

# NATIONAL STUDBOOK

## Red Panda (*Ailurus fulgens fulgens*) III Edition

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भारतीय वन्यजीव संस्थान  
Wildlife Institute of India



केन्द्रीय चिड़ियाघर प्राधिकरण  
Central Zoo Authority



# National Studbook of Red Panda (*Ailurus fulgens fulgens*) III Edition

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## FOREWORD

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Red panda in their natural habitats face imminent threat of extinction due to extensive illegal hunting. Maintaining genetically viable and demographically stable ex-situ populations can ensure their sustained survival. This can be ensured by using pedigree information contained in studbooks that form the key to understanding the demographic and genetic structure of populations and taking corrective actions as required for effective management of captive populations.

The Central Zoo Authority (CZA) has initiated a conservation breeding program for threatened species in Indian zoos. As a part of this endeavor 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 for Red panda (*Ailurus fulgens fulgens*) III Edition. The population management recommendations contained in the studbook should form the basis for the long term management of the species in captivity.

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## RED PANDA

### (*Ailurus fulgens fulgens*)

#### Species Information

The first recorded entry of a Red panda in captivity in India was in 1977 at Kanpur zoo. However, a planned ex-situ conservation effort for the species was initiated in 1991 at Padmaja Naidu Himalayan Zoological Park, Darjeeling with 4 wild-born and 5 captive-born individuals from zoos outside India. Subsequently in 1994, Himalayan Zoological Park, Gangtok became a partner in India's effort of maintaining a viable captive population of the species. In 2003, two females were released in Singalila National Park.

#### Taxonomy

Kingdom	Animalia
Phylum	Chordata
Class	Mammalia
Order	Carnivora
Family	Ailuridae
Species	<i>Ailurus fulgens fulgens</i>



Red panda is a monotypic species in the family Ailuridae. There are two subspecies of Red panda *A. f. fulgens* and *A. f. styani* (Wei *et. al.* 1999a).

#### General characteristics

The species is characterized by a brown reddish-orange pelage of coarse guard hairs across its body, with a soft, dense woolly undercoat. The species has a rounded head and a shortened rostrum with large, erect and pointed ears (Miles and Gittleman 1984).

**Table1:**Morphometrics of Red panda

Variables	Range
Weight	Males- 5.0 kg (range: 3.7-6.2 kg) Females-4.9 kg (range 4.2-6.0 kg)
Length of head and body	560-625 mm
Tail length	370-472 mm

Source: Miles and Gittleman (1984)

Red pandas reach sexual maturity at the age of 18–20 months, and are seasonally polyestrous and induced ovulators (Wei *et. al.* 2005). The estrous season occurs over the period of mid-January to mid-

March (Spanner *et. al.*1997 and Li *et. al.* 2005). Parturition occurs in June and July following 111–145 days gestation (Roberts and Kessler 1979). Nowak (2005) and Roberts (1981) noted a mean gestation length of 132 (range=114 to 145) and 133 (range=115–158) days respectively. The high variability of gestation length suggests the Red panda has a period of diapause or a delay in implantation, as suggested by Nowak (1991).

### **Habitat**

The species is endemic to the temperate montane forests in the eastern Himalayas. Their habitat type is characterized by mixed deciduous and conifer forests having an understory of bamboo and hollow trees (Glatston 1994; Roberts and Gittleman 1984). They inhabit an altitudinal gradient between 1500 – 4800 m (Roberts and Gittleman 1984). Williams (2003) observed highest concentration of the species between 2800 – 3000 m.

### **Feeding ecology**

Red pandas have a simple stomach, a short gastrointestinal tract and lack cecum (Stevens and Hume 1995). The simple structure of their digestive system limits the ability to process their low protein and fibre rich diet. In order to meet its nutritional requirements and to cope with this herbivorous diet while retaining the unspecialized digestive tract of a carnivore, it has evolved different morphological, physiological and behavioural strategies to deal with limitations of its diet:

- 1) Skull and teeth adaptations for effective mastication,
- 2) Ability to select the most nutritious parts of bamboo,
- 3) Daily consumption of large amounts of food and rapid passage time of digesta to maximize the rate of energy intake, and
- 4) Low metabolic rate that reduces energy requirements (Wei *et al.*1999b).

Red pandas are specialized bamboo-feeders like the giant panda (Roberts and Gittleman 1984; Glatston 1989, 1994; Wei *et al.* 1999a) with a diet consisting of bamboo leaves throughout the year, bamboo shoots during spring and fruits and mushrooms during autumn (Johnson *et. al.*1988; Yonzon 1989; Reid *et. al.* 1991; Yonzon and Hunter 1991a, b; Hu and Wei 1992; Wei *et. al.* 1995). Bamboo leaves and shoots account for >95% of the annual diets (Reid *et. al.* 1991; Wei *et. al.* 1995 and Wei 1997).

### **Activity pattern**

In captivity, Red pandas are nocturnal and crepuscular and exhibit a polyphasic activity pattern throughout the night. The activity patterns vary according to the temperature, feeding regimes and presence of young (Keller 1977 and Roberts 1981); however they have been reported to be most active during dusk, night and at dawn (Anon 1978). They are arboreal, living mostly in trees (Glatston 1994). In the wild, they rest and sleep on trees or elevated surfaces and can be located in steep slopes where

fallen logs, scrubs and bamboo are common (Wei *et al.* 2000a). They are scansorial but foraging is done primarily on the ground. Their behavioural repertoire includes scent marking behaviour, a tendency to maintain personal distance except during breeding season, the propensity to climb and hide from disturbances such as loud noises, natural foraging feeding activities, breeding associated activities, young rearing behaviours, and sleep.

### Social and breeding behaviour

Red pandas lead a solitary life during the non-breeding season and are found in small groups during the breeding season (Hu 1991 in Wei *et al.* 2005). Although little is known about their natural mating system, in captivity it has been observed that, at the onset of the mating season, both males and females rest, move and eat in close proximity. Due to their crepuscular behaviour, even in captivity, it is quite rare to observe the mating of Red pandas. A noticeable change in the behaviour of the animals can signify that a mating has occurred. Scent-marking rates increase in both the sexes and males spend significantly greater time examining trails and fecal and urine markings of females. Copulation takes place on the ground following a mount invitation by the female and lasts for 3-39 minutes. At the end of the copulation males and females separate and engage in long bouts of genital auto grooming (Keller 1977; Roberts 1980 and Roberts and Kessler 1979). After mating has occurred the animals often separate and stay away from each other.

### Distribution

The Red pandas present distribution extends from Nepal through Bhutan, India, Burma and Myanmar in the Himalayas, to China (Roberts and

Gittleman 1984 and Glatston 1994). The subspecies *A. f. fulgens* is distributed in the Himalayas with its range extending from Nepal in the

west, India, Bhutan, northern Myanmar and the southwest of China in the east, while the subspecies *A. f. styani* inhabits south-central China (Choudhury 2001).

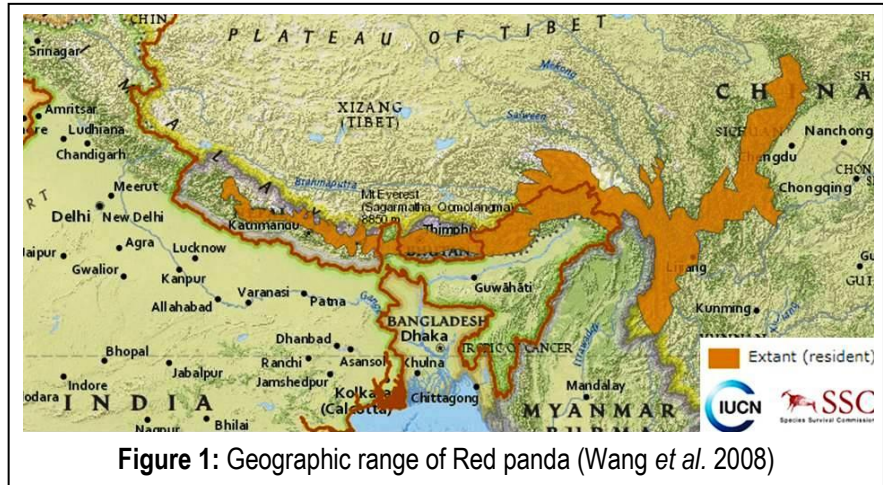


Figure 1: Geographic range of Red panda (Wang *et al.* 2008)

The distribution of Red pandas is restricted to temperate forests at an altitude between 1500-4800 m. (Roberts and Gittleman 1984 and Glatston 1994). However, Yonzon and Hunter (1991b) only found the species at an altitude between 2800-3900 m. The same observations were made by Pradhan *et al.* (2001) who observed the species more frequently at an altitude of 2800-3600 m and Williams (2003) who found that the concentration of Red pandas were higher at an altitude between 2800-3000 m.

**Threats and Status**

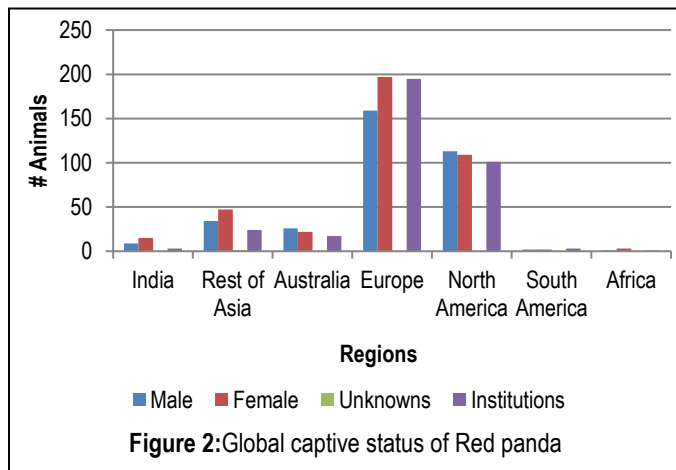
The species is in danger of extinction due habitat loss caused by deforestation (Glatston 1994 and Wei *et. al.* 1999a). The declining panda population is also vulnerable to poaching and illegal trade (Glatston 1994 and Wei *et. al.* 1999a). In 2001 the wild population was estimated to 16,000-20,000 individuals (Choudhury 2001).

The species is therefore listed in the IUCN red list as an endangered species with a very high risk of extinction in the wild (Wang *et. al.* 2008). Since 1995 the species is also listed by CITES as an Appendix I species (Duckworth *et. al.* 1999). The species enjoys legal protection across its range. In India it is listed in the Wildlife Protection Act as a Schedule I species and in China as Category II species under the Chinese Wild Animal Protection Law.

An effort at reintroduction of the species was initiated in August 2003 with the release of two females in Singalila National Park. One of the females reproduced in 2004 and they were last recorded a month after this event (Glatston and Leus 2005). The other female was killed by a clouded leopard. In November 2003 two more captive females were released at the same site.

**Status in Captivity**

The species is held at 295 institutions globally with a total of 730 specimens (344.385.1), while 3 institutions house 24 (9.15.0) specimens in India according to the ZIMS database. The CZA inventory (Table 2) indicates the presence of 24 (9.13.2) specimens, at 3 Indian zoos while the data that was made available by holding zoos for the compilation of the studbook includes 24 (8.13.3) specimens at 3 locations.



**Table 2:** Status of Red Panda in zoos

Zoo Name	Species360				CZA inventory				Studbook			
	Male	Female	Unsexed	Total	Male	Female	Unsexed	Total	Male	Female	Unsexed	Total
Himalayan Zoological Park, Bulbuley, Gangtok	0	3	0	3	0	1	2	3	0	3	0	3
Padmaja Naidu Himalayan Zoological Park, Darjeeling	7	10	0	17	7	10	0	17	6	8	3	17
Pt. G.B.Pant High Altitude Zoo, Nainital	2	2	0	4	2	2	0	4	2	2	0	4
<b>Total</b>	<b>9</b>	<b>15</b>	<b>0</b>	<b>24</b>	<b>9</b>	<b>13</b>	<b>2</b>	<b>24</b>	<b>8</b>	<b>13</b>	<b>3</b>	<b>24</b>

Pedigree records entered in SPARKS database based on information provided by holding zoos

## Methods

Data on individual history was collected by means of questionnaires, zoo visits and from the websites of CZA and Species360. Questionnaires were sent to the institutions housing Red panda 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 PMxv 1.2 (Ballou *et al.*, 2011) for further analysis.

