16	Birth Transfer
175 RAVI	M	22-Feb-15	172	170	INDORE	22-Feb-15	Birth
176 VINAYAK	M	22-Feb-15	172	170	INDORE	22-Feb-15	Birth
177 SUMAN	F	22-Feb-15	172	170	INDORE	22-Feb-15	Birth
<b>TOTALS:96.77.4 (177)</b>							



Living Population of Indian Wolf (*Canis lupus pallipes*) in Indian Zoos

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
<b>AURANGABAD</b>							
112 WOLF1	F	~ 2008	WILD	WILD	INDIA AURANGABA	~ 1 Dec 2008 28-Jan-09	Capture Transfer
135 M00811 JAGAN JACK1 9.56E+14	M	08-Dec-11	121	122	MYSORE PUNE AURANGABA	08-Dec-11 10-Oct-12 11-Apr-15	Birth Transfer Transfer
<b>Total: 1.1.0(2)</b>							
<b>BANNERGHATA</b>							
124 M00304 ALOK 9.56E+14 GW001	M	13-Jan-11	121	122	MYSORE BANNERGHA	13-Jan-11 15-Nov-11	Birth Transfer
126 M00306 AYUSH 9.56E+14 GW003	M	13-Jan-11	121	122	MYSORE BANNERGHA	13-Jan-11 15-Nov-12	Birth Transfer
154 GW004	F	01-Jan-15	UNK	UNK	JAIPUR BANNERGHA	01-Jan-15 08-Apr-16	Birth Transfer
155 GW005	F	04-Jan-15	UNK	UNK	JAIPUR BANNERGHA	04-Jan-15 08-Apr-16	Birth Transfer
<b>Total: 2.2.0(4)</b>							
<b>DELHI</b>							
120 NONE 270005	M	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 15-Mar-13	Capture Transfer Transfer
133 270005	F	????	WILD	WILD	INDIA JAIPUR DELHI	???? ???? 22-Sep-15	Capture Transfer Transfer
142 270003 SRIKANTHA 00071537ED	M	31-Dec-12	121	122	MYSORE DELHI	31-Dec-12 26-Mar-14	Birth Transfer
<b>Total: 2.1.0(3)</b>							
<b>Nehru Zoological Park, Hyderabad</b>							
67 NONE	F	????	WILD	WILD	INDIA VISAKAPAT HYDERABAD	???? ~ 1998 17-Jul-02	Capture Transfer Transfer
<b>Total: 0.1.0(1)</b>							
<b>INDORE</b>							
170 WF1	F	~ 2008	WILD	WILD	INDIA INDORE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
171 WF2	F	~ 2008	WILD	WILD	INDIA INDORE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
172 WM1	M	~ 2009	WILD	WILD	INDIA INDORE	~ 1 Feb 2012 09-Feb-12	Capture Transfer
175 RAVI	M	22-Feb-15	172	170	INDORE	22-Feb-15	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
176 VINAYAK	M	22-Feb-15	172	170	INDORE	22-Feb-15	Birth
177 SUMAN	F	22-Feb-15	172	170	INDORE	22-Feb-15	Birth
<b>Total: 3.3.0(6)</b>							
<b>JAIPUR</b>							
99	F	10-Feb-07	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH JAIPUR	10-Feb-07 15-Mar-10	Birth Transfer
113 00065847C	M	????	UNK	UNK	JAIPUR	????	Birth
114 00064EE73A	F	????	UNK	UNK	JUNAGADH JAIPUR	???? ????	Birth Transfer
151 65931364	F	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
152 0006593CEF	M	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
153 0006585E9D	M	01-Jan-15	UNK	UNK	JAIPUR	01-Jan-15	Birth
156 00065917AD	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
157 6594610	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
158 0006584CBA	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
159	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
160 000647DB0D	F	18-Jan-15	UNK	UNK	JAIPUR	18-Jan-15	Birth
<b>Total: 3.8.0(11)</b>							
<b>JUNAGADH</b>							
87 00-000D-8267	M	08-Feb-04	63	60	JUNAGADH	08-Feb-04	Birth
90	M	08-Feb-04	63	60	JUNAGADH	08-Feb-04	Birth
97 00-0200-5902	F	27-Dec-05	63	60	JUNAGADH	27-Dec-05	Birth
106 00-06B7-5166	F	18-Jan-08	MULT Mult possible parents: Sires: 87 (50%), 91 (50%)	88	JUNAGADH	18-Jan-08	Birth
110 NONE 0006B7-7B79	F	????	WILD	WILD	INDIA LUCKNOW JUNAGADH	???? ~ 2008 20-Mar-10	Capture Transfer Transfer
111 NONE	M	????	WILD	WILD	INDIA JAIPUR JUNAGADH	???? ~ 2008 20-Mar-10	Capture Transfer Transfer
149 WLF007	M	~ Dec 2010	WILD	WILD	INDIA JODHPUR JUNAGADH	~ 2014 ~ Jun 2014 16-Mar-16	Capture Transfer Transfer
150 WLF009	F	~ Nov 2013	WILD	WILD	INDIA JAIPUR JUNAGADH	~ 2014 ~ Aug 2014 22-Jan-16	Capture Transfer Transfer
161	M	10-Sep-12	WILD	WILD	INDIA	10-Sep-12	Capture

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
KARAN U00064E0E26 WLF006					UDAIPUR JUNAGADH	???? 09-Sep-15	Transfer Transfer
167 DIVYANGI WLF005	F	~ Feb 2013	WILD	WILD	INDIA JUNAGADH	~ Dec 2015 ~ 7 Jan 2016	Capture Transfer
<b>Total: 5.5.0(10)</b>							
<b>LUCKNOW</b>							
91 00-000E-0440	M	08-Feb-04	63	60	JUNAGADH LUCKNOW	08-Feb-04 15-Mar-10	Birth Transfer
92	M	~ Feb 2005	WILD	WILD	INDIA LUCKNOW	~ Feb 2005 ~ Nov 2005	Capture Transfer
93	F	~ Feb 2005	WILD	WILD	INDIA LUCKNOW	~ Feb 2005 ~ Dec 2005	Capture Transfer
<b>Total: 2.1.0(3)</b>							
<b>MADRAS</b>							
137 M01010 VISHNU 00074D5F6A AAZP.9	M	31-Dec-12	121	122	MYSORE MADRAS	31-Dec-12 17-Oct-14	Birth Transfer
169 M01211	M	10-Jan-16	129	131	MYSORE MADRAS	10-Jan-16 01-Jul-16	Birth Transfer
173 AAZP12	F	~ 2014	UNK	UNK	UNKNOWN MADRAS	~ 2014 23-Sep-16	Birth Transfer
174 AAZP11	F	~ 2013	UNK	UNK	UNKNOWN MADRAS	~ 2013 23-Sep-16	Birth Transfer
<b>Total: 2.2.0(4)</b>							
<b>MYSORE</b>							
121 RAJA M00300	M	~ Feb 2007	WILD	WILD	INDIA MYSORE	~25 Apr 2010 01-May-10	Capture Transfer
129 M00302 PRUTHVIK 9.56E+14	M	13-Jan-11	121	122	MYSORE	13-Jan-11	Birth
131 M00812 PRATHIKSHA 9.56E+14	F	08-Dec-11	121	122	MYSORE	08-Dec-11	Birth
139 M01012 GURU 00071552CB	M	31-Dec-12	121	122	MYSORE	31-Dec-12	Birth
147 M01110 ARPITHA 00074D3BB6	F	28-Jan-14	UNK	131	MYSORE	28-Jan-14	Birth
162 M01204 DUGU	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
164 M01206 SURYA	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
165	M	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
M01207 SRIJAN							
166 M01208 GEETHU	F	26-Dec-15	121	122	MYSORE	26-Dec-15	Birth
<b>Total: 6.3.0(9)</b>							
<b>PUNE</b>							
109 GATTY 000-6B72-053 10099	F	~ Aug 2007	WILD	WILD	INDIA PUNE	~ 2 Aug 2008 16-Aug-08	Capture Transfer
130 George 10158	M	~ Jan 2000	WILD	WILD	INDIA PUNE	~ 1 Mar 2011 10-Mar-11	Capture Transfer
<b>Total: 1.1.0(2)</b>							
<b>RAJKOT</b>							
163 M01205 RUHI 0007152A91	F	26-Dec-15	121	122	MYSORE RAJKOT	26-Dec-15 08-Mar-17	Birth Transfer
168 M01209 RAHIL 0007152AA	M	09-Jan-16	139	147	MYSORE RAJKOT	09-Jan-16 08-Mar-17	Birth Transfer
<b>Total: 1.1.0(2)</b>							
<b>TIRUPATI</b>							
115 0006EFDBOD	M	????	UNK	UNK	JAIPUR TIRUPATI	???? 24-Sep-13	Birth Transfer
116 NONE 0006EFD755	F	????	WILD	WILD	INDIA TIRUPATI	???? 31-May-13	Capture Transfer
<b>Total: 1.1.0(2)</b>							
<b>Totals: 29.30.0 (59)</b>							

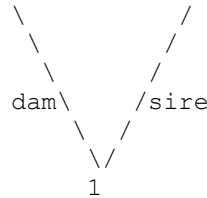
## Pedigree Chart Report of Indian Wolf (*Canis lupus pallipes*) in Indian Zoos

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 1

=====

WILD



WILD

Sex: Male

Birth Date: ~ 1971

Last Location: KANPUR (dead)

House Name:

Tattoo:

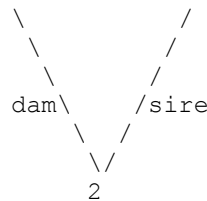
Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 2

=====

WILD



WILD

Sex: Female

Birth Date: ~ 1974

Last Location: KANPUR (dead)

House Name:

Tattoo:

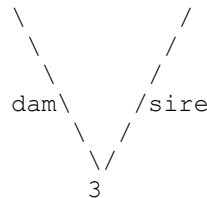
Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 3

=====

WILD



WILD

Sex: Male

Birth Date: ~ 1974

Last Location: KANPUR (dead)

House Name:

Tattoo:

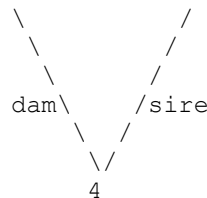
Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 4

=====

WILD



WILD

Sex: Male

Birth Date: ~ 1969

Last Location: JUNAGADH (dead)

House Name:

Tattoo:

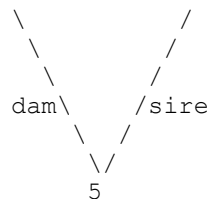
Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 5

=====

WILD



WILD

Sex: Male

Birth Date: ~20 Apr 1976

Last Location: KANPUR (dead)

House Name:

Tattoo:

Tag/Band:

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=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 6
=====
WILD                                                            WILD
                                                                Sex: Female
                                                                Birth Date:   ????
                                                                Last Location: KANPUR   (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
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=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 7
=====
WILD                                                            WILD
                                                                Sex: Male
                                                                Birth Date:   ~ 1972
                                                                Last Location: JUNAGADH (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
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=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 8
=====
WILD                                                            WILD
                                                                Sex: Male
                                                                Birth Date:   ????
                                                                Last Location: KANPUR   (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
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=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 9
=====
WILD                                                            WILD
                                                                Sex: Male
                                                                Birth Date:   ~ 1970
                                                                Last Location: JUNAGADH (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
                                                                /
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=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 10
=====
WILD                                                            WILD
                                                                Sex: Male
                                                                Birth Date:   ~ 1970
                                                                Last Location: JUNAGADH (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
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dam \ /sire
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 10

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=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 11
=====
WILD                                                    WILD
                \      /                               Sex: Male
                \|    /                               Birth Date: ~ 1980
                dam\ /sire                           Last Location: KANPUR (dead)
                \  /                               House Name:
                \| /                               Tattoo:
                \|/                               Tag/Band:
                11

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=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 12
=====
WILD                                                    WILD
                \      /                               Sex: Female
                \|    /                               Birth Date: ~ 1980
                dam\ /sire                           Last Location: KANPUR (dead)
                \  /                               House Name:
                \| /                               Tattoo:
                \|/                               Tag/Band:
                12

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=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 13
=====
WILD                                                    WILD
                \      /                               Sex: Male
                \|    /                               Birth Date: ???
                dam\ /sire                           Last Location: JUNAGADH (dead)
                \  /                               House Name:
                \| /                               Tattoo:
                \|/                               Tag/Band:
                13

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=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 14
=====
WILD                                                    WILD
                \      /                               Sex: Female
                \|    /                               Birth Date: ???
                dam\ /sire                           Last Location: JUNAGADH (dead)
                \  /                               House Name:
                \| /                               Tattoo:
                \|/                               Tag/Band:
                14

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=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 15
=====
UNK                                                    UNK
                \      /                               Sex: Male
                \|    /                               Birth Date: 8 Feb 1984
                dam\ /sire                           Last Location: NANDANKAN
                \  /                               House Name:
                \| /                               Tattoo:
                \|/                               Tag/Band:
                15

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=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 21  
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       21
  
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WILD  
 Sex: Male  
 Birth Date: ~ 1 Mar 1991  
 Last Location: KANPUR  
 House Name:  
 Tattoo:  
 Tag/Band:

=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 22  
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          WILD                               WILD                               UNK                               UNK
          dam\                             dam\                             dam\                             dam\
           \                               \                               \                               \
          /sire                             /sire                             /sire                             /sire
           \                               \                               \                               \
            \|/                             \|/                             \|/                             \|/
             14 +                             17                               17                               17
  
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+ Wild-caught...  
 WILD  
 Birth Date: 23 Feb 1989  
 Last Location: AHMEDABAD (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 23  
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          WILD                               WILD                               UNK                               UNK
          dam\                             dam\                             dam\                             dam\
           \                               \                               \                               \
          /sire                             /sire                             /sire                             /sire
           \                               \                               \                               \
            \|/                             \|/                             \|/                             \|/
             14 +                             17                               17                               17
  
```

+ Wild-caught...  
 WILD  
 Sex: Female  
 Birth Date: 23 Feb 1989  
 Last Location: JUNAGADH (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 24  
 =====

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          WILD
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dam\          /sire
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   \      /
    \    /
     \  /
      \|/
       24
  
```

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

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 25
=====
WILD                                                    WILD
                \      /
                \|  /
      dam \    /sire
            \  /
             \|
              \
               25

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

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 26
=====
UNK                                                       UNK
                \      /
                \|  /
      dam \    /sire
            \  /
             \|
              \
               26

        Sex: Male
  Birth Date: 27 Dec 1990
Last Location: MADRAS      (dead)
  House Name: SAM
     Tattoo:
  Tag/Band:
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 27
=====
WILD                                                    WILD
                \      /
                \|  /
      dam \    /sire
            \  /
             \|
              \
               27

        Sex: Male
  Birth Date:~ 2 Sep 1991
Last Location: KANPUR      (dead)
  House Name:
     Tattoo:
  Tag/Band:
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 28
=====
WILD                                                    WILD
                \      /
                \|  /
      dam \    /sire
            \  /
             \|
              \
               28