## Scope of the Studbook

- The studbook includes all specimens present in Indian zoos for which records were available from holding institutions and the ZIMS Platform on the Species360 website.
- The CZA inventory was used as a benchmark for population estimates and deviations from the same (Table 1) are observed for data made available by Himalayan Zoological Park, Bulbuley, Gangtok and Padmaja Naidu Himalayan Zoological Park, Darjeeling.
- Data made available by Padmaja Naidu Himalayan Zoological Park, Darjeeling was included in the SPARKS database as it matches the information uploaded by the zoo on the ZIMS Platform.
- The mnemonics present in the SPARKS software were used as names for individual institutions; the same are listed in the location glossary (Appendix IV). The mnemonic India was used for all specimens acquired from the wild. The mnemonic Singalila was used for animals released by Padmaja Naidu Himalayan Zoological Park, Darjeeling.

## Analysis

### Demographic Status

#### Historical Population

The studbook includes a total of 110 (51.56.3) specimens that have been housed at 5 Indian zoos. The first recorded entry of the species in captivity was at Kanpur Zoo in 1975, with a 4 (2.2) wild origin animals being acquired by the zoo. Growth in the population has been

primarily due to captive births with wild origin specimens; [18 (7.11.0)] forming 16% of the captive population. A total of 92 (44.45.3) births have occurred in captivity accounting for 84% of the total population. The captive births are attributed to 36 (17.19) i.e. approximately 33% of the captive population is reproductively active. The population since its inception has also witnessed 82 (39.43.0)

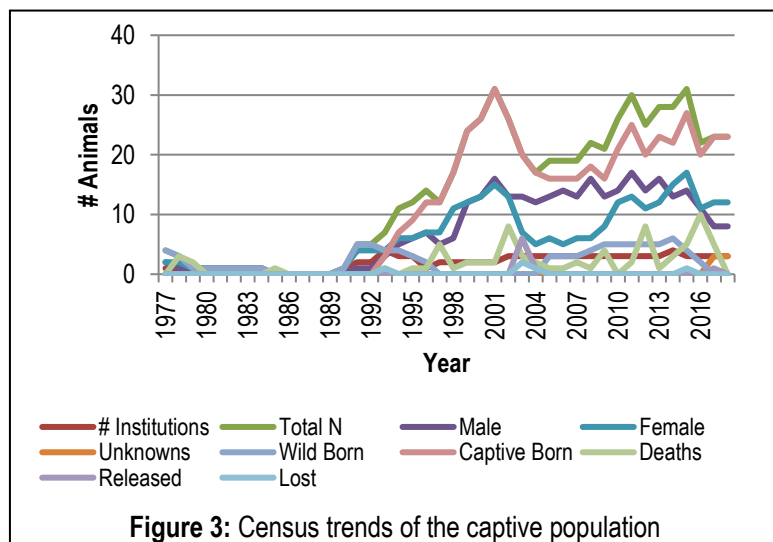


Figure 3: Census trends of the captive population



deaths. Figure 3 and Table 3 summarize the trends of the historical population while Annexure I includes detailed event-wise information on individual specimens.

**Table 3:** Summary of the Historical Population

	Males	Females	Unknown	Total
<b>Studbook size</b>	51	56	3	110
<b>Acquisition from wild</b>	7	11	0	18
<b>Captive Births</b>	44	45	3	92
<b>Deaths</b>	39	43	0	82
<b>Breeding individuals</b>	17	19	0	36
<b>Lost to follow up/ released</b>	4	0	0	4

### Living Population

The living population includes 24 (8.13.3) specimens (Table 4) housed at 3 institutions; with no wild origin specimens. Approximately 42% or 10 (4.6)

**Table 4:** Summary of living population

	Males	Females	Unknown	Total
<b>Living</b>	8	13	3	24
<b>Wild-born</b>	0	0	0	0
<b>Captive-born</b>	8	12	3	23
<b>Breeding</b>	4	6	0	10

animals are proven breeders in the living population. Table 3 summarizes the status of the living population while Annexure II provides location-wise specimen details of the living individuals. A perusal of Table 2 and Annexure II reveals the presence of 70% of the population at a Padmaja Naidu Himalayan Zoological Park.

### Population Vital Rates

The vital rates of the population based on analysis of life tables of the captive population are summarized in Table 5. The population is currently increasing at a rate of

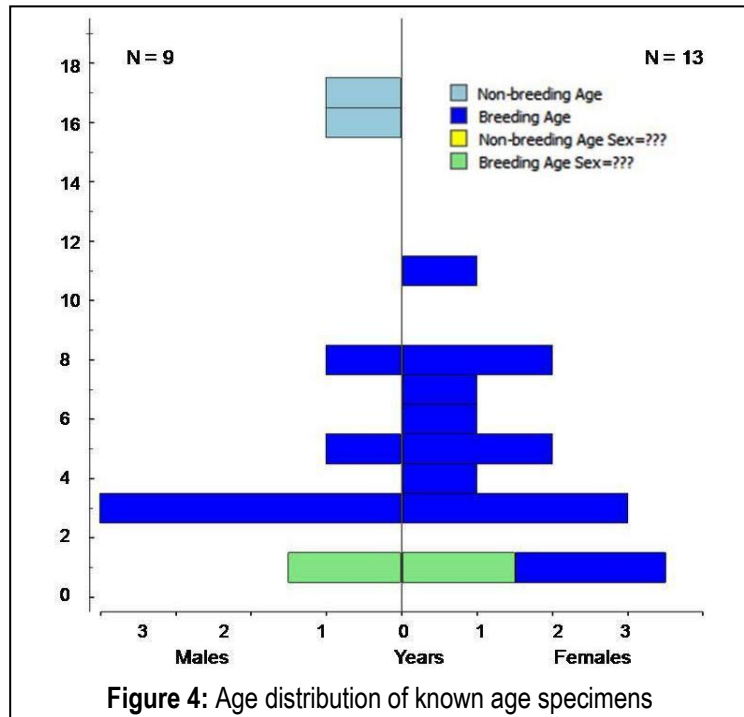
**Table 5:** Vital rates of the captive population

	Males	Females	Total
$\lambda$ : Population growth rate	1.016	1.032	1.024
T: Generation time	5.9 Yrs	5.1 Yrs	5.5 Yrs
N 20: Projected population at 20 yrs	28.8	28.2	57.0

approximately 2.5% annually ( $\lambda = 1.024$ ), with females showing a faster increase of approximately 3.2%. The captive population has a generation time of 5.5 years. The increasing population trend is also reflected in the projected population after 20 years with an increase of 23 individuals in the population. The accuracy of the life table analysis carried out to arrive at the conclusions is limited by the small number of known age and sex specimens in the population.

### Age Distribution

Age distribution of 22 (9.13) known age and sex living specimens indicates a female bias. The living population includes 22 (6.13.3) animals in reproductively active age classes (2 – 8 years for males and >1 – 11 years for females Figure 4). An additional 3 specimens of unknown sex are also present in the reproductively active age classes. It also shows the presence of 2 (0.2) specimens in the post reproductive age class. The sex ratio and age structure of the living population indicates that it is capable of rapid growth, although the female biased sex ratio remains a cause for concern as it limits equitable representation of genetic diversity in subsequent generations.



### Genetic Status

Table 6 summarizes the genetic status of the living population. Analysis indicates that it originates from 6 (4.2) founders. The living population of 24 specimens retains 86.52% of the genetic diversity brought in by these 6 founders. Limitations to effective record keeping due to inadequate marking of individual specimens are reflected in only 76% of the specimens having known pedigrees. The unequal representation of the 6 founders in the living population has resulted in the population having the founder genome equivalents of only 3.71 founders. The population is characterized by breeding between related individuals with a high level of relatedness between individuals as is reflected by the value of population mean kinship, though inbreeding has been kept minimal through regulated breeding.

**Table 6: Genetic Summary of the current population**

Genetic parameters	Current
Founders	6
Living Animals	24
Percent Ancestry Known	76%
Gene Diversity (GD)	0.8652
Founder Genome Equivalent (FGE)	3.71
Mean Inbreeding (F)	0.0371
Population mean kinship (Mk)	0.1348
Ne/N	0.3967

## Pairing Recommendations

The living population is 24 and comprises of closely related individuals. Thus determining effective pairing choices is limited by significant loss of genetic diversity in the population. Table 7 includes pairing choices that

**Table 7:** Pairing recommendations

Dam	Dam location	Sire	Sire location	F	dGD	MSI
00069	Darjeeling	00076	Darjeeling	0.0000	-0.0001	4
00097	Darjeeling	00088	Darjeeling	0.0459	-0.0081	5
00069	Darjeeling	00096	Darjeeling	0.0000	-0.0011	4
00078	Darjeeling	00096	Darjeeling	0.0000	-0.0019	3
00078	Darjeeling	00102	Nainital	0.0000	-0.0008	5
00089	Darjeeling	00102	Nainital	0.0643	-0.0011	5

cause the lowest decline in the genetic diversity of the population. Effective utilization of all new wild origin specimens entering the population needs to be ensured for effective genetic management of the population.

### Box 1: Mate Suitability Index (MSI)

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

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

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

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

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

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

1 = very beneficial (genetically) to the population; 2 = moderately beneficial, 3 = slightly beneficial;  
4 = slightly detrimental, 5 = detrimental, should only be used if demographically necessary  
6 = very detrimental (should be considered only if demographic considerations override preservation of genetic diversity)  
“-“= very highly detrimental (should not be paired, due to high level of kinship of pair)

#### Using Pairwise Info

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

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

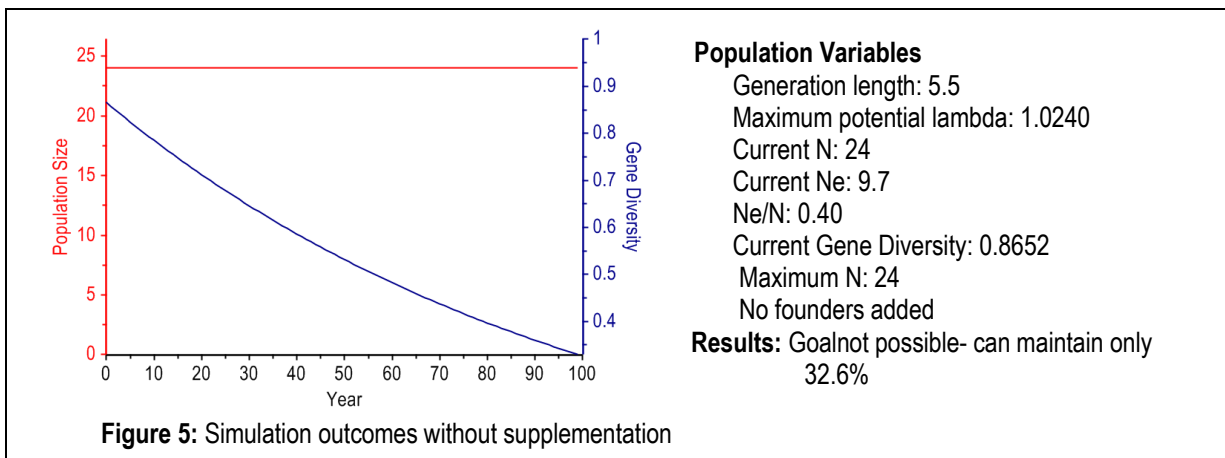
## Targets for Population Management

The current captive population of Red panda includes 24 (8.13.3) individuals. The population is currently increasing at the rate 2.6% per annum ( $\lambda$  of 1.026). The population retains a limited amount of genetic diversity (85.98% introduced from 6 founders) and includes closely related individuals (Mean Inbreeding: 0.0371 and Population mean kinship: 0.1348). Achieving conservation goals for the population is thus of critical importance.

Multiple simulations were run using PMx to determine the fate of the current population for assessing the effect of management interventions that result in an 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 that were run without change and with changes (supplementation with effective founders and increasing the population growth rate) that ensure a genetically viable and demographically stable population over the next 100 years are presented below.