        Sex: Female
  Birth Date:~ 2 Sep 1991
Last Location: LUCKNOW
  House Name:
     Tattoo:
  Tag/Band:
  
```

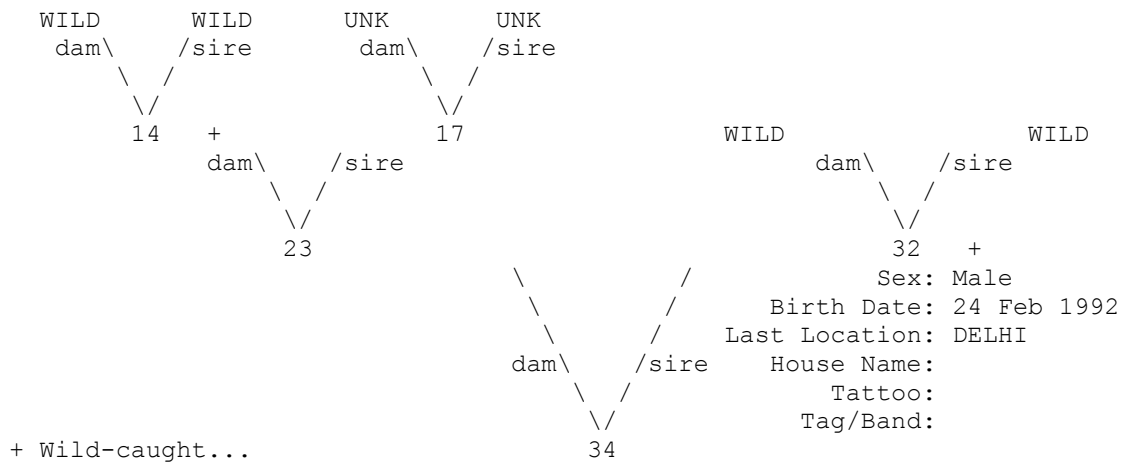
```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 29
=====
WILD                                                    WILD
                \      /
                \|  /
      dam \    /sire
            \  /
             \|
              \
               29

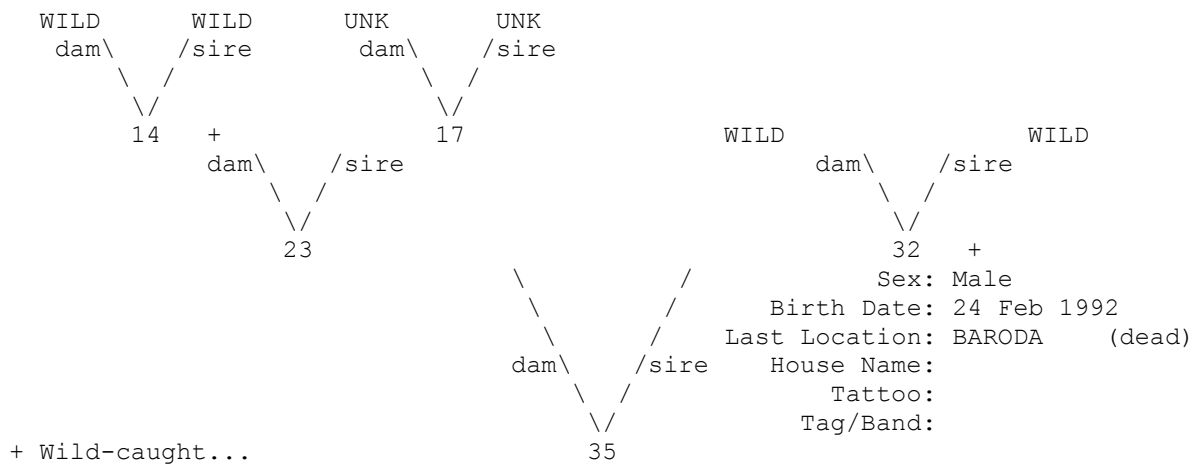
        Sex: Female
  Birth Date:~ 2 Sep 1991
Last Location: KANPUR      (dead)
  House Name:
     Tattoo:
  Tag/Band:
  
```



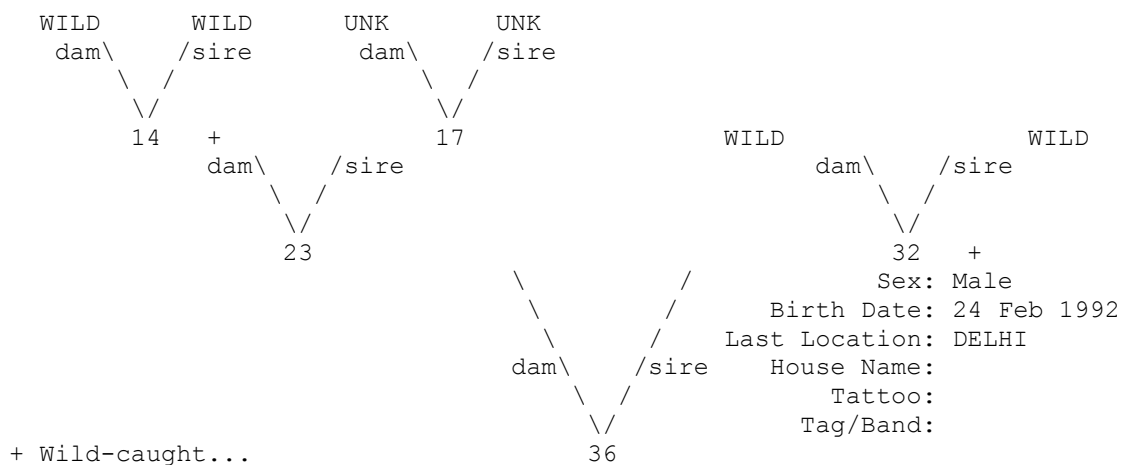
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 34  
=====



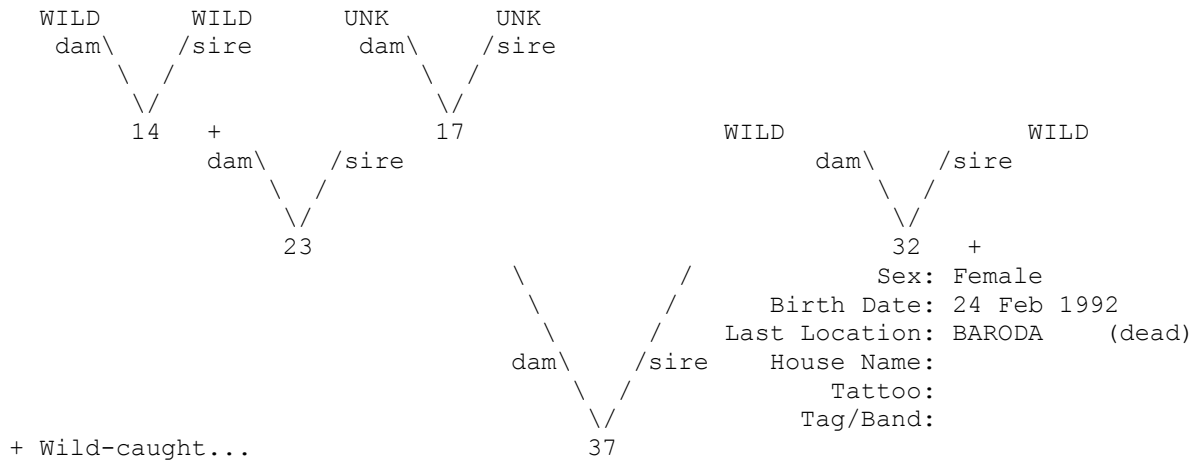
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 35  
=====



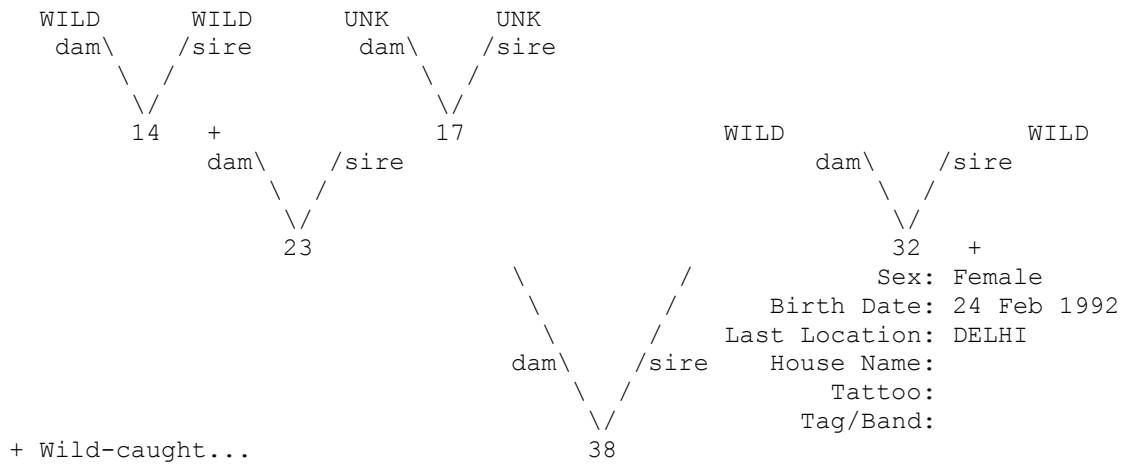
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 36  
=====



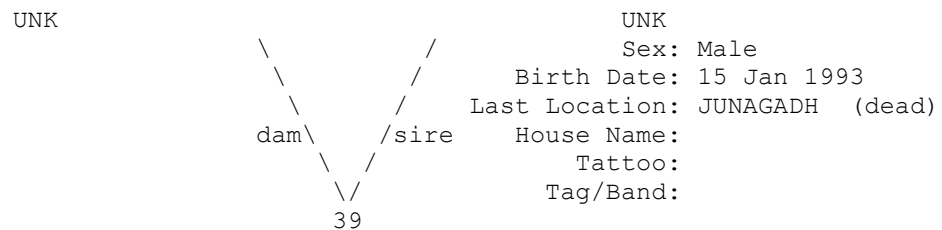
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 37  
=====



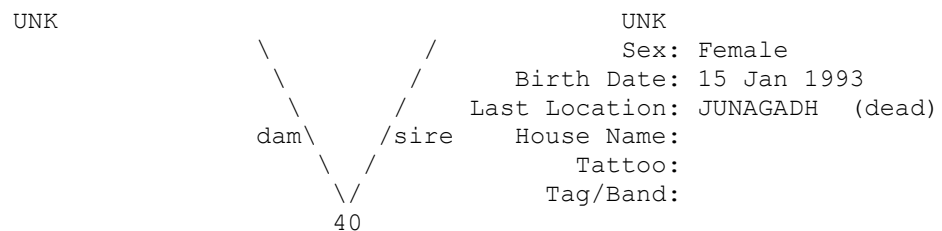
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 38  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 39  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 40  
=====



```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 41
=====
                WILD                                         WILD
                dam\ /sire                                     dam\ /sire
                \ /                                          \ /
                41                                         Sex: Female
                Birth Date:      ????
                Last Location: KANPUR (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 42
=====
WILD      WILD      UNK      UNK
dam\     /sire     dam\     /sire
 \ /      \ /      \ /      \ /
  14      +      17
   dam\   /sire
   \ /
   23
                    WILD      WILD
                    dam\     /sire
                    \ /
                    32      +
                    Sex: Female
                    Birth Date: 19 Dec 1993
                    Last Location: BARODA (dead)
                    House Name:
                    Tattoo:
                    Tag/Band:
+ Wild-caught...
                    dam\ /sire
                    \ /
                    42

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 43
=====
WILD      WILD      UNK      UNK
dam\     /sire     dam\     /sire
 \ /      \ /      \ /      \ /
  14      +      17
   dam\   /sire
   \ /
   23
                    WILD      WILD
                    dam\     /sire
                    \ /
                    32      +
                    Sex: Female
                    Birth Date: 19 Dec 1993
                    Last Location: JUNAGADH (dead)
                    House Name:
                    Tattoo:
                    Tag/Band:
+ Wild-caught...
                    dam\ /sire
                    \ /
                    43

```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 44  
=====

```
WILD      WILD      UNK      UNK
dam\     /sire    dam\     /sire
  \      /       \      /
   14    +       17
      + dam\     /sire
        \      /
         23
            \      /
             \    /
              dam\ /sire
                \ /
                 44
+ Wild-caught...

WILD      WILD
dam\     /sire
  \      /
   32    +
      Sex: Female
      Birth Date: 19 Dec 1993
      Last Location: DELHI (dead)
      House Name:
      Tattoo:
      Tag/Band:
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 45  
=====

```
WILD      WILD      UNK      UNK
dam\     /sire    dam\     /sire
  \      /       \      /
   14    +       17
      + dam\     /sire
        \      /
         23
            \      /
             \    /
              dam\ /sire
                \ /
                 45
+ Wild-caught...

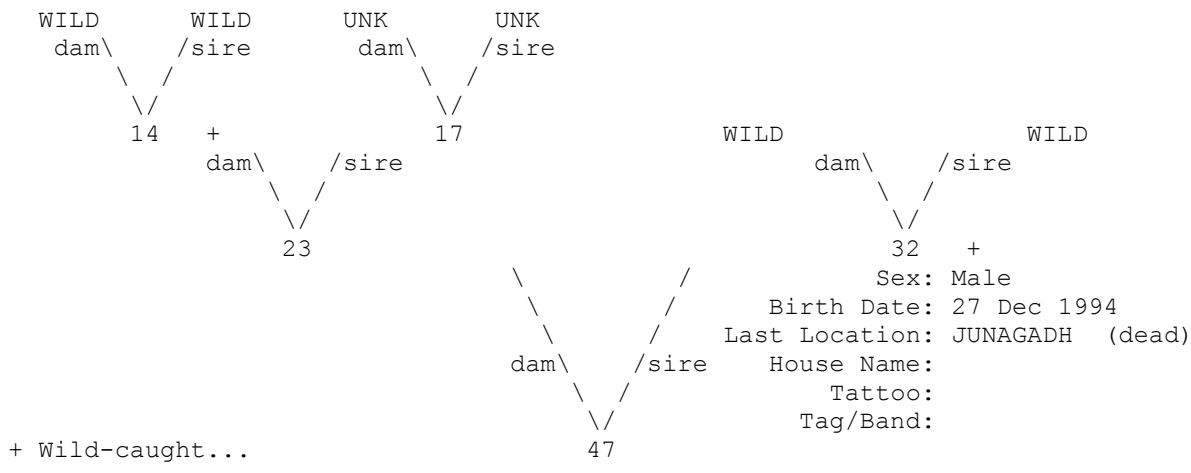
WILD      WILD
dam\     /sire
  \      /
   32    +
      Sex: Female
      Birth Date: 19 Dec 1993
      Last Location: JUNAGADH (dead)
      House Name:
      Tattoo:
      Tag/Band:
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 46  
=====

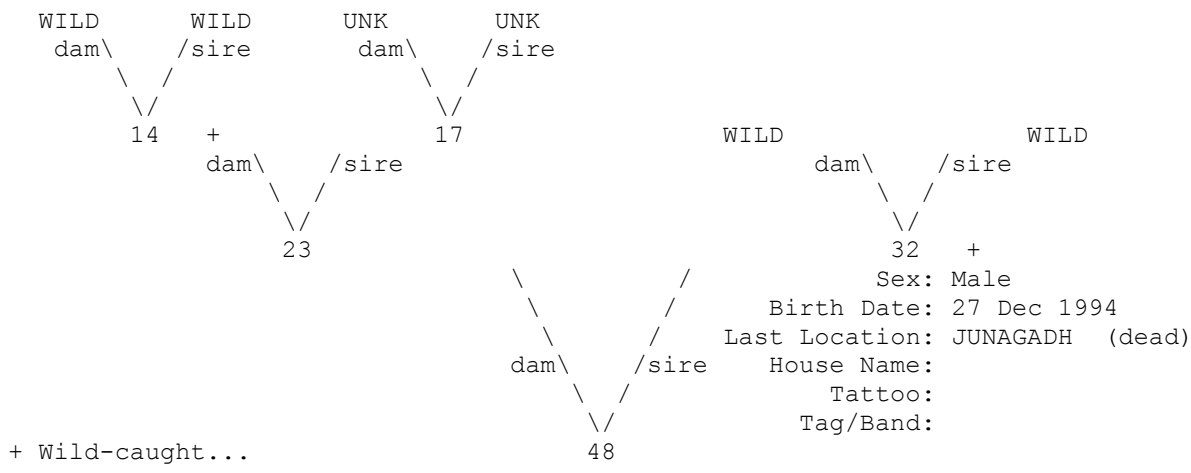
```
WILD      WILD      UNK      UNK
dam\     /sire    dam\     /sire
  \      /       \      /
   14    +       17
      + dam\     /sire
        \      /
         23
            \      /
             \    /
              dam\ /sire
                \ /
                 46
+ Wild-caught...

WILD      WILD
dam\     /sire
  \      /
   32    +
      Sex: Male
      Birth Date: 27 Dec 1994
      Last Location: JUNAGADH (dead)
      House Name:
      Tattoo:
      Tag/Band:
```

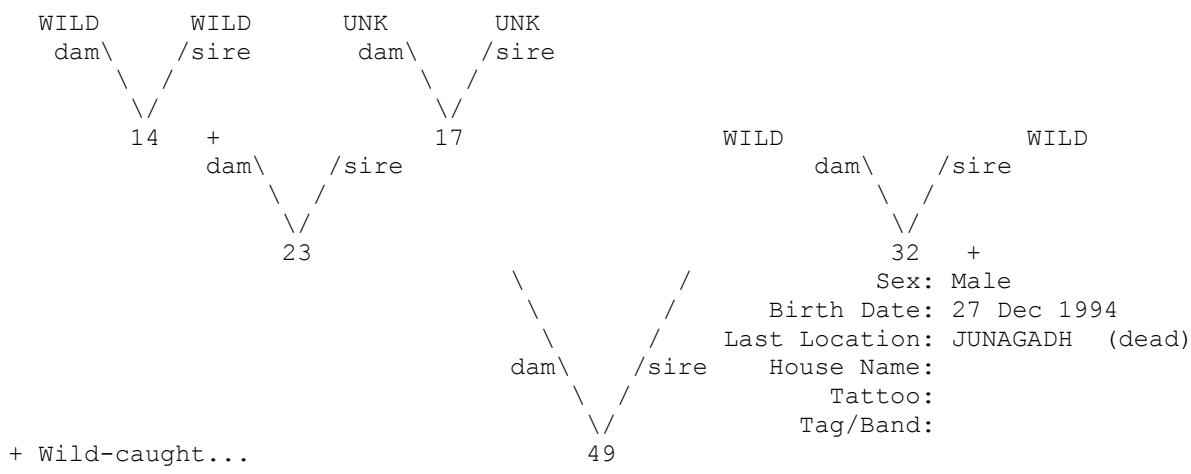
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 47  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 48  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 49  
=====





```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 50
=====
WILD dam\  WILD sire  UNK dam\  UNK sire
 14  +  17
  dam\  /sire
   \  /
    23
      \  /
       dam\  /sire
        \  /
         50
           \  /
            dam\  /sire
             \  /
              32  +
               dam\  /sire
                \  /
                 32  +
                  Sex: Female
                  Birth Date: 27 Dec 1994
                  Last Location: JUNAGADH (dead)
                  House Name:
                  Tattoo:
                  Tag/Band:

+ Wild-caught...

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 51
=====
WILD dam\  WILD sire  UNK dam\  UNK sire
 14  +  17
  dam\  /sire
   \  /
    23
      \  /
       dam\  /sire
        \  /
         51
           \  /
            dam\  /sire
             \  /
              32  +
               dam\  /sire
                \  /
                 32  +
                  Sex: Female
                  Birth Date: 27 Dec 1994
                  Last Location: JUNAGADH (dead)
                  House Name:
                  Tattoo:
                  Tag/Band:

+ Wild-caught...

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 52
=====
                                UNK
                                dam\  /sire
                                 \  /
                                  52
                                    \  /
                                     dam\  /sire
                                      \  /
                                       UNK
                                       Sex: Male
                                       Birth Date:      ???
                                       Last Location: MADRAS (dead)
                                       House Name: RAMU
                                       Tattoo:
                                       Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 53
=====
                                UNK
                                dam\  /sire
                                 \  /
                                  53
                                    \  /
                                     dam\  /sire
                                      \  /
                                       UNK
                                       Sex: Male
                                       Birth Date: 19 Jan 1995
                                       Last Location: KANPUR (dead)
                                       House Name:
                                       Tattoo:
                                       Tag/Band:

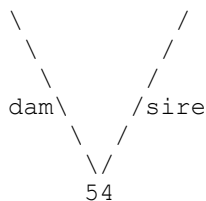
```

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 54

=====

UNK



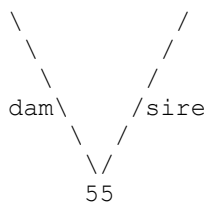
UNK  
 Sex: Female  
 Birth Date: 19 Jan 1995  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 55

=====

WILD

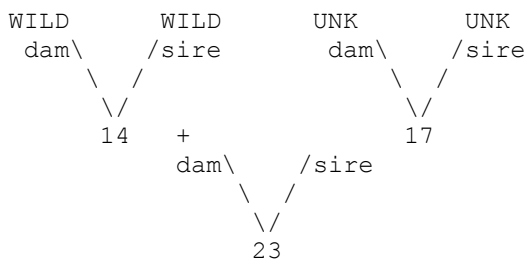


WILD  
 Sex: Male  
 Birth Date: ~ 1989  
 Last Location: JUNAGADH (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

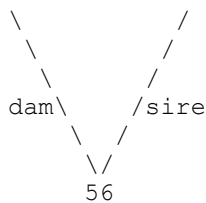
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 56

=====



WILD dam\ /sire WILD  
 dam\ /sire  
 32 +  
 Sex: Male  
 Birth Date: 21 Dec 1995  
 Last Location: AHMEDABAD (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

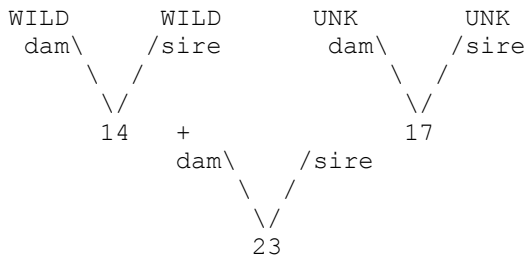
+ Wild-caught...



=====

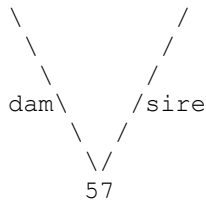
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 57

=====



WILD dam\ /sire WILD  
 dam\ /sire  
 32 +  
 Sex: Male  
 Birth Date: 21 Dec 1995  
 Last Location: JUNAGADH (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

+ Wild-caught...



```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 58
=====
WILD dam\      WILD /sire      UNK dam\      UNK /sire
  \  /          \  /          \  /          \  /
   14 +          17
    \  /          \  /
     dam\        /sire
        \  /
         23
            \  /
             dam\ /sire
                \  /
                 58
                    \  /
                     dam\ /sire
                         \  /
                          32 +
                           Sex: Male
                           Birth Date: 21 Dec 1995
                           Last Location: JUNAGADH (dead)
                           House Name:
                           Tattoo:
                           Tag/Band:
+ Wild-caught...

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 59
=====
WILD dam\      WILD /sire      UNK dam\      UNK /sire
  \  /          \  /          \  /          \  /
   14 +          17
    \  /          \  /
     dam\        /sire
        \  /
         23
            \  /
             dam\ /sire
                \  /
                 59
                    \  /
                     dam\ /sire
                         \  /
                          32 +
                           Sex: Female
                           Birth Date: 21 Dec 1995
                           Last Location: JUNAGADH (dead)
                           House Name:
                           Tattoo:
                           Tag/Band:
+ Wild-caught...

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 60
=====
WILD dam\      WILD /sire      UNK dam\      UNK /sire
  \  /          \  /          \  /          \  /
   14 +          17
    \  /          \  /
     dam\        /sire
        \  /
         23
            \  /
             dam\ /sire
                \  /
                 60
                    \  /
                     dam\ /sire
                         \  /
                          32 +
                           Sex: Female
                           Birth Date: 21 Dec 1995
                           Last Location: JUNAGADH (dead)
                           House Name:
                           Tattoo:
                           Tag/Band:
+ Wild-caught...

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 61
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date: ~ 1997
                                                    Last Location: LUCKNOW (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:
    \
     \
dam \   /
     /   \
    \     /
     \   /
      \ /
       61

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 62
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date: ???
                                                    Last Location: LUCKNOW (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:
    \
     \
dam \   /
     /   \
    \     /
     \   /
      \ /
       62

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 63
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date: ~ 1997
                                                    Last Location: LUCKNOW (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:
    \
     \
dam \   /
     /   \
    \     /
     \   /
      \ /
       63

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 64
=====
WILD                                                    WILD
                                                    Sex: Male
                                                    Birth Date: ???
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:
    \
     \
dam \   /
     /   \
    \     /
     \   /
      \ /
       64

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 65
=====
WILD                                                    WILD
                                                    Sex: Female
                                                    Birth Date: ???
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:
    \
     \
dam \   /
     /   \
    \     /
     \   /
      \ /
       65

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 66
=====
WILD                                                            WILD
                                                                Sex: Female
                                                                Birth Date:   ???
                                                                Last Location: VISAKAPAT (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
                                                                /
                                                                /
                                                                /
dam \ /sire
  \ /
   \ /
    66

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 67
=====
WILD                                                            WILD
                                                                Sex: Female
                                                                Birth Date:   ???
                                                                Last Location: HYDERABAD
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
                                                                /
                                                                /
                                                                /
dam \ /sire
  \ /
   \ /
    67

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 68
=====
UNK                                                            UNK
dam \ /sire
  \ /
   \ /
    19
UNK                                                            UNK
dam \ /sire
  \ /
   \ /
    18
                                                                Sex: Male
                                                                Birth Date: 13 Jul 1998
                                                                Last Location: MADRAS (dead)
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
                                                                /
                                                                /
                                                                /
dam \ /sire
  \ /
   \ /
    68

```

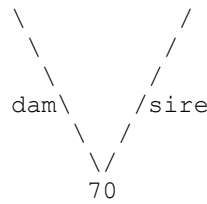
```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 69
=====
UNK                                                            UNK
dam \ /sire
  \ /
   \ /
    19
UNK                                                            UNK
dam \ /sire
  \ /
   \ /
    18
                                                                Sex: Female
                                                                Birth Date: 13 Jul 1998
                                                                Last Location: MADRAS (dead)
                                                                House Name: PATTY
                                                                Tattoo:
                                                                Tag/Band:
                                                                /
                                                                /
                                                                /
dam \ /sire
  \ /
   \ /
    69

```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 70  
=====

WILD

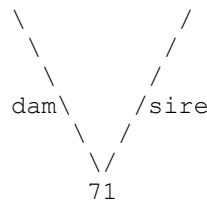


WILD

Sex: Male  
Birth Date: ~ 1994  
Last Location: PUNE (dead)  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 71  
=====

WILD

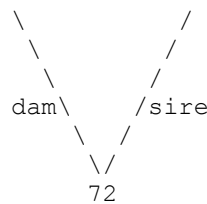


WILD

Sex: Female  
Birth Date: ~ Aug 1994  
Last Location: PUNE (dead)  
House Name: LUSSY  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 72  
=====

WILD

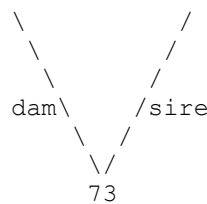


WILD

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

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 73  
=====

UNK

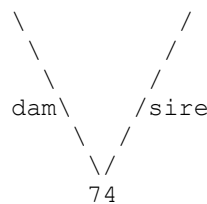


UNK

Sex: Female  
Birth Date: 11 Sep 2000  
Last Location: TIRUPATI (dead)  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 74  
=====

UNK



UNK

Sex: Male  
Birth Date: 11 Sep 2000  
Last Location: TIRUPATI (dead)  
House Name:  
Tattoo:  
Tag/Band:

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 75
=====
UNK                                                    UNK
                \      /
                \    /
                dam\ /sire
                \  /
                \ /
                75
                Sex: Male
                Birth Date: 11 Sep 2000
                Last Location: VISAKAPAT (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 76
=====
UNK                                                    UNK
                \      /
                \    /
                dam\ /sire
                \  /
                \ /
                76
                Sex: Male
                Birth Date: ~ Aug 2000
                Last Location: DELHI (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 77
=====
UNK                                                    UNK
                \      /
                \    /
                dam\ /sire
                \  /
                \ /
                77
                Sex: Female
                Birth Date: 13 Aug 2000
                Last Location: DELHI (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 78
=====
UNK                                                    UNK
                \      /
                \    /
                dam\ /sire
                \  /
                \ /
                78
                Sex: Male
                Birth Date: 8 Jul 2002
                Last Location: HYDERABAD (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 79
=====
UNK                                                    UNK
                \      /
                \    /
                dam\ /sire
                \  /
                \ /
                79
                Sex: Male
                Birth Date: 8 Jul 2002
                Last Location: HYDERABAD (dead)
                House Name:
                Tattoo:
                Tag/Band:

```

```
=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 80
=====
UNK                                                    UNK
                                                    Sex: Male
                                                    Birth Date: 8 Jul 2002
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      \|    /
      dam\  /sire
           \|/
            80
```

```
=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 81
=====
UNK                                                    UNK
                                                    Sex: Male
                                                    Birth Date: 8 Jul 2002
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      \|    /
      dam\  /sire
           \|/
            81
```

```
=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 82
=====
UNK                                                    UNK
                                                    Sex: Female
                                                    Birth Date: 8 Jul 2002
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

      \      /
      \|    /
      dam\  /sire
           \|/
            82
```

```
=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 83
=====
UNK                                                    UNK
                                                    Sex: Female
                                                    Birth Date: 8 Jul 2002
                                                    Last Location: VISAKAPAT (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

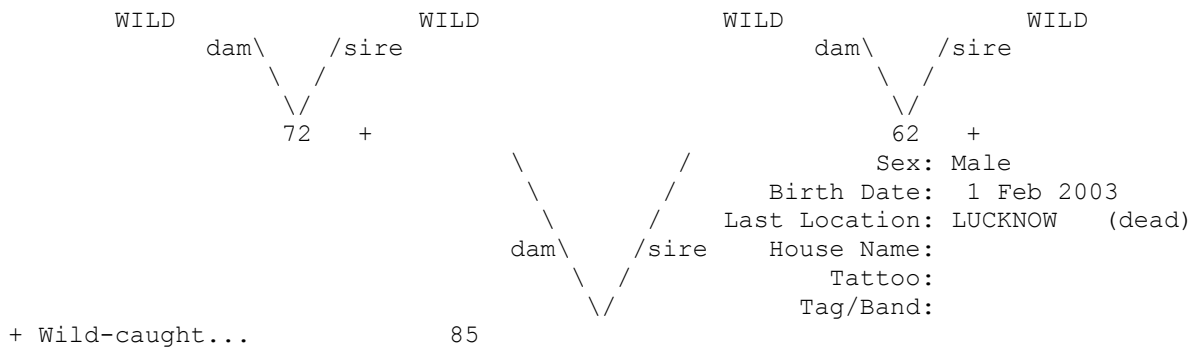
      \      /
      \|    /
      dam\  /sire
           \|/
            83
```

```
=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 84
=====
WILD                                                  WILD
                                                    Sex: Female
                                                    Birth Date:      ???
                                                    Last Location: LUCKNOW (dead)
                                                    House Name:
                                                    Tattoo:
                                                    Tag/Band:

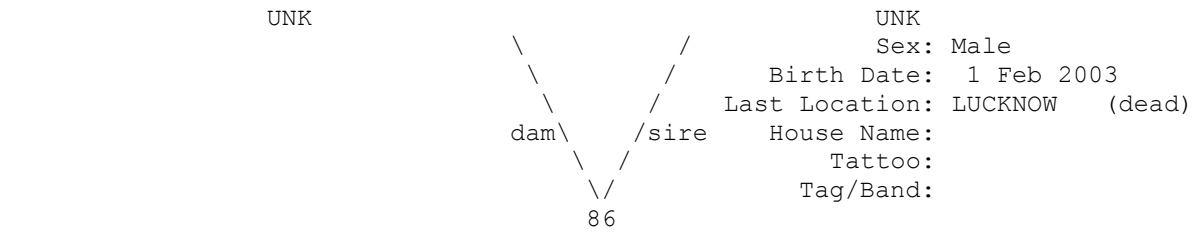
      \      /
      \|    /
      dam\  /sire
           \|/
            84
```