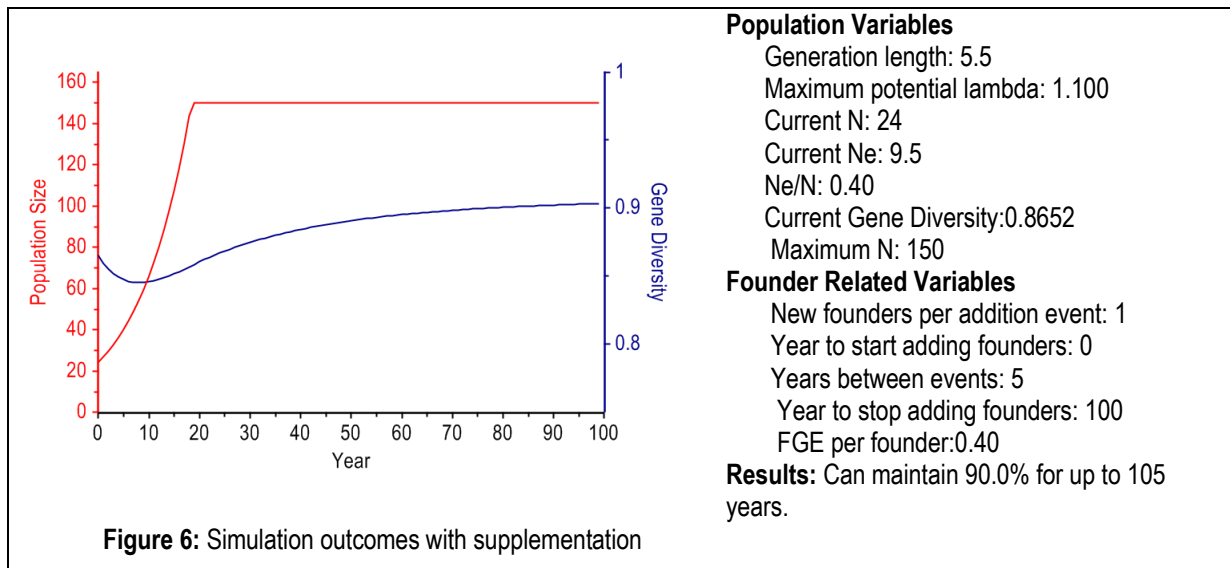
**Scenario I:**

The simulation was run using the current population variables without supplementation with additional animals while retaining the current population size (24). The outcomes indicate that the population in captivity is likely to persist at its current level for the next 100 years. The population has been established with a small founder size and retains a limited genetic diversity from this small founder base. The limited genetic diversity renders the population prone to stochastic events demographically. Additionally the declining genetic diversity of the population and its associated effects on overall fitness of specimens renders it vulnerable to an extinction vortex. The captive population is thus prone to eminent extinction and would be unable to achieve its conservation goals. The population variables used and the outcomes of the simulation are presented in Figure 5.



**Scenario II:**

The outcomes of the simulation that was run using a maximum potential lambda of 1.100 and a maximum population size of 150 specimens with supplementation by 1 effective founders every 5 years provided a population that was able to achieve the goals of maintaining 90% of the genetic diversity and a demographically stable population for the next 100 years. The population and founder related variables, and the simulation outcome are presented as Figure 6. The increase in population growth rate can be achieved by ensuring that all reproductively active specimens get an opportunity to contribute to the growth of the population. The inclusion of additional effective founders should target lineages that are over-represented to ensure maximum genetic diversity in the captive population.



## Conclusions and Recommendations

Red panda are severely threatened with extinction in their native habitats due to extensive illegal hunting. They are accordingly placed in Schedule I of the Wildlife Protection Act (1972) and listed as endangered in the IUCN Redlist of threatened species. Maintenance of a genetically viable and demographically stable *ex-situ* population is an integral part of the conservation strategy adopted for the species. As a part of this strategy effort at maintaining a viable captive population in Indian zoos has been initiated.

A review of the III edition of the national studbook of the species has revealed the following salient features. The initial population was established with specimens of captive origin with subsequent inclusion of 10 (5.5) wild origin effective founders. The population has remained continuously small ( $\leq 31$ ), though it shows an increasing trend ( $\lambda = 1.024$ ). The continued small population size; however, limits a rapid increase in its size.

The population retains 86.52% genetic diversity originating with 6 founders. Inbreeding in the population has been minimized based on planned breeding; however, the continued small population size limits mating choices resulting in mating between related individuals as is indicated by the value of population mean kinship (0.1348).

These factors render the captive population susceptible to extinction and necessitate management interventions aimed at addressing the same. Following actions are suggested for addressing above concerns:

- The inclusion of 1 effective founder every five years can ensure that the population retains 90% genetic diversity. Addressing genetic concerns of the population; however, may not necessarily

address the demographic concerns of the population as the continued small size of the population renders it vulnerable to stochastic events.

- The inclusion of new animals acquired from both zoos outside India and those wild born can ensure that the population size increases at a rapid pace and it is effectively able to achieve *ex-situ* conservation goals of the species.
- Determining possible pairings for the new acquisitions can be effectively planned based on an assessment of the extent of relatedness of all captive origin specimens with each other and the new acquisitions using appropriate molecular genetics tools.
- A review of existing husbandry and housing practices in captivity can help in identifying any shortcomings. Addressing these shortcomings and creation of additional housing infrastructure based on the findings of the review carried out can lead to an increase in the population size in captivity.

The maintenance of genetic viability and demographic stability can be effectively ensured by having a population that is large enough and effectively managed to offset loss of genetic diversity with each passing generation. The periodic augmentation of this population with wild origin founders as suggested can ensure maintenance of a captive population that is amenable to effective management and can achieve conservation goals of establishing an *ex-situ* conservation programme of the species.

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Historical population of Red panda (*Ailurus fulgens fulgens*) in Indian Zoos

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00001 UNM1	F	~ 1975	WILD	WILD	INDIA KANPUR	17-Mar-77 17-Mar-77 07-Aug-79	Capture Transfer Death
00002 UNM2	M	~ 1975	WILD	WILD	INDIA KANPUR	~ 1977 17-Mar-77 06-Aug-79	Capture Transfer Death
00003 UNM3	F	~ 1975	WILD	WILD	INDIA KANPUR	17-Mar-77 17-Mar-77 19-Jan-85	Capture Transfer Death
00004 UNM4	M	~ 1975	WILD	WILD	INDIA KANPUR	17-Mar-77 17-Mar-77 06-Dec-78	Capture Transfer Death
00005 UNM5	M	31-May-78	00004	00001	KANPUR	31-May-78 06-Jun-78	Birth Death
00006 UNM6	F	31-May-78	00004	00001	KANPUR	31-May-78 15-Jun-78	Birth Death
00007 ANITA	F	~ 1982	WILD	WILD	SINGALILA DARJEELIN	~ 1991 ~ 1991 02-Jul-97	Capture Transfer Death
00008 CHANDA	F	~ 1982	WILD	WILD	SINGALILA DARJEELIN	~ 1991 31-Dec-91 10-Oct-95	Capture Transfer Death
00009 BASANT	M	~ 1982	WILD	WILD	SINGALILA DARJEELIN	~ 1991 ~ 1991 04-Jul-97	Capture Transfer Death
00010 DIVYA	F	~ 1982	WILD	WILD	SINGALILA DARJEELIN	~ 1991 ~ 1991 10-Jul-96	Capture Transfer Death
00011 GORA	M	25-Jun-93	UNK	UNK	KOLN DARJEELIN	25-Jun-93 10-Nov-94 24-Mar-09	Birth Transfer Death
00012 HARI	M	30-Jun-93	UNK	UNK	ROTTERDAM DARJEELIN	30-Jun-93 10-Nov-94 27-Nov-97	Birth Transfer Death
00013 INDIRA	F	26-Jun-93	UNK	UNK	MADRID Z DARJEELIN	26-Jun-93 10-Nov-94 15-Sep-08	Birth Transfer Death
00014 FRIEND 00-0610-FEE2	M	20-Jun-94	00009	00007	DARJEELIN	20-Jun-94 03-Nov-02	Birth Death
00015 EKTA	F	20-Jun-94	00009	00007	DARJEELIN	20-Jun-94 23-Jul-06	Birth Death
00016 PRITY	F	26-Jun-94	UNK	UNK	ANTWERP DARJEELIN GANGTOK	26-Jun-94 25-Dec-96 14-Mar-97 23-Mar-03	Birth Transfer Transfer Death
00018 OMIN	M	17-Jul-94	UNK	UNK	BELGIUM DARJEELIN	17-Jul-94 25-Dec-96 25-Oct-07	Birth Transfer Death
00019 JUGUL	M	21-Jun-95	00009	00007	DARJEELIN GANGTOK	21-Jun-95 14-Mar-97 22-Feb-07	Birth Transfer Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00020 KALITA	F	21-Jun-95	00009	00007	DARJEELIN	21-Jun-95 01-Feb-04	Birth Death
00021 LALIT	M	08-Jun-96	00011	00015	DARJEELIN	08-Jun-96 09-Nov-09	Birth Death
00022 MOHINI	F	08-Jun-96	00011	00015	DARJEELIN	08-Jun-96 28-Aug-97	Birth Death
00023 NEERA	F	14-Jul-96	00009	00007	DARJEELIN	14-Jul-96 15-Jul-97	Birth Death
00024 QUEENY	F	15-Jun-97	00012	00020	DARJEELIN	15-Jun-97 11-Feb-02	Birth Death
00025 RANI	F	25-Jun-97	00011	00015	DARJEELIN	25-Jun-97 14-Sep-04	Birth Death
00026 SWEETY 00-0617-ECA6	F	25-Jun-97	00011	00015	DARJEELIN SINGALILA	25-Jun-97 15-Aug-03	Birth Release
00027 ANNIE 00-0612-5AC9	F	17-Jun-98	00011	00015	DARJEELIN	17-Jun-98 07-Jul-11	Birth Death
00028 MINI 00-0617-D11A	F	17-Jun-98	00011	00015	DARJEELIN SINGALILA	17-Jun-98 15-Aug-03	Birth Release
00029 RAVI	M	29-Jun-98	00018	00020	DARJEELIN	29-Jun-98 01-Feb-02	Birth Death
00030 ROSY	F	29-Jun-98	00018	00020	DARJEELIN	29-Jun-98 11-Jun-03	Birth Death
00031 TONY	M	29-Jun-98	00018	00020	DARJEELIN	29-Jun-98 01-Sep-98	Birth Death
00032 UMA	F	29-Jun-98	00018	00020	DARJEELIN	29-Jun-98 11-Jun-03	Birth Death
00033 MITRA	M	30-May-99	00021	00025	DARJEELIN	30-May-99 18-Jan-02	Birth Death
00034 MIKHI	F	30-May-99	00021	00025	DARJEELIN	30-May-99 11-Dec-99	Birth Death
00035 SIBU	M	18-Jun-99	00011	00015	DARJEELIN	18-Jun-99 04-Feb-02	Birth Death
00036 TANIA	F	18-Jun-99	00011	00015	DARJEELIN	18-Jun-99 06-Dec-99	Birth Death
00037 SHERA	M	22-Jun-99	00019	00016	GANGTOK UNKNOWN	22-Jun-99 29-Dec-03	Birth Ltf
00038 MICKEY	M	22-Jun-99	00019	00016	GANGTOK UNKNOWN	22-Jun-99 29-Dec-03	Birth Ltf
00039 KANU	M	15-Jul-99	00018	00020	DARJEELIN	15-Jul-99 30-Jan-00	Birth Death
00040 GOUTAM	M	15-Jul-99	00018	00020	DARJEELIN	15-Jul-99 10-Feb-02	Birth Death
00041 MILI 00-0611-0597	F	15-Jul-99	00018	00020	DARJEELIN	15-Jul-99 25-Sep-02	Birth Death
00042 SAGAR 00-0611-1058	M	26-Jun-00	00018	00020	DARJEELIN AUCKLAND	26-Jun-00 03-Nov-10 17-Dec-15	Birth Transfer Death
00043 PRIYAN	F	30-Jun-00	00011	00015	DARJEELIN	30-Jun-00 16-Sep-02	Birth Death
00044 RICKY	M	04-Jul-00	00019	00016	GANGTOK	04-Jul-00 11-Oct-00	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00045 NICKEY	M	04-Jul-00	00019	00016	GANGTOK	04-Jul-00 19-Nov-05	Birth Death
00046 86 POKHRAJ 00-0610-FD19	M	18-Jun-01	00011	00015	DARJEELIN	18-Jun-01	Birth
00047 87 NEELAM 00-0611-956B	F	18-Jun-01	00011	00015	DARJEELIN SINGALILA	18-Jun-01 06-Nov-03	Birth Release
00048 89 SHAKYA 00-0611-30B3	M	28-Jun-01	00018	00020	DARJEELIN	28-Jun-01 01-Oct-17	Birth Death
00049 90 DOLMA 00-0611-4CD8	F	28-Jun-01	00018	00020	DARJEELIN SINGALILA	28-Jun-01 14-Nov-03	Birth Release
00050 UNNAME	F	29-Jun-01	00019	00016	GANGTOK	29-Jun-01 14-Jul-01	Birth Death
00051 UNANAM	F	29-Jun-01	00019	00016	GANGTOK	29-Jun-01 15-Jul-01	Birth Death
00052 RP9 RAHUL 255 117 0006-B74-A7F	M	20-Jun-02	00019	00016	GANGTOK DARJEELIN NAINITAL	20-Jun-02 31-Oct-11 25-Nov-14	Birth Transfer Transfer
00053 KIRAN	M	20-Jun-02	00019	00016	GANGTOK UNKNOWN	20-Jun-02 24-Dec-04	Birth Ltf
00054 SIDDHARTA 00-0611-5CCB	M	18-Jun-01	00011	00015	DARJEELIN	18-Jun-01 06-Apr-14	Birth Death
00055 NAKUL 0006-B74-149	M	22-Jun-03	00048	00025	DARJEELIN GANGTOK	22-Jun-03 03-Apr-07 31-May-09	Birth Transfer Death
00056 SAHADEV 000618278C	M	22-Jun-03	00048	00025	DARJEELIN	22-Jun-03 26-Nov-12	Birth Death
00057 91 SHEETAL 981098102055661	F	02-Jul-03	00018	00020	DARJEELIN	02-Jul-03 22-Sep-16	Birth Death
00058 RP12 LUCKY 0006-B73-47C	F	~ Jan 2005	WILD	WILD	INDIA GANGTOK	24-Jan-05 24-Jan-05 21-Jan-16	Capture Transfer Death
00059 RAM RP13	M	~ Jan 2005	WILD	WILD	INDIA GANGTOK	24-Jan-05 24-Jan-05 20-Nov-17	Capture Transfer Death
00060 94 SHAINEE 98109810256336	M	05-Jun-06	00048	00027	DARJEELIN	05-Jun-06 06-Aug-14	Birth Death