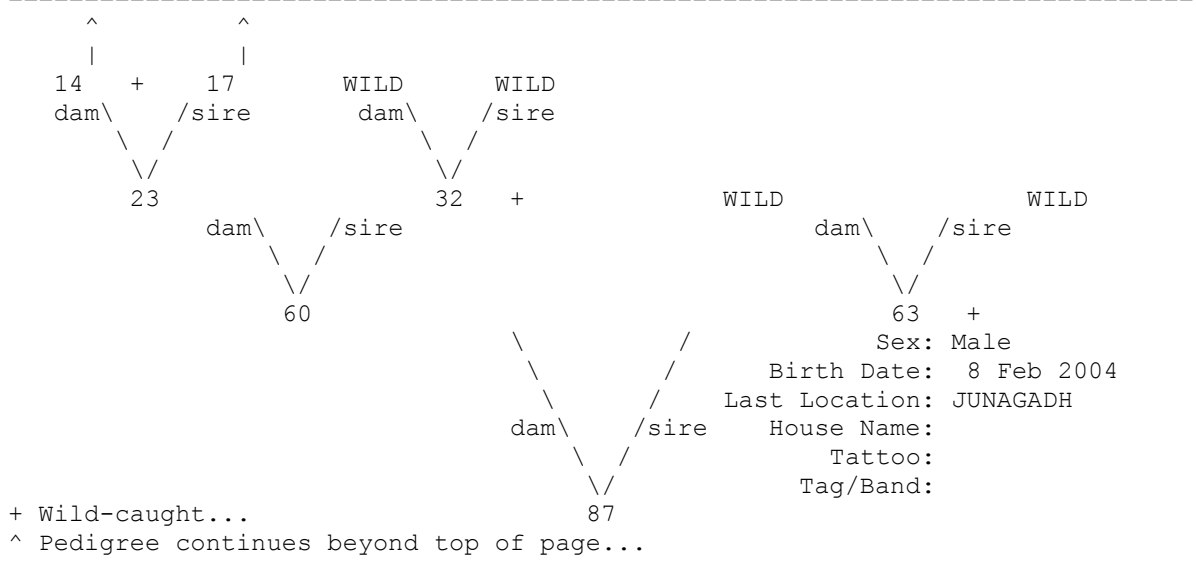
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 85  
 =====



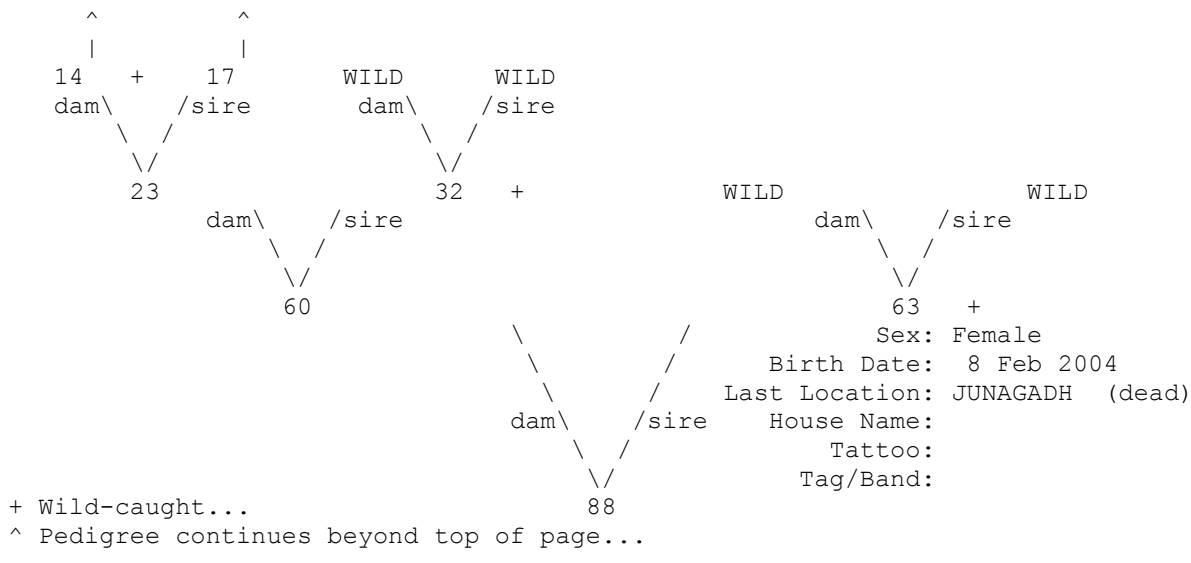
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 86  
 =====



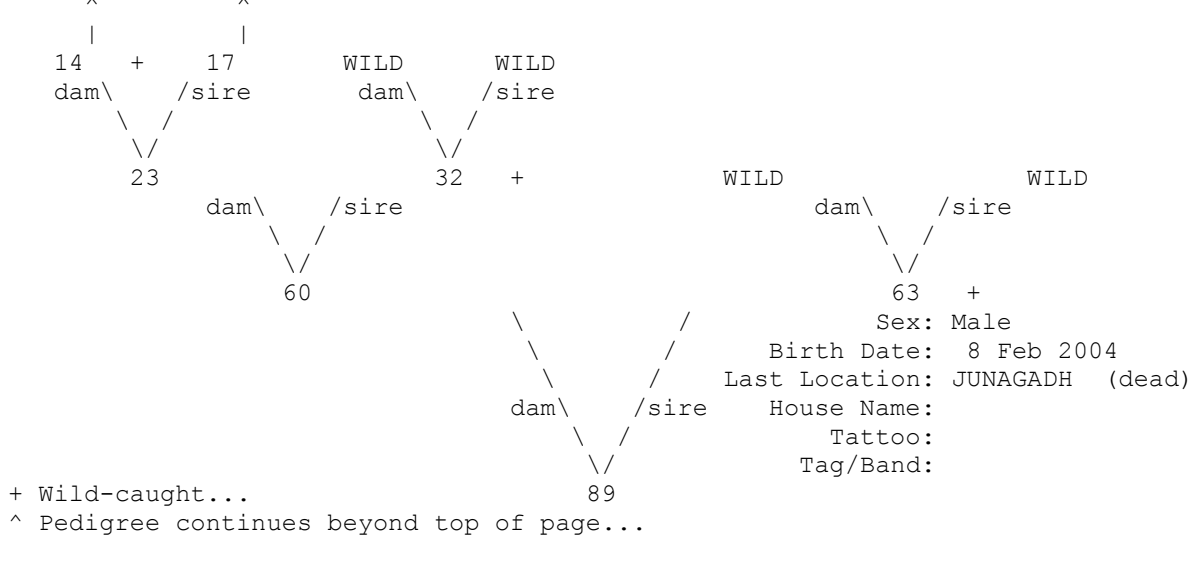
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 87  
 =====



=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 88  
 =====



=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 89  
 =====

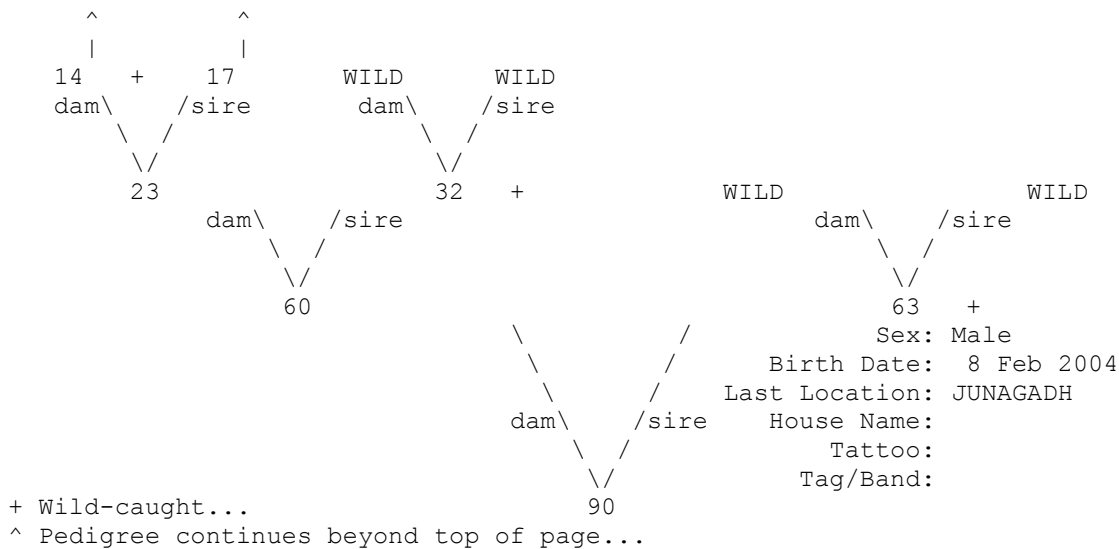


=====

Taxon Name: CANIS LUPUS PALLIPES

Studbook Number: 90

=====



=====

Taxon Name: CANIS LUPUS PALLIPES

Studbook Number: 91

=====

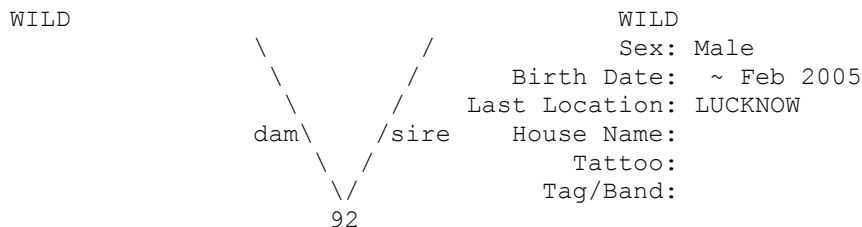


=====

Taxon Name: CANIS LUPUS PALLIPES

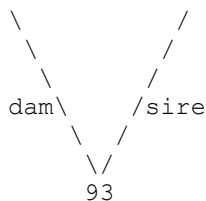
Studbook Number: 92

=====



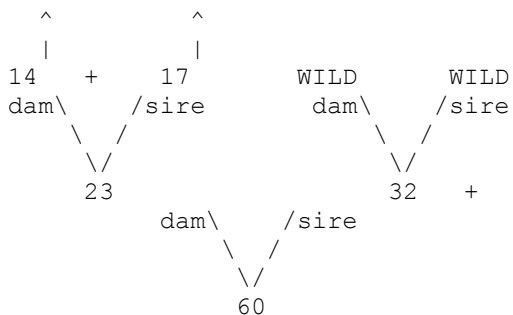
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 93  
 =====

WILD



WILD  
 Sex: Female  
 Birth Date: ~ Feb 2005  
 Last Location: LUCKNOW  
 House Name:  
 Tattoo:  
 Tag/Band:

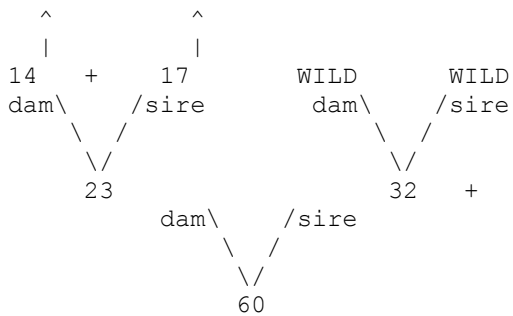
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 94  
 =====



WILD WILD  
 dam\ /sire  
 dam\ /sire  
 +  
 WILD WILD  
 dam\ /sire  
 dam\ /sire  
 +  
 Sex: Male  
 Birth Date: 27 Dec 2005  
 Last Location: JUNAGADH (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

+ Wild-caught...  
 ^ Pedigree continues beyond top of page...

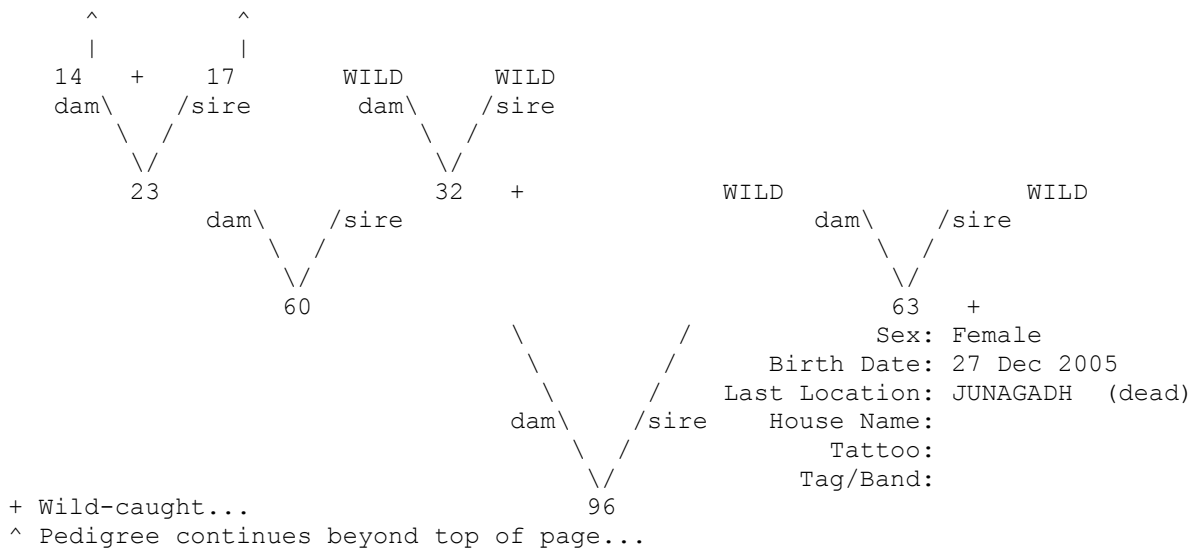
=====  
 Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 95  
 =====



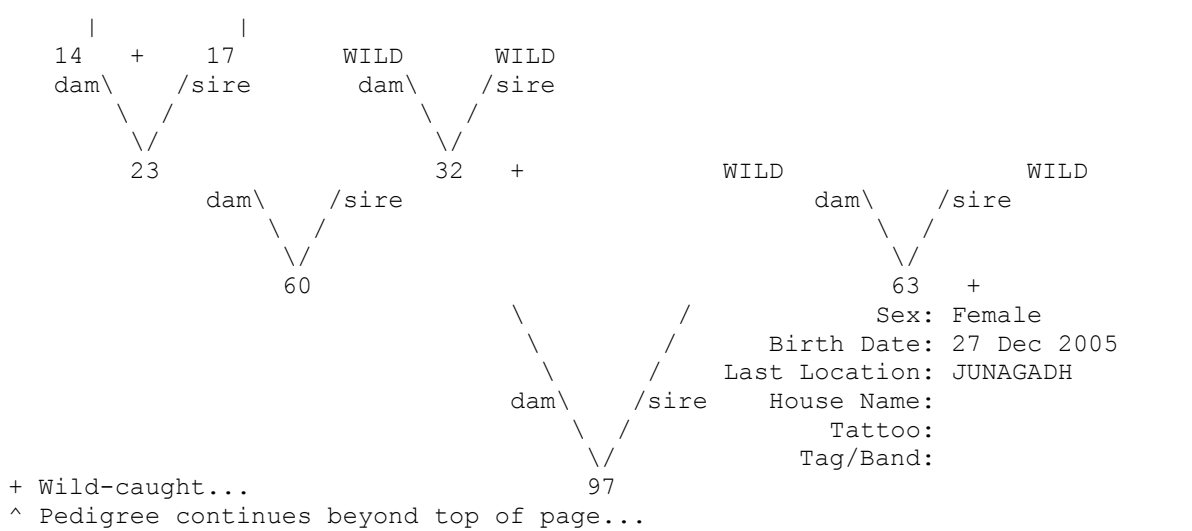
WILD WILD  
 dam\ /sire  
 dam\ /sire  
 +  
 WILD WILD  
 dam\ /sire  
 dam\ /sire  
 +  
 Sex: Male  
 Birth Date: 27 Dec 2005  
 Last Location: JUNAGADH (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

+ Wild-caught...  
 ^ Pedigree continues beyond top of page...

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 96  
=====

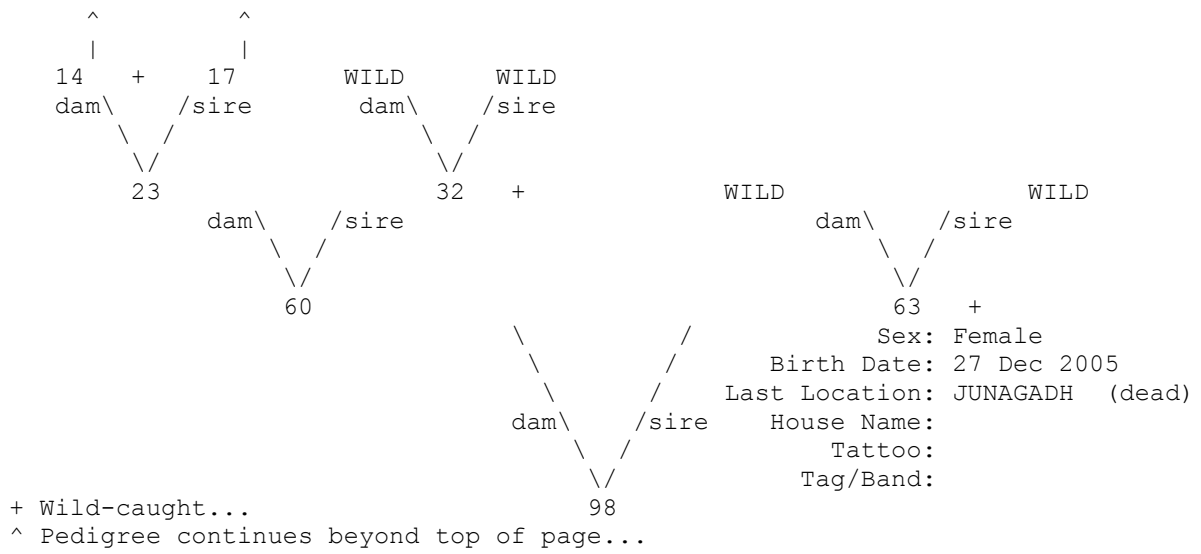


=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 97  
=====



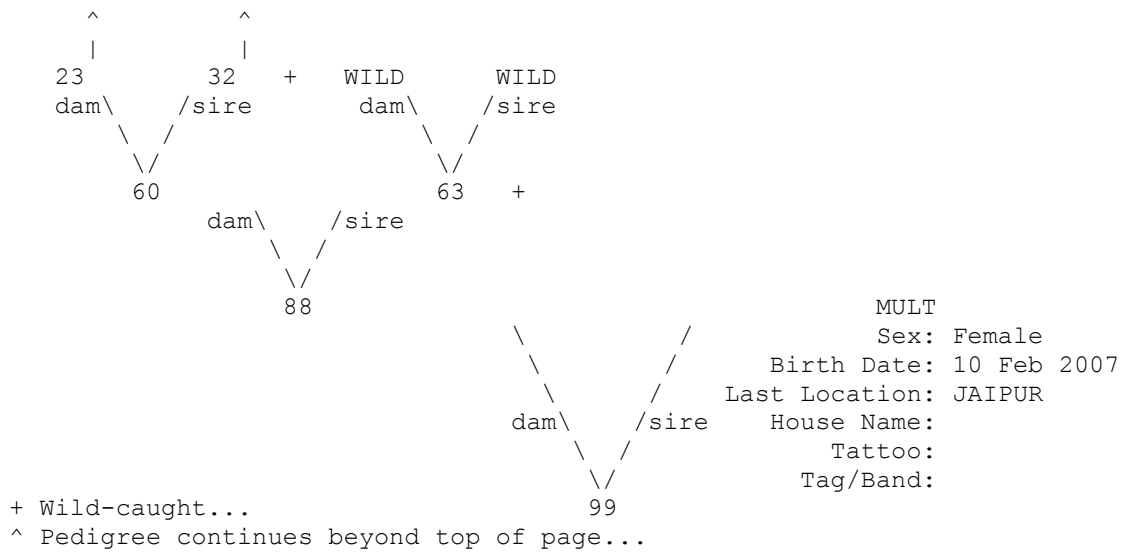
=====  
Taxon Name: CANIS LUPUS PALLIPES

Studbook Number: 98  
=====



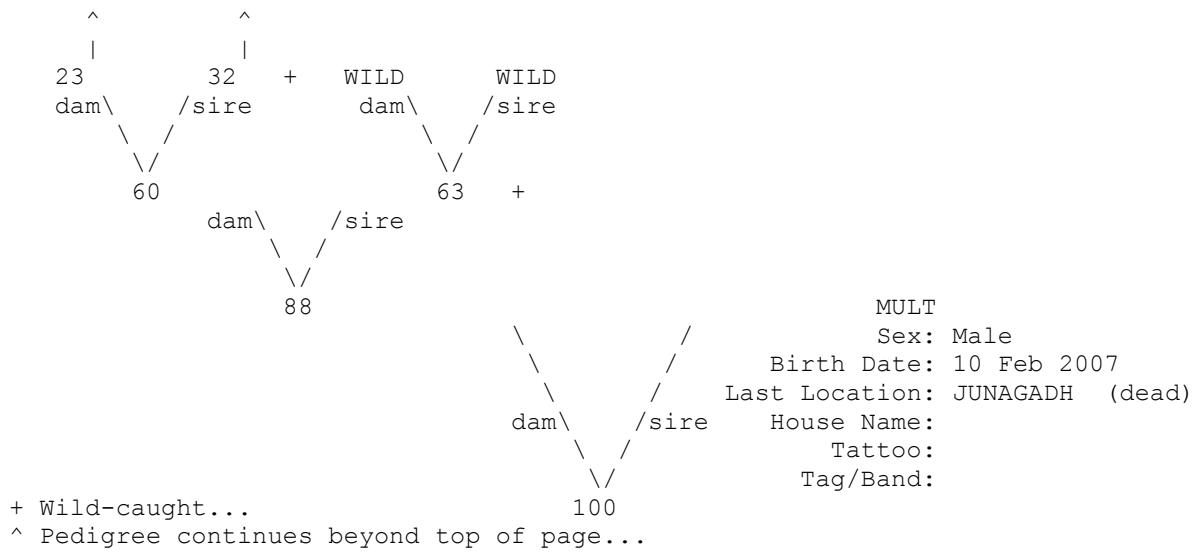
=====  
Taxon Name: CANIS LUPUS PALLIPES

Studbook Number: 99  
=====



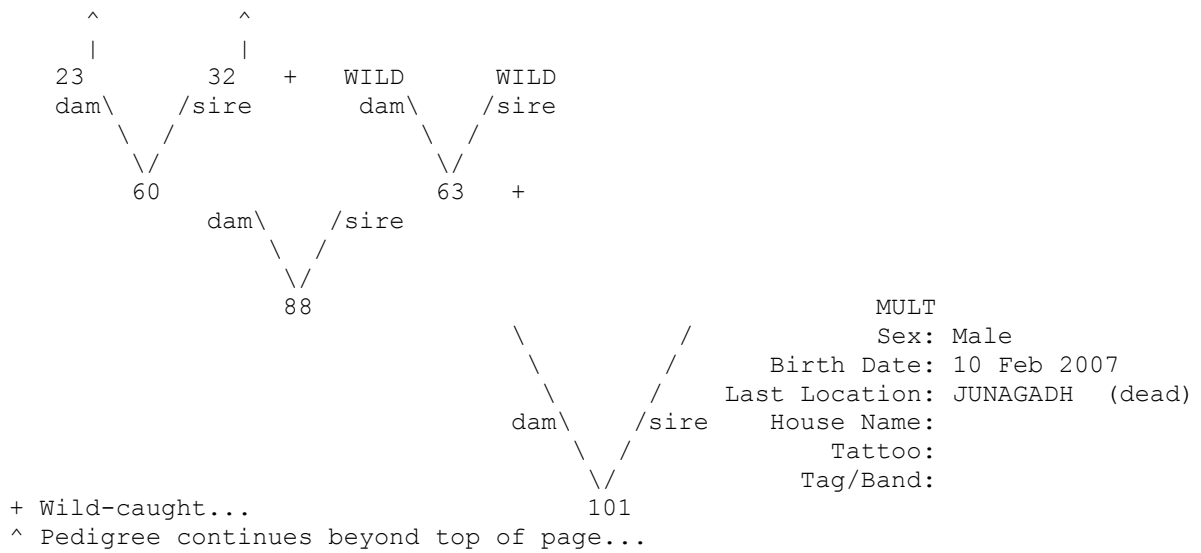
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 100  
=====



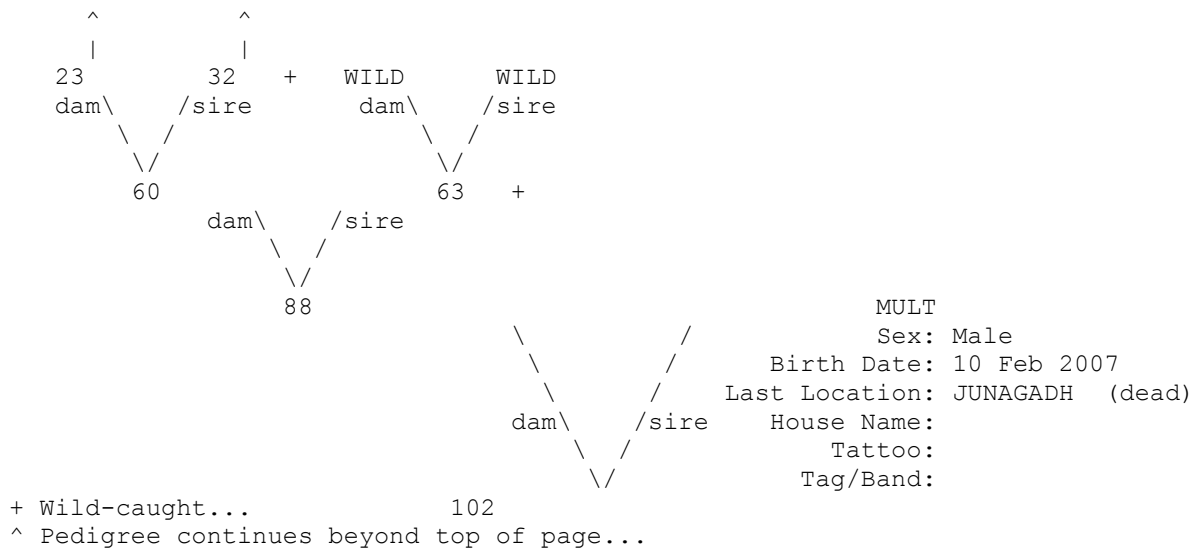
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 101  
=====



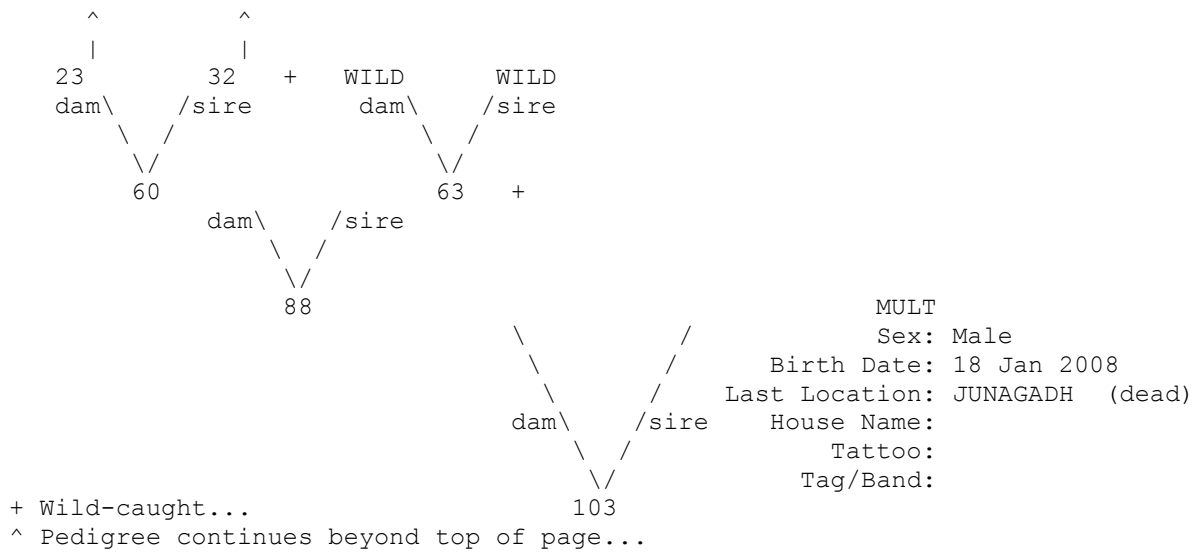
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 102  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

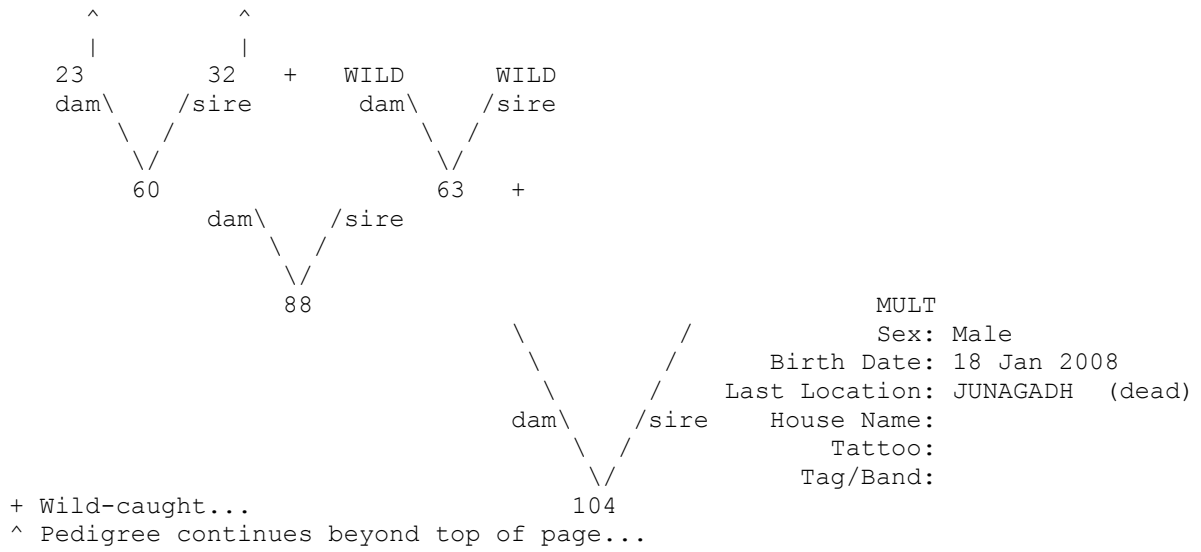
Studbook Number: 103  
=====





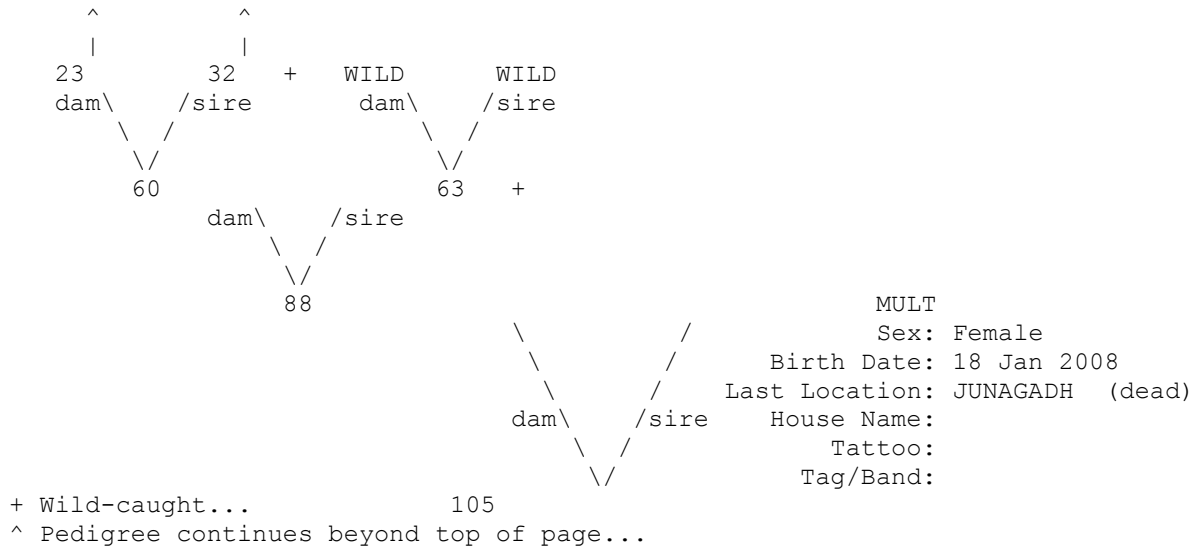
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 104  
=====