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00061 JOHN 981098102058449	M	~ 2004	WILD	WILD	INDIA GANGTOK DARJEELIN	24-Jan-05 24-Jan-05 03-Apr-07 18-Apr-15	Capture Transfer Transfer Death
00062 RP15 256 RIGSEL 0006B74A7E	F	28-May-07	00052	00058	GANGTOK DARJEELIN	28-May-07 31-Oct-11	Birth Transfer
00063 95 SHAAN 0006B71789	M	04-Jul-07	00054	00057	DARJEELIN	04-Jul-07 18-Sep-16	Birth Death
00064 KAIJALEE 981098102056409	M	~ 2004	WILD	WILD	DARJEELIN	08-Mar-08 08-Mar-08 11-Apr-15	Capture Transfer Death
00065 RP16 SIMON 0006-B73-87C	M	13-Jun-08	00052	00058	GANGTOK	13-Jun-08 20-Sep-16	Birth Death
00066 RP17 DOMA 0006-B71-A9F	F	~ 2009	WILD	WILD	INDIA GANGTOK	~ 2009 12-Feb-09 15-Aug-12	Capture Transfer Death
00067 RP18 NIDHI 6836 14 D	F	13-Jun-09	00059	00058	GANGTOK	13-Jun-09 15-Aug-12	Birth Death
00068 RP19 SONAM 6B711CA	M	02-Jul-09	00059	00062	GANGTOK	02-Jul-09 17-Dec-17	Birth Death
00069 RP20 RP15 KARMA 956000002158469	F	03-Jun-10	00059	00058	GANGTOK DARJEELIN	03-Jun-10 24-Nov-15	Birth Transfer
00070 RP21 SUSAN 956000002149657	F	20-Jun-10	00059	00062	GANGTOK	20-Jun-10 14-Feb-16	Birth Death
00071 RP22 SHEN SHEN 956000002072359	F	20-Jun-10	00059	00062	GANGTOK	20-Jun-10 14-Feb-16	Birth Death
00072 DURGA 00062E087C	F	18-Dec-02	UNK	UNK	AUCKLAND DARJEELIN	18-Dec-02 09-Oct-10 01-Mar-13	Birth Transfer Death
00073 234 SAMBRIDHI 981098102055973	F	06-Jul-08	00061	00057	DARJEELIN	06-Jul-08 18-Sep-16	Birth Death
00074	M	06-Jul-08	00061	00057	DARJEELIN	06-Jul-08 12-Jan-09	Birth Death
00075 217	F	22-Jun-10	00061	00057	DARJEELIN	22-Jun-10	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
JANAKI 0006B82659							
00076 216 RAM 0006B82659	M	22-Jun-10	00061	00057	DARJEELIN	22-Jun-10	Birth
00077	F	????	WILD	WILD	INDIA AHMEDABAD	~ 1990 ~ 1990 10-Jun-93	Capture Transfer Death
00078 RP23 SHOVA 956000002148969	F	07-Jun-11	00059	00058	GANGTOK DARJEELIN	07-Jun-11 22-Feb-14	Birth Transfer
00079 RP24	M	10-Jun-11	00052	00066	GANGTOK	10-Jun-11 08-Aug-12	Birth Death
00080 RP25	M	10-Jun-11	00052	00066	GANGTOK	10-Jun-11 14-Aug-12	Birth Death
00081 RP26	M	11-Jun-11	00052	00067	GANGTOK	11-Jun-11 11-Aug-12	Birth Death
00082 RP27	F	11-Jun-11	00052	00067	GANGTOK	11-Jun-11 11-Aug-12	Birth Death
00083	M	25-Jun-11	00064	00073	DARJEELIN	25-Jun-11 03-Jul-11	Birth Death
00084 RP28	M	????	WILD	WILD	INDIA GANGTOK	07-May-12 07-May-12 27-Jan-14	Capture Transfer Death
00085	F	23-May-12	00054	00075	DARJEELIN	23-May-12 25-May-12	Birth Death
00086 272 SMILE 95600000215937	F	20-Jun-12	00064	00073	DARJEELIN	20-Jun-12	Birth
00087 RP29	M	10-Jun-13	00059	00058	GANGTOK	10-Jun-13 09-Feb-16	Birth Death
00088 RP0002 SHIFU	M	27-Jun-13	00064	00062	DARJEELIN	27-Jun-13	Birth
00089 RP0001 KITCHI	F	27-Jun-13	00064	00062	DARJEELIN	27-Jun-13	Birth
00090 RP0003 118 SONAM	F	28-Jun-13	00061	00057	DARJEELIN NAINITAL	28-Jun-13 24-Nov-14	Birth Transfer
00091 OSCAR	M	????	UNK	UNK	ROTTERDAM DARJEELIN	???? ~ 1993	Birth Ltf
00092 00030 RIYA 956000002145938	F	????	WILD	WILD	INDIA GANGTOK	20-Jan-14 20-Jan-14 08-Feb-16	Capture Transfer Death
00093 RP31 DIYA 956000002149016	F	????	WILD	WILD	INDIA GANGTOK	20-Jan-14 20-Jan-14 31-Dec-17	Capture Transfer Death



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Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00094 SHINE	F	04-Jul-14	00064	00073	DARJEELIN	04-Jul-14	Birth
00095 RP32 BABY1	M	02-Jun-15	00059	00058	GANGTOK	02-Jun-15 23-Jun-15	Birth Death
00096 BALAM	M	07-Jun-15	00064	00075	DARJEELIN	07-Jun-15	Birth
00097 PRASANNA	F	16-Jun-15	00076	00078	DARJEELIN	16-Jun-15	Birth
00098 RP33 POKCHI	F	24-Jun-15	00068	UNK	GANGTOK	24-Jun-15	Birth
00099 RP34 BABY3	M	07-Jul-15	00068	UNK	GANGTOK	07-Jul-15 03-Aug-15	Birth Death
00100 RP-19 NOEL	M	14-Jul-15	00088	00057	DARJEELIN	14-Jul-15	Birth
00101 RP-20 JOEL	M	14-Jul-15	00088	00057	DARJEELIN	14-Jul-15	Birth
00102 125	M	23-Jun-15	00052	00090	NAINITAL	23-Jun-15	Birth
00103 126	F	23-Jun-15	00052	00090	NAINITAL	23-Jun-15	Birth
00104 CUB1	?	08-Jul-17	00096	00062	DARJEELIN	08-Jul-17	Birth
00105 CUB2	?	08-Jul-17	00096	00062	DARJEELIN	08-Jul-17	Birth
00106 CUB3	?	16-Jul-17	00088	00097	DARJEELIN	16-Jul-17	Birth
00107 RP36	F	26-Jun-17	00059	00098	GANGTOK	26-Jun-17	Birth
00108 RP37	F	26-Jun-17	00059	00098	GANGTOK	26-Jun-17	Birth
00109 RP38	F	04-Jul-17	00068	00093	GANGTOK	04-Jul-17 04-Jul-17	Birth Death
00110 RP39	F	04-Jul-17	00068	00093	GANGTOK INDIA	04-Jul-17 16-Jul-17	Birth Release
00111	F	????	WILD	WILD	INDIA GANGTOK	???? 14-Apr-16 11-Dec-16	Capture Transfer Death
<b>TOTALS: 110 (51.56.3)</b>							

Living population of Red panda (*Ailurus fulgens fulgens*) in Indian Zoos

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
<b>Padmaja Naidu Himalayan Zoological Park, Darjeeling</b>							
00046 86 POKHRAJ 00-0610-FD19	M	18-Jun-01	00011	00015	DARJEELIN	18-Jun-01	Birth
00062 RP15 256 RIGSEL 0006B74A7E	F	28-May-07	00052	00058	GANGTOK DARJEELIN	28-May-07 31-Oct-11	Birth Transfer
00069 RP20 RP15 KARMA 956000002158469	F	03-Jun-10	00059	00058	GANGTOK DARJEELIN	03-Jun-10 24-Nov-15	Birth Transfer
00075 217 JANAKI 0006B82659	F	22-Jun-10	00061	00057	DARJEELIN	22-Jun-10	Birth
00076 216 RAM 0006B82659	M	22-Jun-10	00061	00057	DARJEELIN	22-Jun-10	Birth
00078 RP23 SHOVA 956000002148969	F	07-Jun-11	00059	00058	GANGTOK DARJEELIN	07-Jun-11 22-Feb-14	Birth Transfer
00086 272 SMILE 95600000215937	F	20-Jun-12	00064	00073	DARJEELIN	20-Jun-12	Birth
00088 RP0002 SHIFU	M	27-Jun-13	00064	00062	DARJEELIN	27-Jun-13	Birth
00089 RP0001 KITCHI	F	27-Jun-13	00064	00062	DARJEELIN	27-Jun-13	Birth
00094 SHINE	F	04-Jul-14	00064	00073	DARJEELIN	04-Jul-14	Birth
00096 BALAM	M	07-Jun-15	00064	00075	DARJEELIN	07-Jun-15	Birth
00097 PRASANNA	F	16-Jun-15	00076	00078	DARJEELIN	16-Jun-15	Birth
00100 RP-19 NOEL	M	14-Jul-15	00088	00057	DARJEELIN	14-Jul-15	Birth
00101 RP-20 JOEL	M	14-Jul-15	00088	00057	DARJEELIN	14-Jul-15	Birth
00104 CUB1	?	08-Jul-17	00096	00062	DARJEELIN	08-Jul-17	Birth

Stud# Local ID Name Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00105 CUB2	?	08-Jul-17	00096	00062	DARJEELIN	08-Jul-17	Birth
00106 CUB3	?	16-Jul-17	00088	00097	DARJEELIN	16-Jul-17	Birth
<b>Total: 17 (6.8.3)</b>							
<b>Himalayan Zoological Park, Gangtok</b>							
00098 RP33 POKCHI	F	24-Jun-15	00068	UNK	GANGTOK	24-Jun-15	Birth
00107 RP36	F	26-Jun-17	00059	00098	GANGTOK	26-Jun-17	Birth
00108 RP37	F	26-Jun-17	00059	00098	GANGTOK	26-Jun-17	Birth
<b>Total: 3 (0.3.0)</b>							
<b>Pt. G.B.Pant High Altitude Zoo, Nainital</b>							
00052 RP9 RAHUL 255 117 0006-B74-A7F	M	20-Jun-02	00019	00016	GANGTOK DARJEELIN NAINITAL	20-Jun-02 31-Oct-11 25-Nov-14	Birth Transfer Transfer
00090 RP0003 118 SONAM	F	28-Jun-13	00061	00057	DARJEELIN NAINITAL	28-Jun-13 24-Nov-14	Birth Transfer
00102 125	M	23-Jun-15	00052	00090	NAINITAL	23-Jun-15	Birth
00103 126	F	23-Jun-15	00052	00090	NAINITAL	23-Jun-15	Birth
<b>Total: 4 (2.2.0)</b>							
<b>Total living: 24 (8.13.3)</b>							