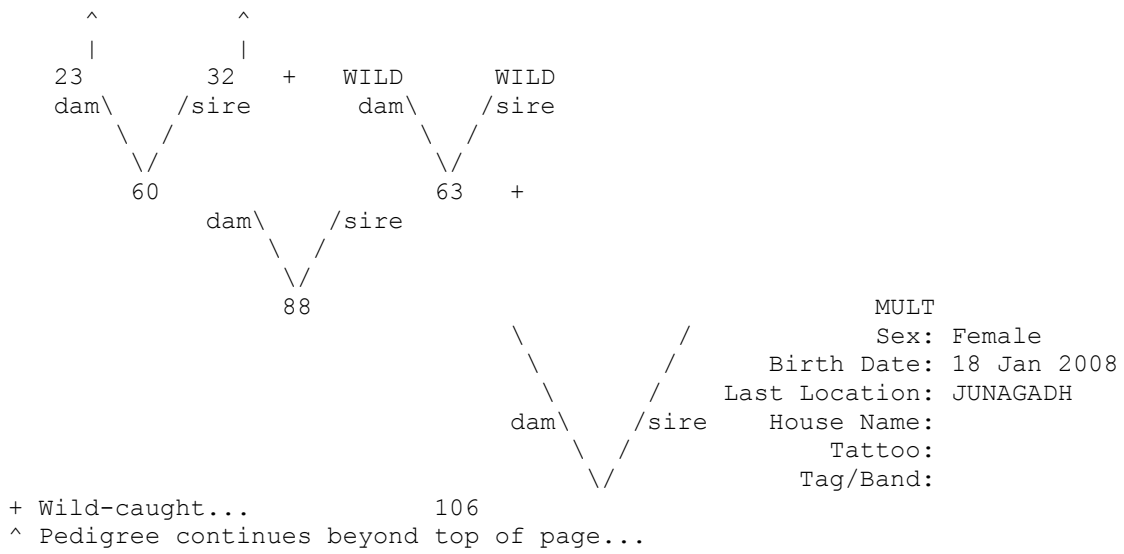
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 105  
=====



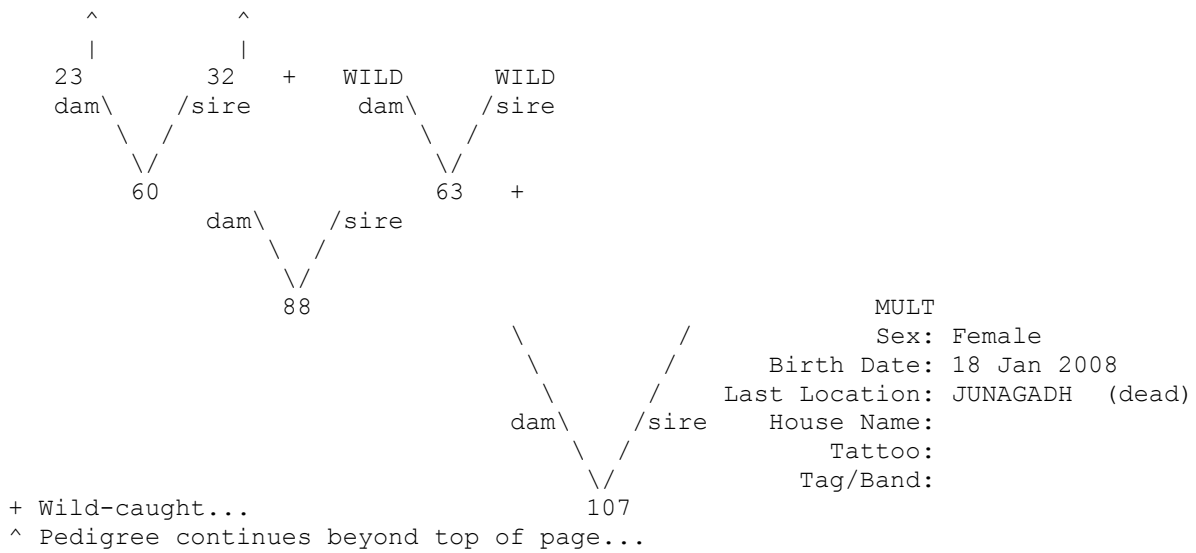
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 106  
=====



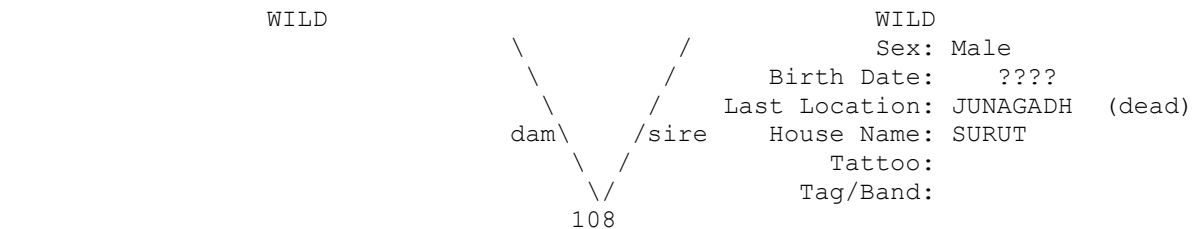
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 107  
=====



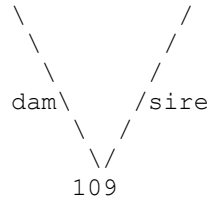
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 108  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 109  
=====

WILD

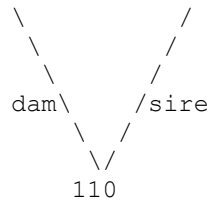


WILD

Sex: Female  
Birth Date: ~ Aug 2007  
Last Location: PUNE  
House Name: GATTY  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 110  
=====

WILD

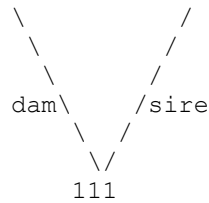


WILD

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

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 111  
=====

WILD

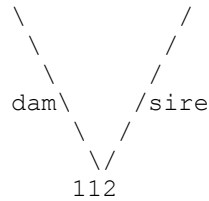


WILD

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

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 112  
=====

WILD

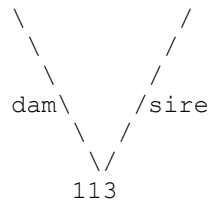


WILD

Sex: Female  
Birth Date: ~ 2008  
Last Location: AURANGABA  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 113  
=====

UNK



UNK

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

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 114
=====
UNK                                                    UNK
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: JAIPUR
dam \      /
   \      /
    \    /
     \  /
      \ /
       V
      114

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 115
=====
UNK                                                    UNK
                                                    Sex: Male
                                                    Birth Date:   ????
                                                    Last Location: TIRUPATI
dam \      /
   \      /
    \    /
     \  /
      \ /
       V
      115

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 116
=====
WILD                                                  WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: TIRUPATI
dam \      /
   \      /
    \    /
     \  /
      \ /
       V
      116

```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 117
=====
WILD                                                  WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: DELHI      (dead)
dam \      /
   \      /
    \    /
     \  /
      \ /
       V
      117

```

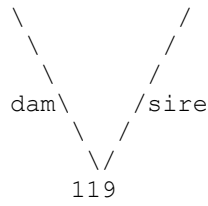
```

=====
Taxon Name: CANIS LUPUS PALLIPES                      Studbook Number: 118
=====
WILD                                                  WILD
                                                    Sex: Female
                                                    Birth Date:   ????
                                                    Last Location: DELHI      (dead)
dam \      /
   \      /
    \    /
     \  /
      \ /
       V
      118

```

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 119
=====

WILD

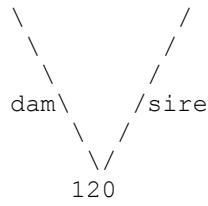


WILD

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

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 120
=====

WILD

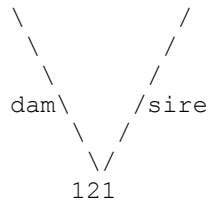


WILD

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

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 121
=====

WILD

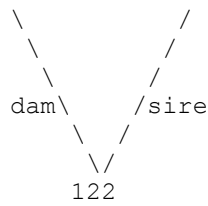


WILD

Sex: Male
Birth Date: ~ Feb 2007
Last Location: MYSORE
House Name: RAJA
Tattoo:
Tag/Band:

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 122
=====

WILD

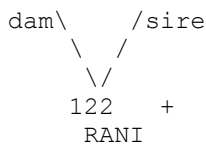


WILD

Sex: Female
Birth Date: ~ Jan 2008
Last Location: MYSORE (dead)
House Name: RANI
Tattoo:
Tag/Band:

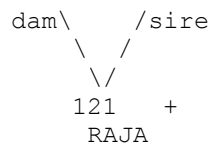
=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 123
=====

WILD



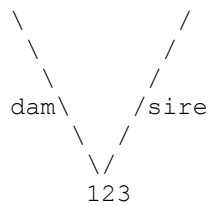
WILD

WILD



WILD

+ Wild-caught...



Sex: Male
Birth Date: 13 Jan 2011
Last Location: BANNERGHA (dead)
House Name: AMOGH
Tattoo:
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 124  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 13 Jan 2011
                Last Location: BANNERGHA
                House Name: ALOK
                Tattoo:
                Tag/Band:
+ Wild-caught... 124
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 125  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 13 Jan 2011
                Last Location: MYSORE (dead)
                House Name: JAGU
                Tattoo:
                Tag/Band:
+ Wild-caught... 125
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 126  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 13 Jan 2011
                Last Location: BANNERGHA
                House Name: AYUSH
                Tattoo:
                Tag/Band:
+ Wild-caught... 126
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 127  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Female
                Birth Date: 13 Jan 2011
                Last Location: MYSORE (dead)
                House Name: AAKRITI
                Tattoo:
                Tag/Band:

+ Wild-caught... dam\ /sire
                  \  /
                  127
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 128  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Female
                Birth Date: 13 Jan 2011
                Last Location: MYSORE (dead)
                House Name: KUSUMA
                Tattoo:
                Tag/Band:

+ Wild-caught... dam\ /sire
                  \  /
                  128
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 129  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 13 Jan 2011
                Last Location: MYSORE
                House Name: PRUTHVIK
                Tattoo:
                Tag/Band:

+ Wild-caught... dam\ /sire
                  \  /
                  129
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 130  
=====

```
WILD dam\ /sire WILD
      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: ~ Jan 2000
                Last Location: PUNE
                House Name: George
                Tattoo:
                Tag/Band:

+ Wild-caught... dam\ /sire
                  \  /
                  130
```

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 131
=====

WILD dam\ /sire WILD WILD dam\ /sire WILD
122 + 121 +
RANI RAJA
Sex: Female
Birth Date: 8 Dec 2011
Last Location: MYSORE
House Name: PRATHIKSHA
Tattoo:
Tag/Band:
+ Wild-caught... 131

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 132
=====

WILD dam\ /sire WILD WILD dam\ /sire WILD
122 + 121 +
RANI RAJA
Sex: Male
Birth Date: 8 Dec 2011
Last Location: MYSORE (dead)
House Name: SHRAVAN
Tattoo:
Tag/Band:
+ Wild-caught... 132

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 133
=====

WILD WILD
Sex: Female
Birth Date: ???
Last Location: DELHI
House Name:
Tattoo:
Tag/Band:
133

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 134
=====

WILD WILD
Sex: Female
Birth Date: ???
Last Location: DELHI (dead)
House Name:
Tattoo:
Tag/Band:
134



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 135  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 8 Dec 2011
                Last Location: AURANGABA
                House Name: JAGAN
                Tattoo:
                Tag/Band:
+ Wild-caught... 135
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 136  
=====

```
UNK dam\ /sire UNK
      \  /      \  /
      136
                Sex: Male
                Birth Date: ~ Jan 2009
                Last Location: MYSORE (dead)
                House Name: ULLAGADDI
                Tattoo:
                Tag/Band:
```

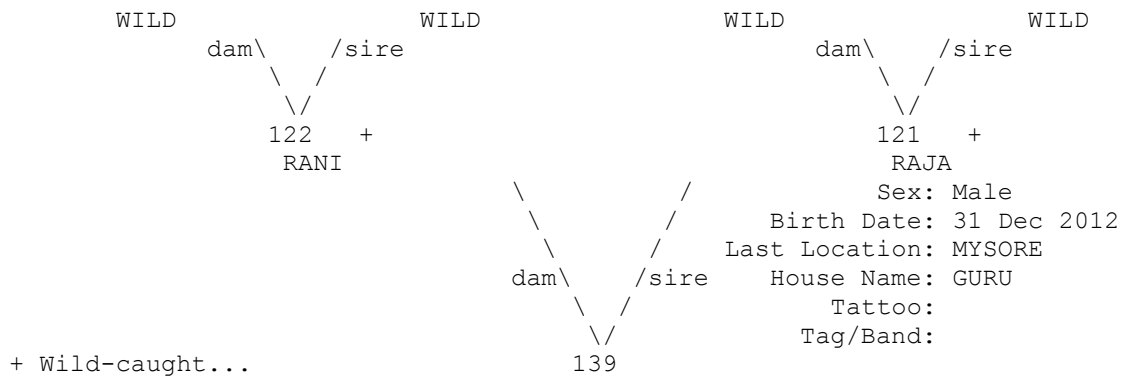
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 137  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 31 Dec 2012
                Last Location: MADRAS
                House Name: VISHNU
                Tattoo:
                Tag/Band:
+ Wild-caught... 137
```

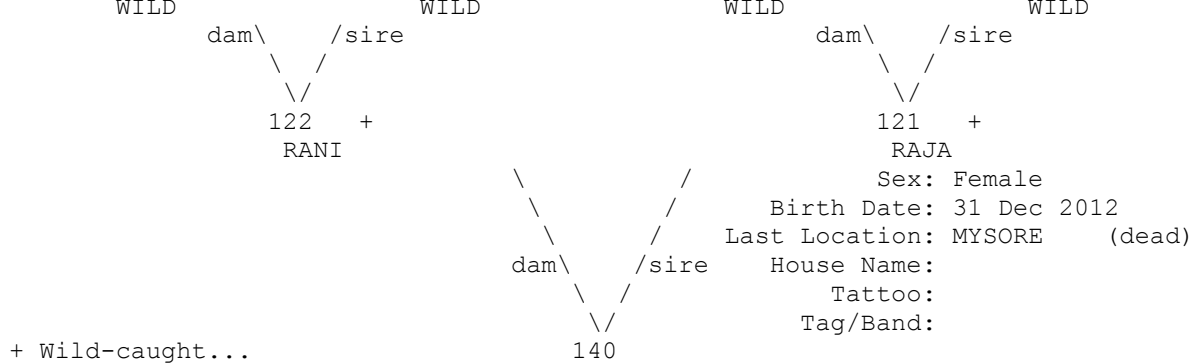
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 138  
=====