Annexure III

Pedigree Chart Report of Red panda (*Ailurus fulgens fulgens*) in Indian Zoos

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Taxon Name: AILURUS FULGENS Studbook Number: 00001

=====

WILD



WILD

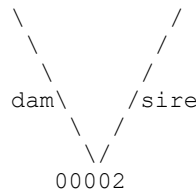
Sex: Female  
 Birth Date: ~ 1975  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00002

=====

WILD



WILD

Sex: Male  
 Birth Date: ~ 1975  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00003

=====

WILD



WILD

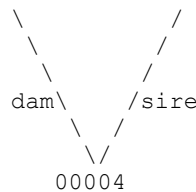
Sex: Female  
 Birth Date: ~ 1975  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00004

=====

WILD



WILD

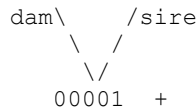
Sex: Male  
 Birth Date: ~ 1975  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

=====

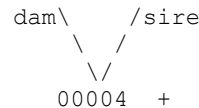
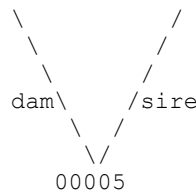
Taxon Name: AILURUS FULGENS Studbook Number: 00005

=====

WILD



WILDWILDWILD



Sex: Male  
 Birth Date: 31 May 1978  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00006

=====

WILD

dam\ /sire  
 \ /  
 00001 +

WILDWILDWILD

\ /  
 dam\ /sire  
 \ /  
 00006

dam\ /sire  
 \ /  
 00004 +

Sex: Female  
 Birth Date: 31 May 1978  
 Last Location: KANPUR (dead)  
 House Name:  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00007

=====

WILD

\ /  
 dam\ /sire  
 \ /  
 00007

WILD

Sex: Female  
 Birth Date: ~ 1982  
 Last Location: DARJEELIN (dead)  
 House Name: Anita  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00008

=====

WILD

\ /  
 dam\ /sire  
 \ /  
 00008

WILD

Sex: Female  
 Birth Date: ~ 1982  
 Last Location: DARJEELIN (dead)  
 House Name: CHANDA  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00009

=====

WILD

\ /  
 dam\ /sire  
 \ /  
 00009

WILD

Sex: Male  
 Birth Date: ~ 1982  
 Last Location: DARJEELIN (dead)  
 House Name: Basant  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00010

=====

WILD

\ /  
 dam\ /sire  
 \ /  
 00010

WILD

Sex: Female  
 Birth Date: ~ 1982  
 Last Location: DARJEELIN (dead)  
 House Name: DIVYA  
 Tattoo:  
 Tag/Band:



NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====

Taxon Name: AILURUS FULGENS

=====

Studbook Number: 00015

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

\ /  
 dam\ /sire  
 \ /  
 00015

Sex: Female  
 Birth Date: 20 Jun 1994  
 Last Location: DARJEELIN (dead)  
 House Name: EKTA  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

=====

Studbook Number: 00016

=====

UNK

UNK

\ /  
 dam\ /sire  
 \ /  
 00016

Sex: Female  
 Birth Date: 26 Jun 1994  
 Last Location: GANGTOK (dead)  
 House Name: PRITY  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS

=====

Studbook Number: 00018

=====

UNK

UNK

\ /  
 dam\ /sire  
 \ /  
 00018

Sex: Male  
 Birth Date: 17 Jul 1994  
 Last Location: DARJEELIN (dead)  
 House Name: OMIN  
 Tattoo:  
 Tag/Band:

=====

Taxon Name: AILURUS FULGENS

=====

Studbook Number: 00019

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

\ /  
 dam\ /sire  
 \ /  
 00019

Sex: Male  
 Birth Date: 21 Jun 1995  
 Last Location: GANGTOK (dead)  
 House Name: JUGUL  
 Tattoo:  
 Tag/Band:

+ Wild-caught...



NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00020

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

\ /  
 dam\ /sire  
 \ /  
 00020

Sex: Female  
 Birth Date: 21 Jun 1995  
 Last Location: DARJEELIN (dead)  
 House Name: KALITA  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00021

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

UNK

UNK

dam\ /sire  
 \ /  
 00015  
 EKTA

dam\ /sire  
 \ /  
 00011  
 GORA

\ /  
 dam\ /sire  
 \ /  
 00021

Sex: Male  
 Birth Date: 8 Jun 1996  
 Last Location: DARJEELIN (dead)  
 House Name: LALIT  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00022

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

UNK

UNK

dam\ /sire  
 \ /  
 00015  
 EKTA

dam\ /sire  
 \ /  
 00011  
 GORA

\ /  
 dam\ /sire  
 \ /  
 00022

Sex: Female  
 Birth Date: 8 Jun 1996  
 Last Location: DARJEELIN (dead)  
 House Name: MOHINI  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00023

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

\ /  
 dam\ /sire  
 \ /  
 00023

Sex: Female  
 Birth Date: 14 Jul 1996  
 Last Location: DARJEELIN (dead)  
 House Name: NEERA  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00024

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

UNK

UNK

dam\ /sire  
 \ /  
 00020  
 KALITA

dam\ /sire  
 \ /  
 00012  
 HARI

\ /  
 dam\ /sire  
 \ /  
 00024

Sex: Female  
 Birth Date: 15 Jun 1997  
 Last Location: DARJEELIN (dead)  
 House Name: Queeny  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS

Studbook Number: 00025

=====

WILD

WILDWILDWILD

dam\ /sire  
 \ /  
 00007 +  
 Anita

dam\ /sire  
 \ /  
 00009 +  
 Basant

UNK

UNK

dam\ /sire  
 \ /  
 00015  
 EKTA

dam\ /sire  
 \ /  
 00011  
 GORA

\ /  
 dam\ /sire  
 \ /  
 00025

Sex: Female  
 Birth Date: 25 Jun 1997  
 Last Location: DARJEELIN (dead)  
 House Name: RANI  
 Tattoo:  
 Tag/Band:

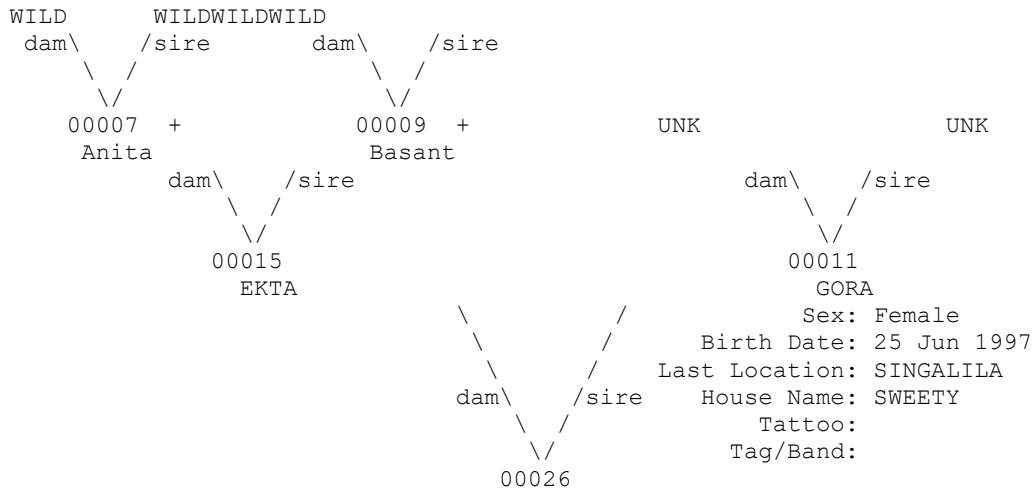
+ Wild-caught...

NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00026

=====

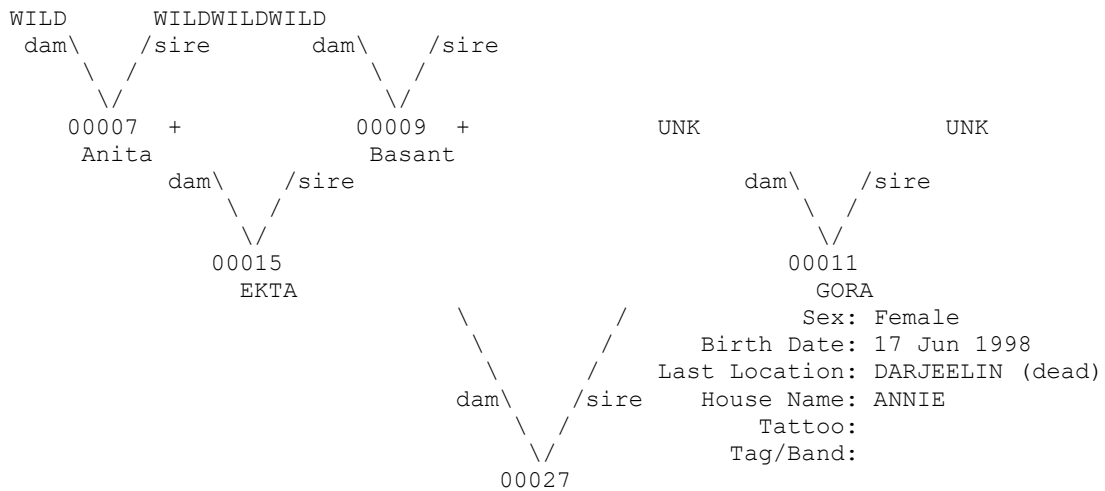


+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00027

=====

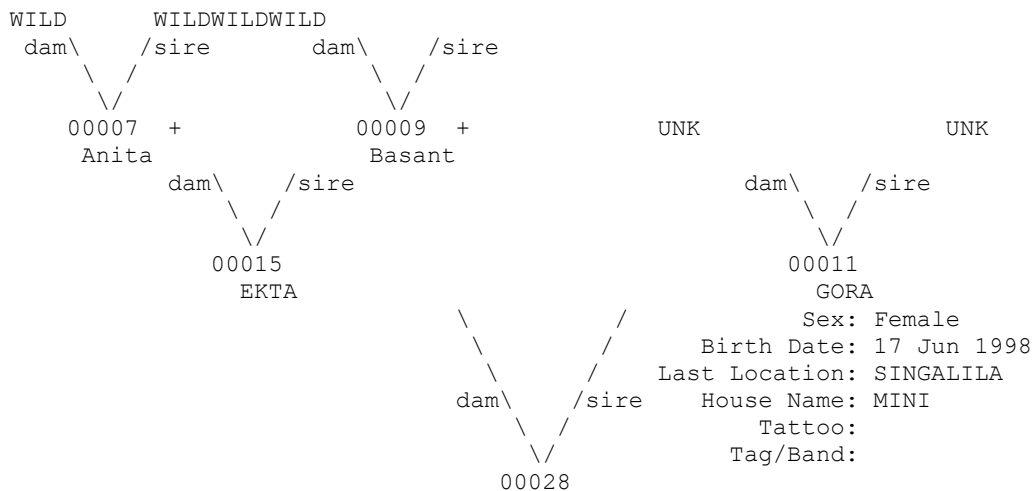


+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00028

=====



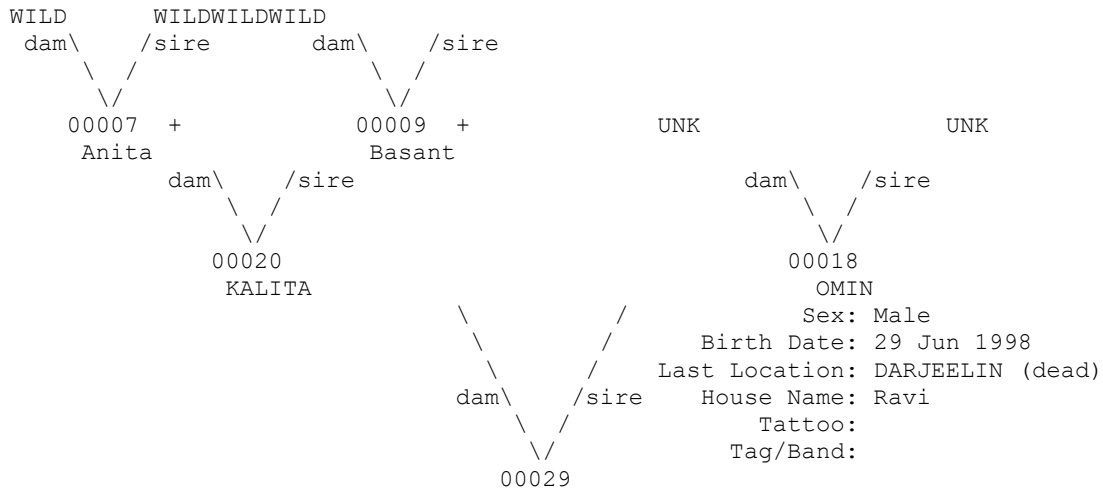
+ Wild-caught...

NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00029

=====

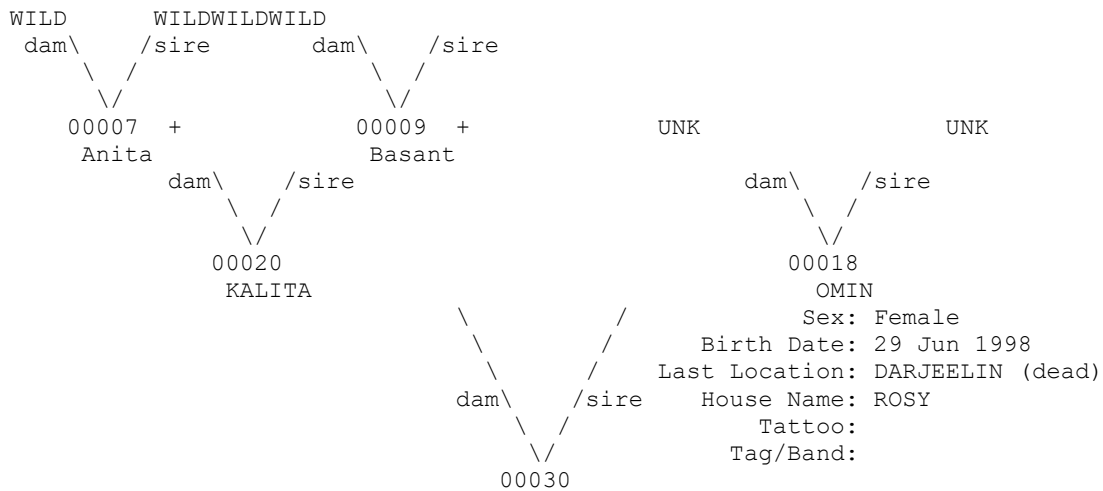


+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00030

=====

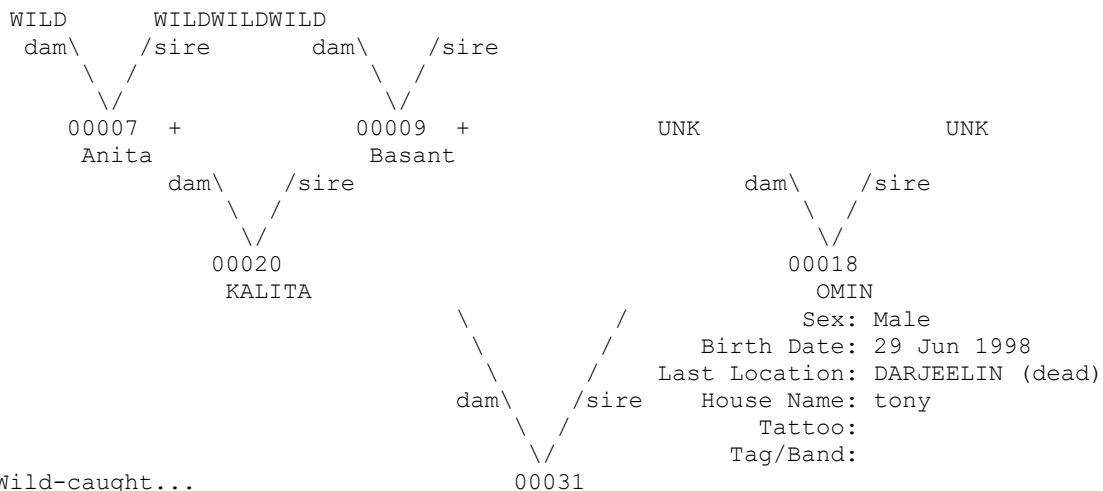


+ Wild-caught...

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00031

=====



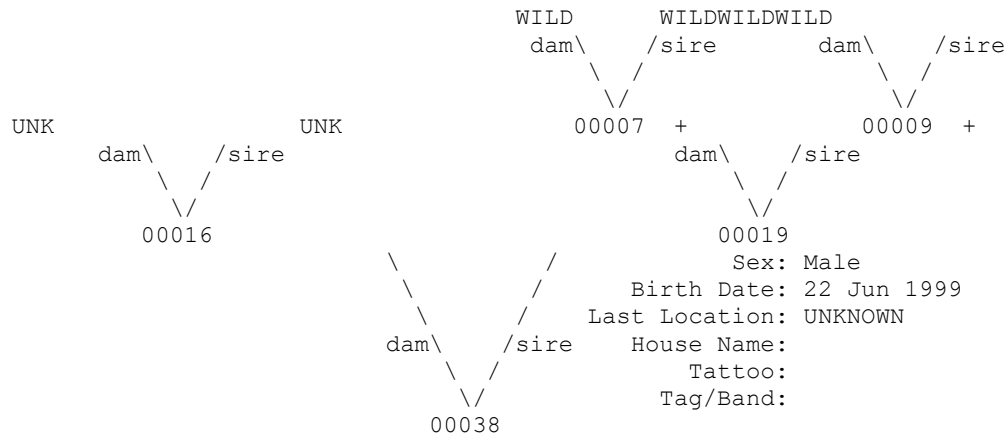
+ Wild-caught...





=====  
 Taxon Name: AILURUS FULGENS

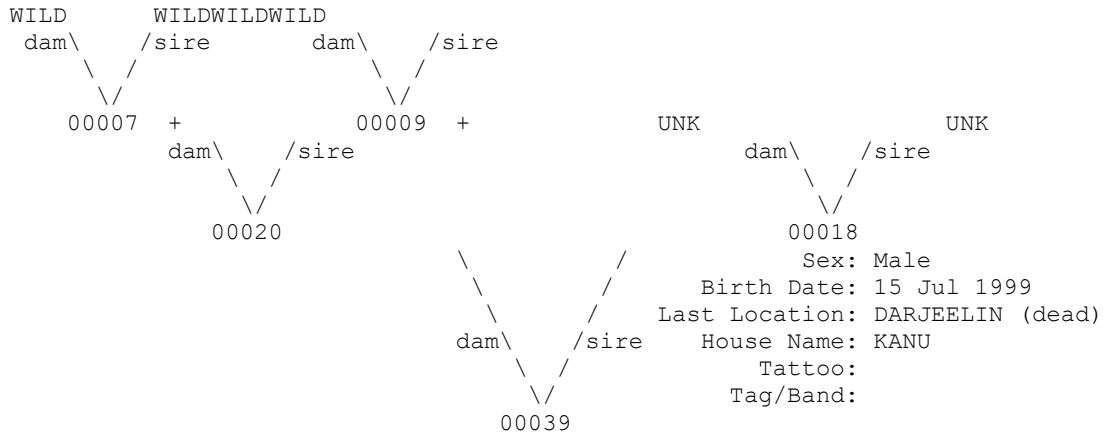
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+ Wild-caught...

=====  
 Taxon Name: AILURUS FULGENS

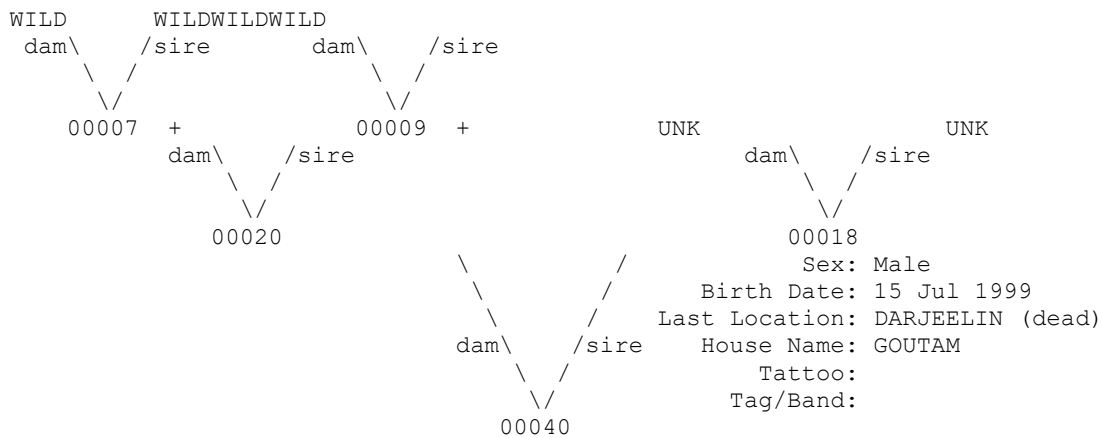
Studbook Number: 00039  
 =====



+ Wild-caught...

=====  
 Taxon Name: AILURUS FULGENS

Studbook Number: 00040  
 =====

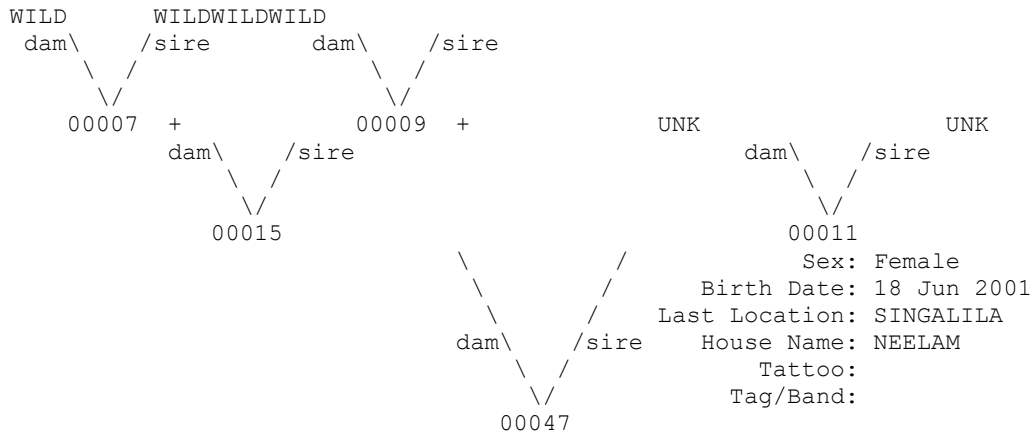


+ Wild-caught...