```
WILD dam\ /sire WILD WILD dam\ /sire WILD
      \  /      \  /      \  /      \  /
      122 +      121 +
      RANI      RAJA
                Sex: Male
                Birth Date: 31 Dec 2012
                Last Location: MYSORE (dead)
                House Name: KESHAVA
                Tattoo:
                Tag/Band:
+ Wild-caught... 138
```

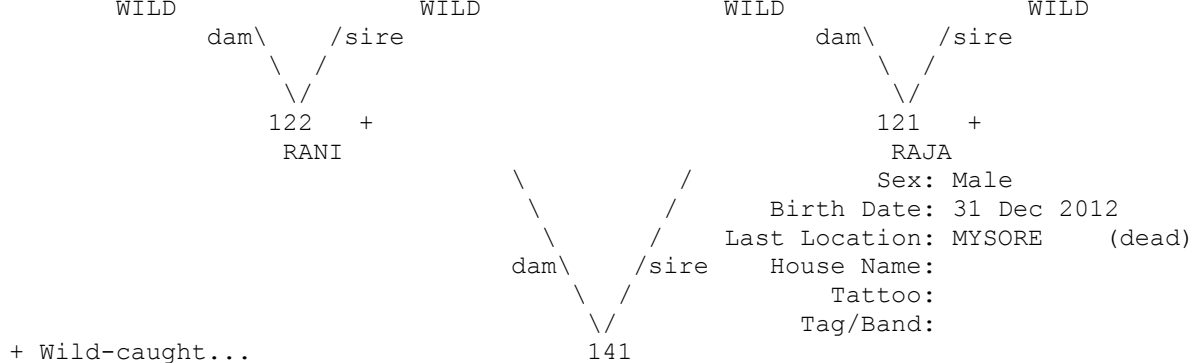
=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 139
=====



=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 140
=====



=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 141
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 142  
=====

```
WILD WILD WILD WILD
dam\  /sire dam\  /sire
  \  /      \  /      \  /
   \ /      \ /      \ /
  122 +      121 +
  RANI              RAJA
                   Sex: Male
                   Birth Date: 31 Dec 2012
                   Last Location: DELHI
                   House Name: SRIKANTHA
                   Tattoo:
                   Tag/Band:
+ Wild-caught...      142
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 143  
=====

```
UNK UNK
dam\  /sire dam\  /sire
  \  /      \  /      \  /
   \ /      \ /      \ /
  143              UNK
                   Sex: Unknown
                   Birth Date: 18 Dec 2013
                   Last Location: MYSORE (dead)
                   House Name:
                   Tattoo:
                   Tag/Band:
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 144  
=====

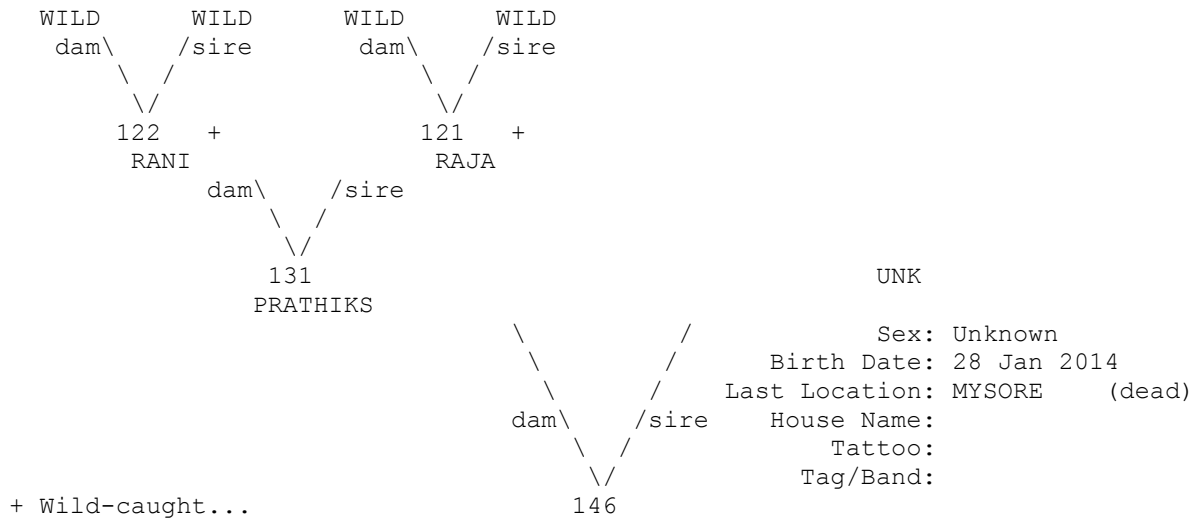
```
UNK UNK
dam\  /sire dam\  /sire
  \  /      \  /      \  /
   \ /      \ /      \ /
  144              UNK
                   Sex: Male
                   Birth Date: 18 Dec 2013
                   Last Location: MYSORE (dead)
                   House Name:
                   Tattoo:
                   Tag/Band:
```

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 145  
=====

```
UNK UNK
dam\  /sire dam\  /sire
  \  /      \  /      \  /
   \ /      \ /      \ /
  145              UNK
                   Sex: Unknown
                   Birth Date: 18 Dec 2013
                   Last Location: MYSORE (dead)
                   House Name:
                   Tattoo:
                   Tag/Band:
```

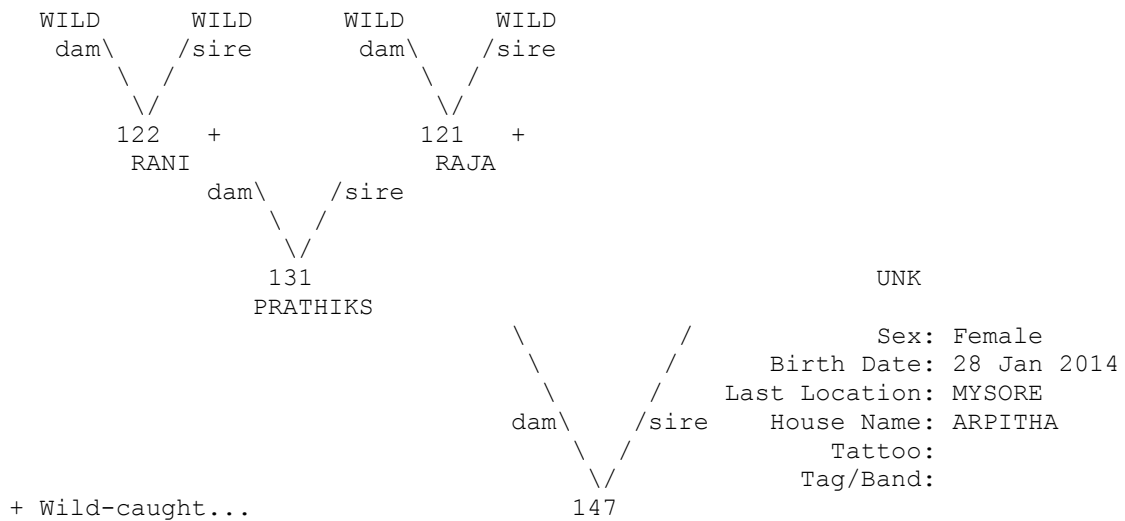
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 146  
=====



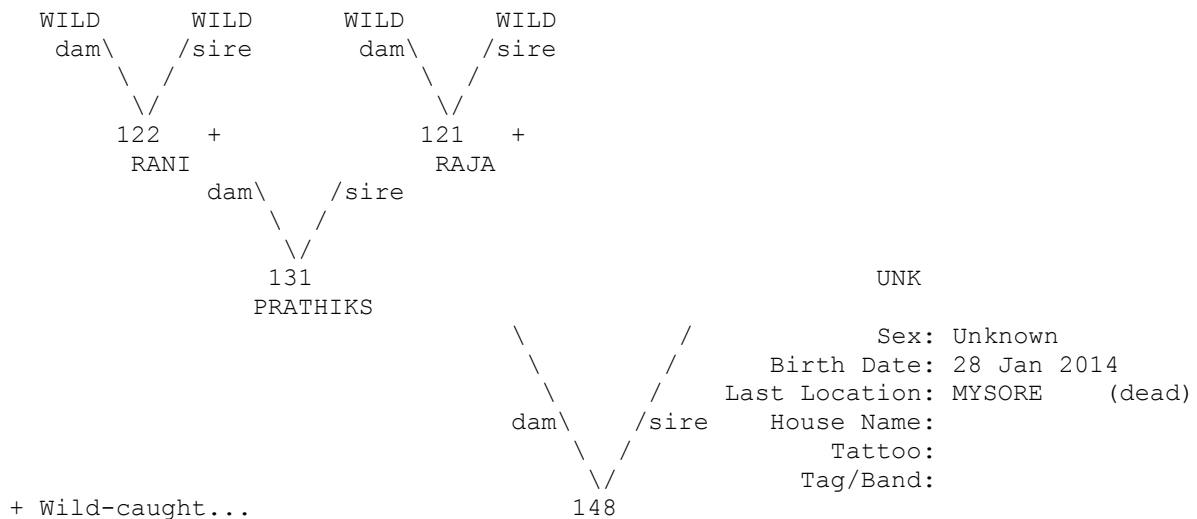
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 147  
=====



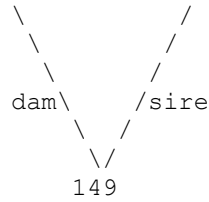
=====  
Taxon Name: CANIS LUPUS PALLIPES  
=====

Studbook Number: 148  
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 149  
=====

WILD

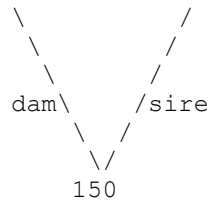


WILD

Sex: Male  
Birth Date: ~ Dec 2010  
Last Location: JUNAGADH  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 150  
=====

WILD

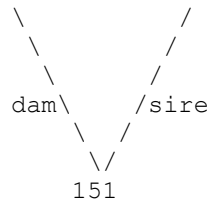


WILD

Sex: Female  
Birth Date: ~ Nov 2013  
Last Location: JUNAGADH  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 151  
=====

UNK

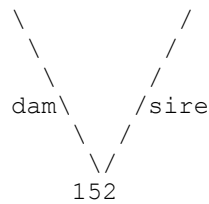


UNK

Sex: Female  
Birth Date: 1 Jan 2015  
Last Location: JAIPUR  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 152  
=====

UNK

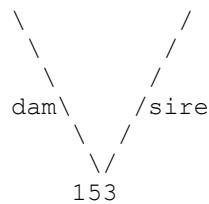


UNK

Sex: Male  
Birth Date: 1 Jan 2015  
Last Location: JAIPUR  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 153  
=====

UNK



UNK

Sex: Male  
Birth Date: 1 Jan 2015  
Last Location: JAIPUR  
House Name:  
Tattoo:  
Tag/Band:

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 154
=====
UNK                                                            UNK
                                                                Sex: Female
                                                                Birth Date: 1 Jan 2015
                                                                Last Location: BANNERGHA
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:

      \      /
      \    /
dam  \  /sire
      \ /
       V
      154
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 155
=====
UNK                                                            UNK
                                                                Sex: Female
                                                                Birth Date: 4 Jan 2015
                                                                Last Location: BANNERGHA
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:

      \      /
      \    /
dam  \  /sire
      \ /
       V
      155
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 156
=====
UNK                                                            UNK
                                                                Sex: Female
                                                                Birth Date: 18 Jan 2015
                                                                Last Location: JAIPUR
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:

      \      /
      \    /
dam  \  /sire
      \ /
       V
      156
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 157
=====
UNK                                                            UNK
                                                                Sex: Female
                                                                Birth Date: 18 Jan 2015
                                                                Last Location: JAIPUR
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:

      \      /
      \    /
dam  \  /sire
      \ /
       V
      157
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 158
=====
UNK                                                            UNK
                                                                Sex: Female
                                                                Birth Date: 18 Jan 2015
                                                                Last Location: JAIPUR
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:

      \      /
      \    /
dam  \  /sire
      \ /
       V
      158
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 159
=====
UNK                                                              UNK
                                                                Sex: Female
                                                                Birth Date: 18 Jan 2015
                                                                Last Location: JAIPUR
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
      \      /
      \  dam\ /sire
       \    /
        \  /
         \ /
          V
         159
  
```

```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 160
=====
UNK                                                              UNK
                                                                Sex: Female
                                                                Birth Date: 18 Jan 2015
                                                                Last Location: JAIPUR
                                                                House Name:
                                                                Tattoo:
                                                                Tag/Band:
      \      /
      \  dam\ /sire
       \    /
        \  /
         \ /
          V
         160
  
```

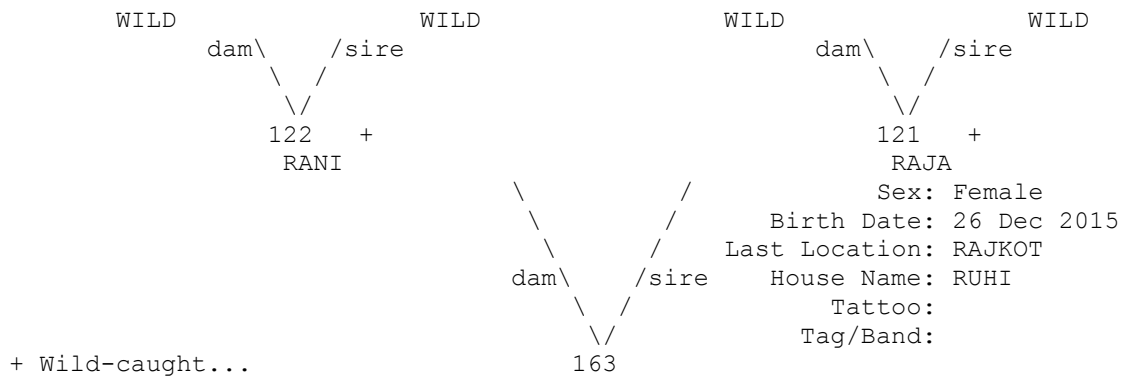
```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 161
=====
WILD                                                            WILD
                                                                Sex: Male
                                                                Birth Date: 10 Sep 2012
                                                                Last Location: JUNAGADH
                                                                House Name: KARAN-UDIAPUR
                                                                Tattoo:
                                                                Tag/Band:
      \      /
      \  dam\ /sire
       \    /
        \  /
         \ /
          V
         161
  
```

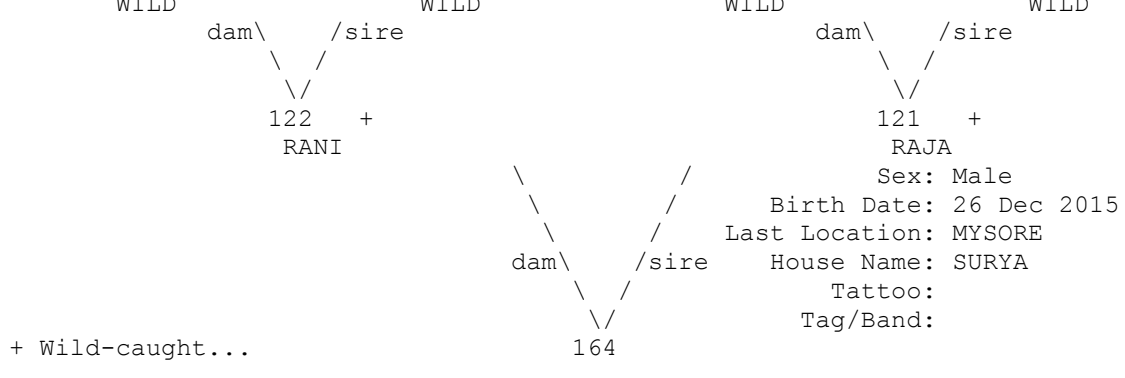
```

=====
Taxon Name: CANIS LUPUS PALLIPES                               Studbook Number: 162
=====
WILD  dam\      /sire  WILD  dam\      /sire  WILD  dam\      /sire  WILD
      \    /          \    /          \    /          \    /
       \  /          \  /          \  /          \  /
        \ /          \ /          \ /          \ /
         V            V            V            V
        122 +        121 +
        RANI         RAJA
                                                                Sex: Male
                                                                Birth Date: 26 Dec 2015
                                                                Last Location: MYSORE
                                                                House Name: DUGU
                                                                Tattoo:
                                                                Tag/Band:
      \      /
      \  dam\ /sire
       \    /
        \  /
         \ /
          V
         162
+ Wild-caught...
  
```

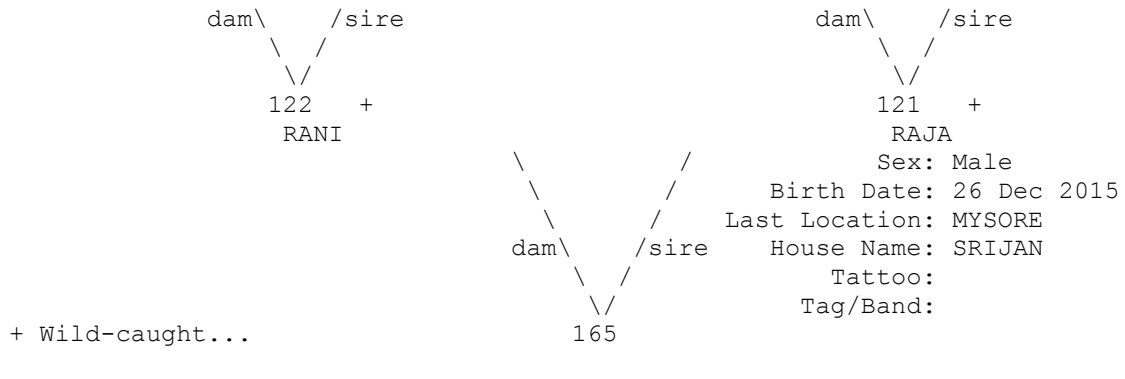
=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 163
=====



=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 164
=====



=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 165
=====

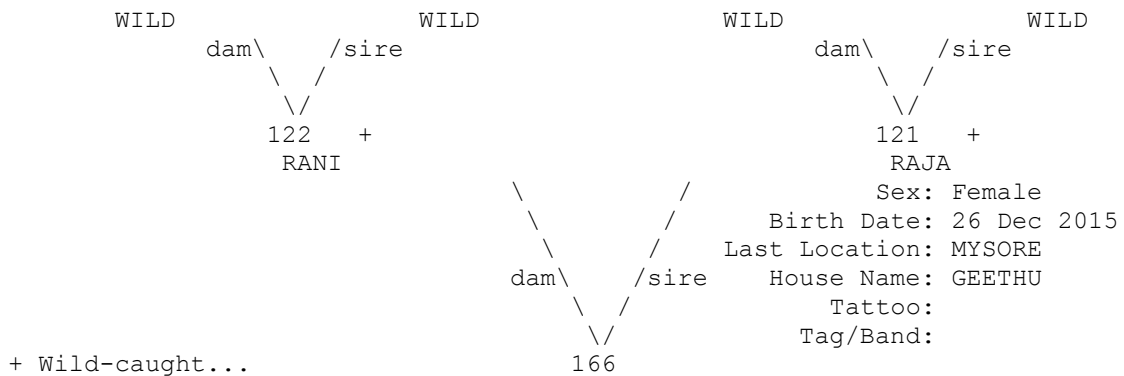




=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 166

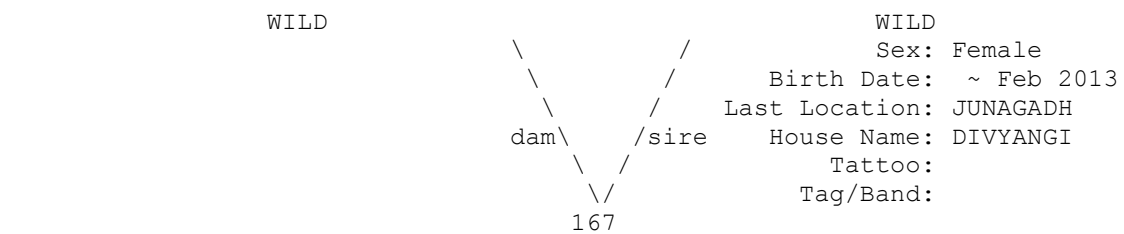
=====



=====

Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 167

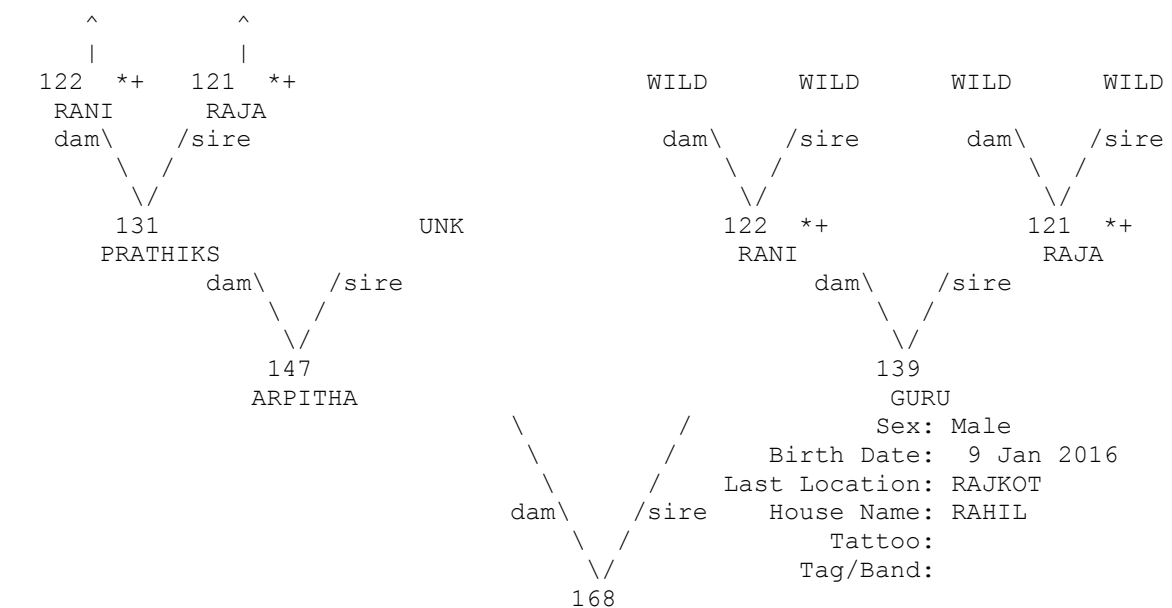
=====



=====

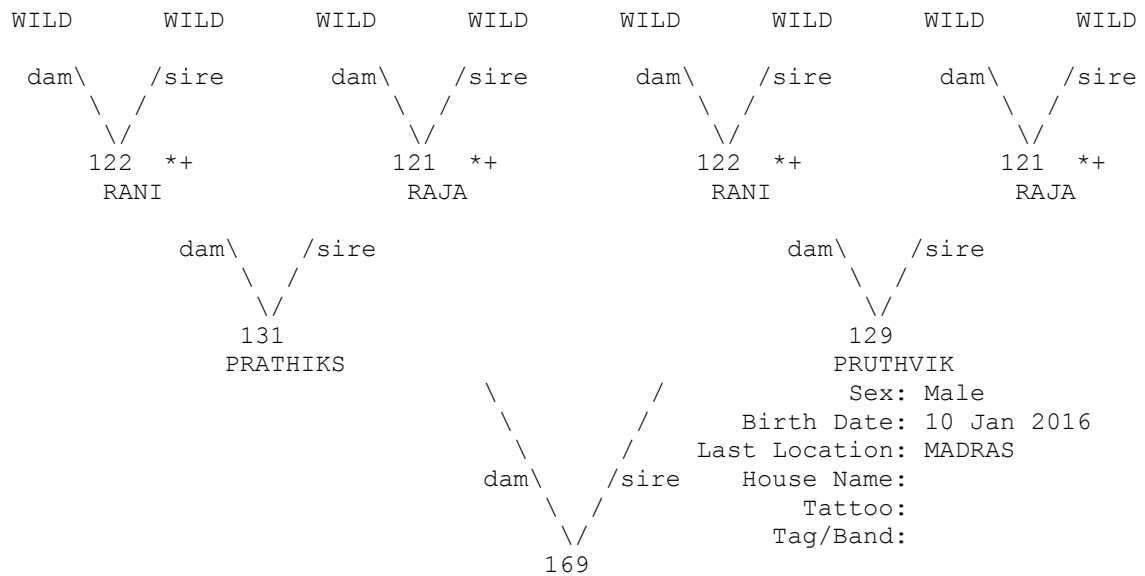
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 168

=====



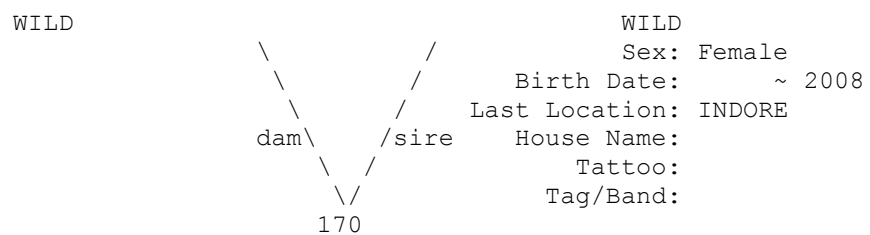
+ Wild-caught...    \* Appear more than once...  
^ Pedigree continues beyond top of page...

=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 169
=====

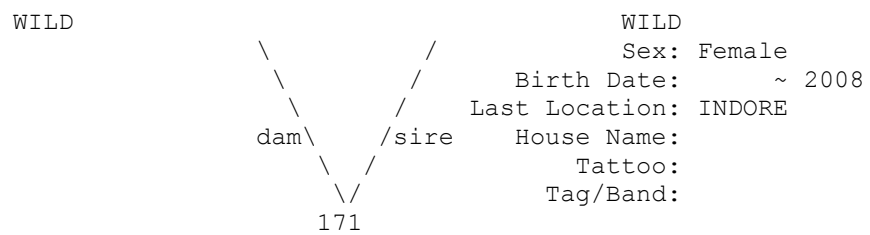


+ Wild-caught... \* Appear more than once...

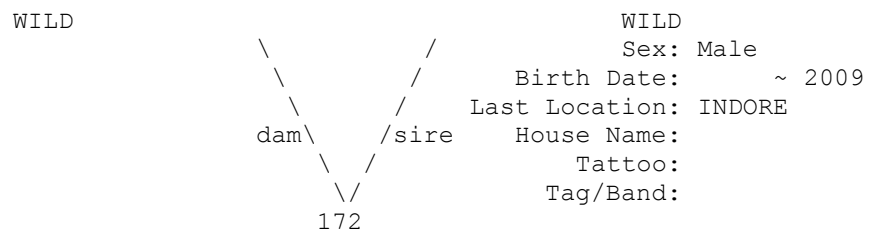
=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 170
=====



=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 171
=====

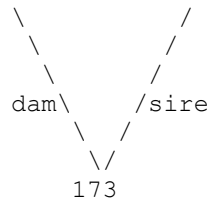


=====
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 172
=====



=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 173  
=====

UNK

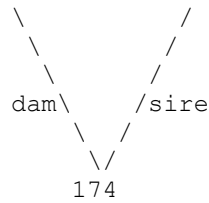


UNK

Sex: Female  
Birth Date: ~ 2014  
Last Location: MADRAS  
House Name:  
Tattoo:  
Tag/Band:

=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 174  
=====

UNK

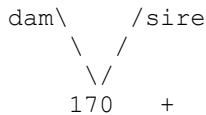


UNK

Sex: Female  
Birth Date: ~ 2013  
Last Location: MADRAS  
House Name:  
Tattoo:  
Tag/Band:

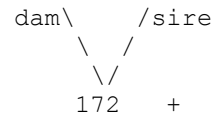
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 175  
=====

WILD



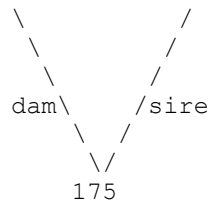
WILD

WILD



WILD

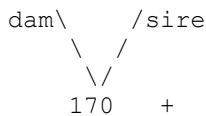
+ Wild-caught...



Sex: Male  
Birth Date: 22 Feb 2015  
Last Location: INDORE  
House Name:  
Tattoo:  
Tag/Band:

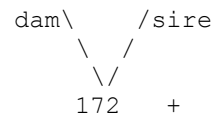
=====  
Taxon Name: CANIS LUPUS PALLIPES Studbook Number: 176  
=====

WILD



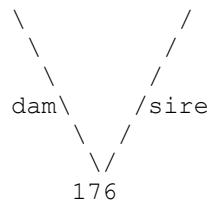
WILD

WILD



WILD

+ Wild-caught...



Sex: Male  
Birth Date: 22 Feb 2015  
Last Location: INDORE  
House Name: VINAYAK  
Tattoo:  
Tag/Band:

=====

Taxon Name: CANIS LUPUS PALLIPES

=====

Studbook Number: 177

=====

```

      WILD          WILD          WILD          WILD
      dam\         /sire         dam\         /sire
        \         /             \         /
         \       /               \       /
          170  +                   172  +
                                   Sex: Female
                                   Birth Date: 22 Feb 2015
                                   Last Location: INDORE
                                   House Name:
                                   Tattoo:
                                   Tag/Band:

      WILD          WILD
      dam\         /sire
        \         /
         \       /
          177

+ Wild-caught...
```

## Location Glossary

- AHMEDABAD:** Kamla Nehru Zool. Garden Kankaria, Ahmedabad, Gujarat, India
- AURANGABA:** Aurangabad Zoo, Aurangabad – 431 001, Maharashtra, India
- BANNERGHA:** Bannerghatta National Park, Bangalore, Karnataka, India
- BARODA:** Shri Sayaji Baug Zoo, Municipal Corp, Baroda, Gujarat, India, 91 66349
- DEALER:** Unknown Dealer/Broker
- DELHI:** National Zoological Park, New Delhi, Mathura Rd., Near Purana Quilla, New Delhi, India, 110 003
- HYDERABAD:** Nehru Zoological Park, Bahadurpura, Hyderabad 500 064 A., Telangana, India
- INDIA:** INDIA
- INDORE:** Kamla Nehru Zoo, Indore, Madhya Pradesh, India, 452 001
- JAIPUR:** Jaipur Zoological Garden, Jaipur, Rajasthan, India,
- JODHPUR:** Jodhpur Zoological Garden, Jodhpur, Rajasthan, India
- JUNAGADH:** Sakkarbaugh Zoo, Outside Majejadi Gate, Junagadh, Gujarat, India, 362001
- KANPUR:** Kanpur Zoological Park, Allen Forest Azadnagar, Kanpur, Uttar Pradesh, India, 208002
- LUCKNOW:** Nawab Wazid Ali Shah Zoological Garden, Lucknow 226001, Uttar Pradesh, India
- MADRAS:** Arignar Anna Zool. Park, Chennai, Madras, Tamil Nadu, India, 600 048
- MYSORE:** Sri Chamarajendra Zool. Gar. Rd., Mysore 570 010, Karnataka
- NAINITAL:** Pandit Govind Balabh Pant Himalayan Zoological Park, Nainital, Uttarakhand, 263 002
- NANDANKAN:** Nandankanan Biological Park, Janpath, Saheed Nagar, Bhubaneswar 751 007
- PUNE:** Rajiv Gandhi Zool. Park & Res. Ctr. Pune, Maharashtra
- RAJKOT:** Rajkot zoo, Rajkot, Gujarat
- SINGAPORE:** Singapore Zoological Gardens, 80 Mandai Lake Road, Singapore, Singapore, 729826
- SURAT:** Dr. Shyamaprasad Mukharjee Zoological Garden, Surat
- TIRUPATI:** Sri Venkateswara Zoological Park, Tirupati, Andhra Pradesh
- UDAIPUR:** Udaipur Zoological Garden, Udaipur, Rajasthan, India
- VISAKAPAT:** Indira Gandhi Zoological Park, Visakapatnam, A P, India, 530 001