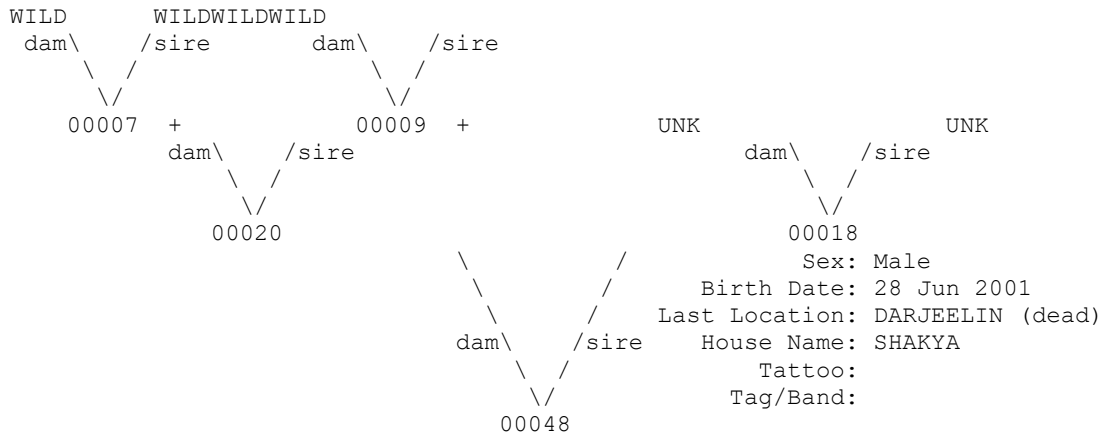






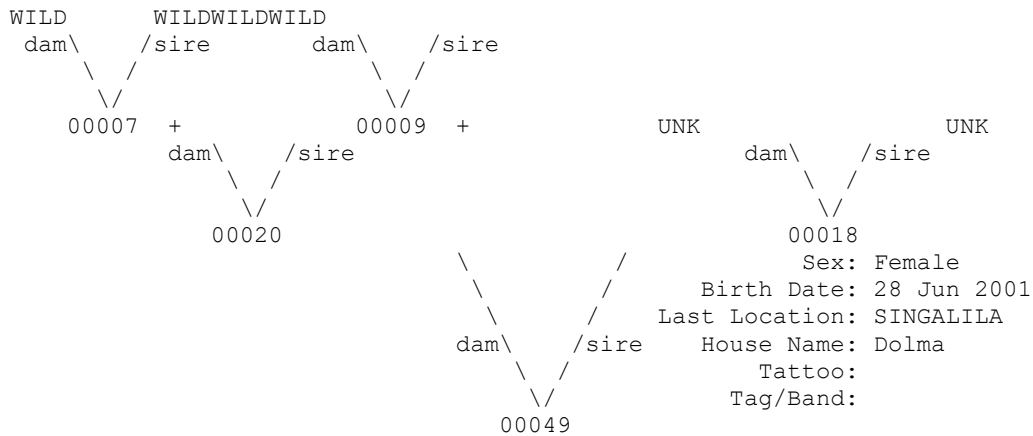
+ Wild-caught...

=====  
Taxon Name: AILURUS FULGENS Studbook Number: 00048  
=====



+ Wild-caught...

=====  
Taxon Name: AILURUS FULGENS Studbook Number: 00049  
=====



+ Wild-caught...

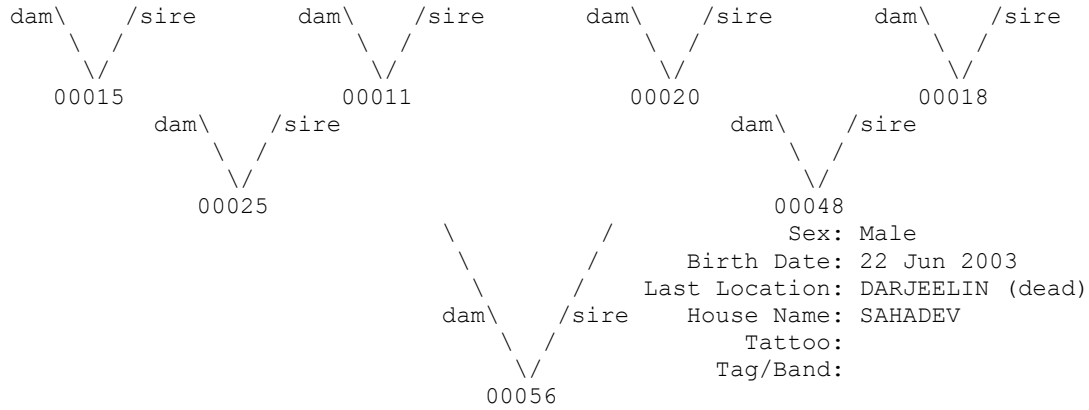
=====  
Taxon Name: AILURUS FULGENS Studbook Number: 00050  
=====

WILD WILDWILDWILD



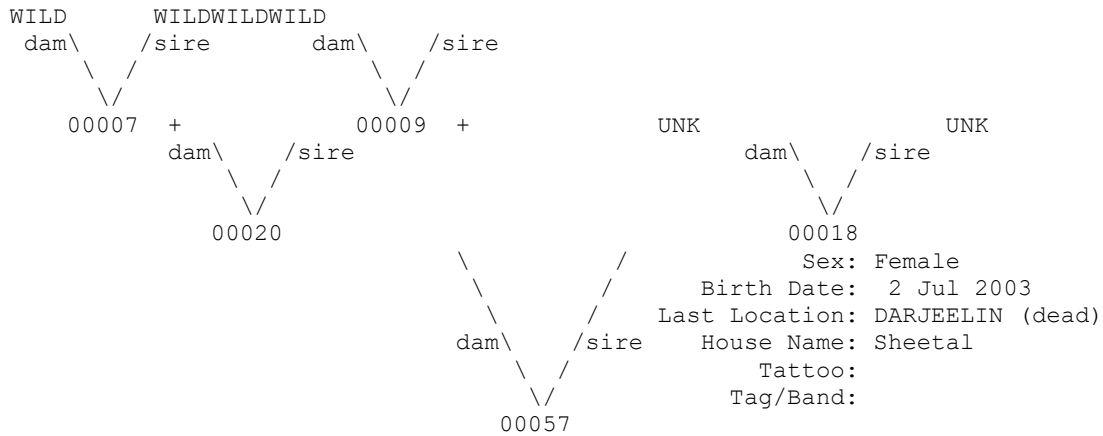


NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION



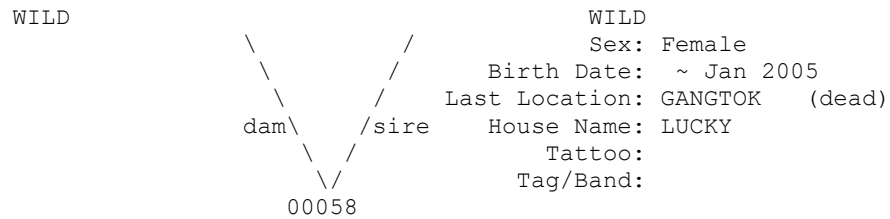
+ Wild-caught... \* Appear more than once...  
 ^ Pedigree continues beyond top of page...

=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00057  
 =====

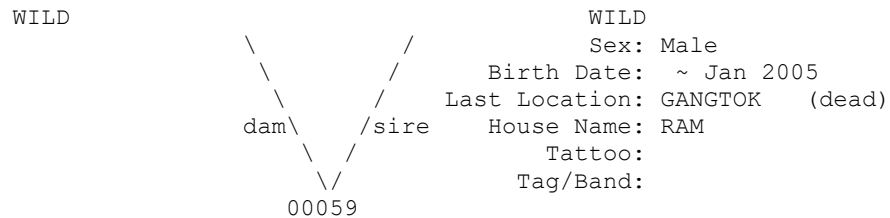


+ Wild-caught...

=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00058  
 =====



=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00059  
 =====



=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00060  
 =====







NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

```

=====
Taxon Name: AILURUS FULGENS                      Studbook Number: 00066
=====
WILD                                              WILD
              \      /                               Sex: Female
              dam\  /sire                             Birth Date: ~ 2009
              \  /                                     Last Location: GANGTOK (dead)
              \ /sire                                 House Name: DOMA
              00066                                  Tattoo:
                                                    Tag/Band:
    
```

```

=====
Taxon Name: AILURUS FULGENS                      Studbook Number: 00067
=====
WILD              WILDWILDWILD
dam\  /sire      dam\  /sire
 \  /           \  /
 \ /sire        \ /sire
 00058 +        00059 +
              Sex: Female
              Birth Date: 13 Jun 2009
              Last Location: GANGTOK (dead)
              House Name: NIDHI
              Tattoo:
              Tag/Band:
+ Wild-caught...
              \      /
              dam\  /sire
              \  /
              \ /sire
              00067
    
```

```

=====
Taxon Name: AILURUS FULGENS                      Studbook Number: 00068
=====
WILD              WILD              WILD
dam\  /sire      dam\  /sire      dam\  /sire
 \  /           \  /           \  /
 \ /sire        \ /sire        \ /sire
 00058 +        00016 +        00019 +
              dam\  /sire      dam\  /sire
              \  /           \  /
              \ /sire        \ /sire
              00052 +        00059 +
              Sex: Male
              Birth Date: 2 Jul 2009
              Last Location: GANGTOK (dead)
              House Name: SONAM
              Tattoo:
              Tag/Band:
+ Wild-caught...
              \      /
              dam\  /sire
              \  /
              \ /sire
              00062
              \      /
              dam\  /sire
              \  /
              \ /sire
              00068
^ Pedigree continues beyond top of page...
    
```

```

=====
Taxon Name: AILURUS FULGENS                      Studbook Number: 00069
=====
WILD              WILDWILDWILD
dam\  /sire      dam\  /sire
 \  /           \  /
 \ /sire        \ /sire
 00058 +        00059 +
              Sex: Female
              Birth Date: 3 Jun 2010
              Last Location: DARJEELIN
              House Name: KARMA
              Tattoo:
              Tag/Band:
+ Wild-caught...
              \      /
              dam\  /sire
              \  /
              \ /sire
              00069
    
```

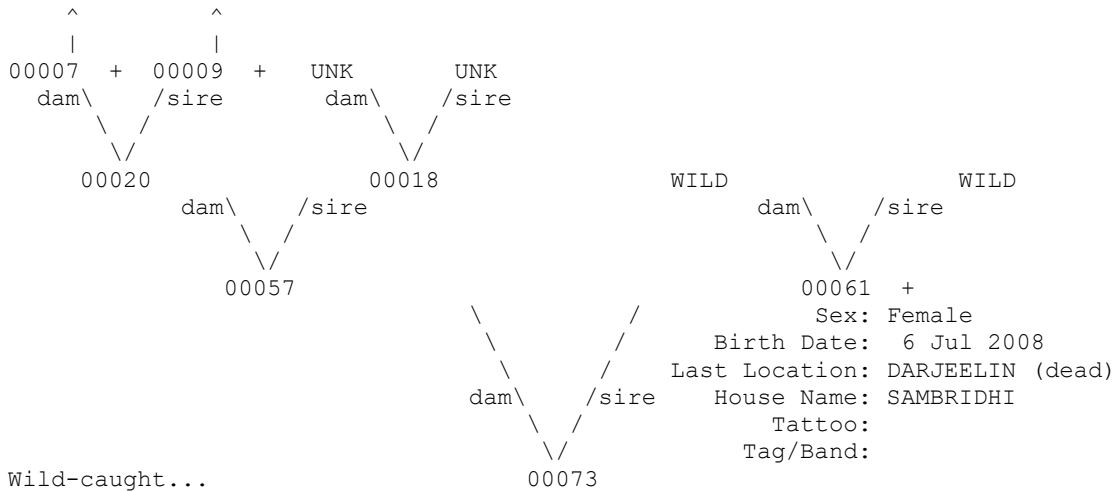




NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

=====  
 Taxon Name: AILURUS FULGENS  
 =====

Studbook Number: 00073  
 =====

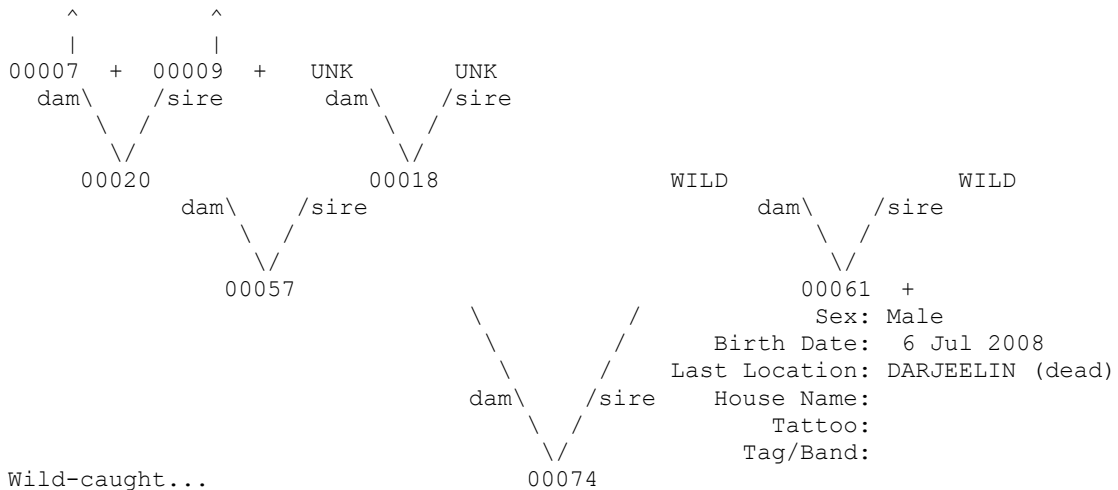


+ Wild-caught...

^ Pedigree continues beyond top of page...

=====  
 Taxon Name: AILURUS FULGENS  
 =====

Studbook Number: 00074  
 =====

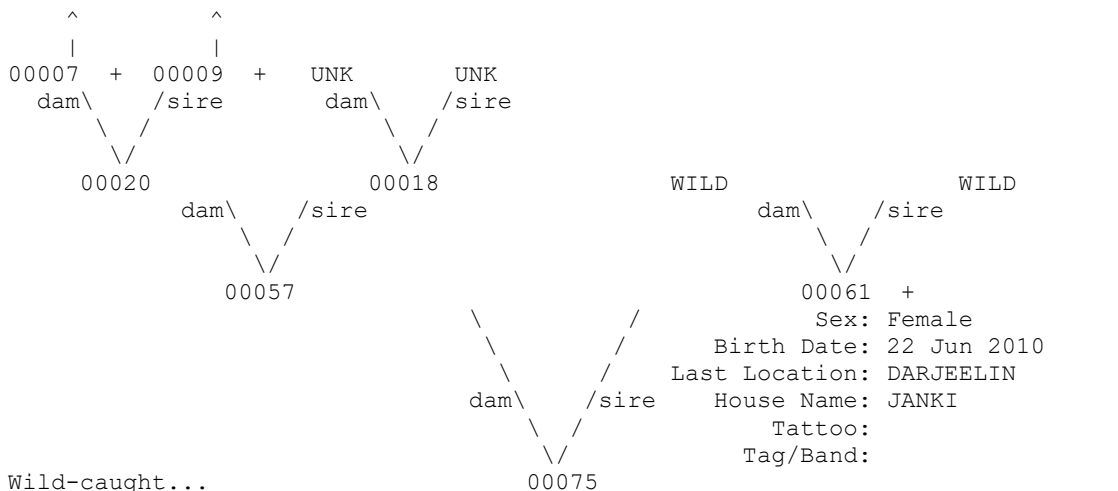


+ Wild-caught...

^ Pedigree continues beyond top of page...

=====  
 Taxon Name: AILURUS FULGENS  
 =====

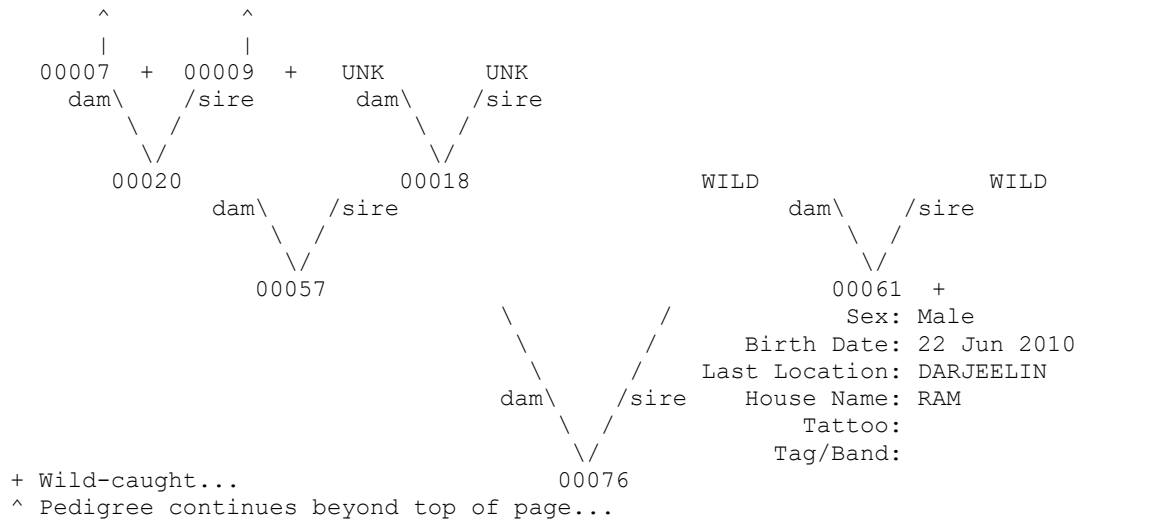
Studbook Number: 00075  
 =====



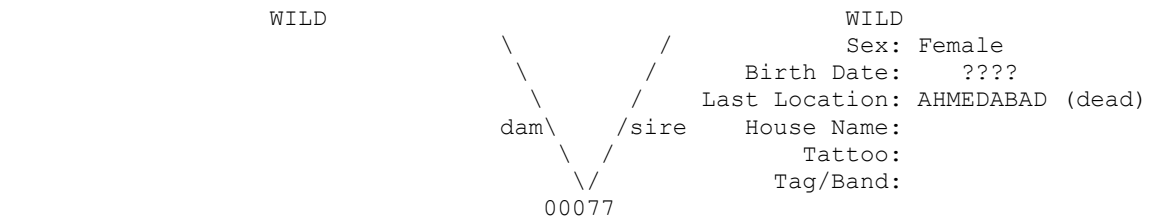
+ Wild-caught...

^ Pedigree continues beyond top of page...

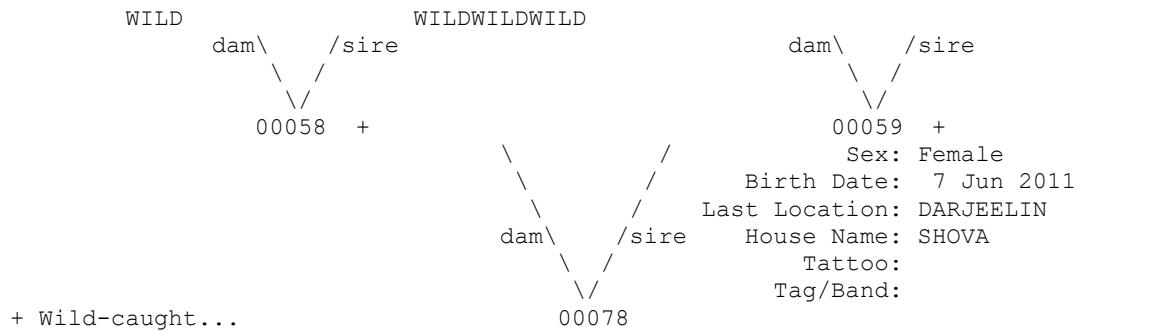
=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00076  
 =====



=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00077  
 =====



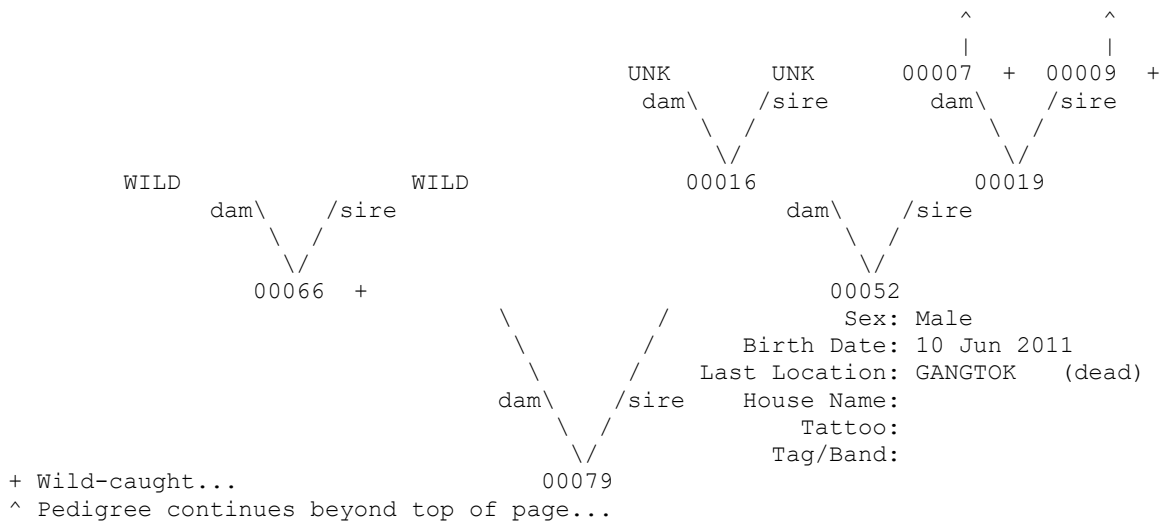
=====  
 Taxon Name: AILURUS FULGENS Studbook Number: 00078  
 =====



NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

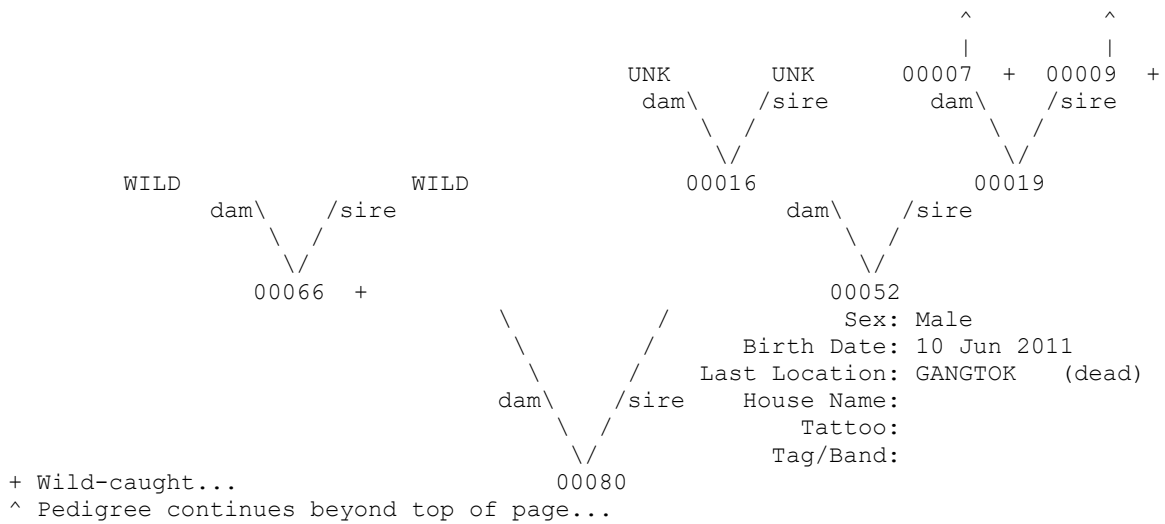
Taxon Name: AILURUS FULGENS

Studbook Number: 00079



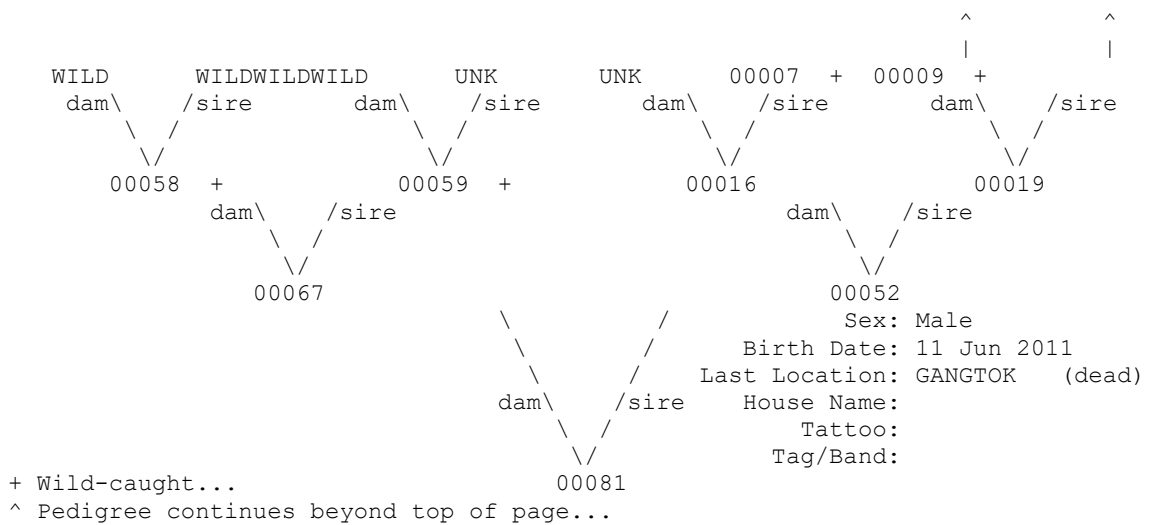
Taxon Name: AILURUS FULGENS

Studbook Number: 00080



Taxon Name: AILURUS FULGENS

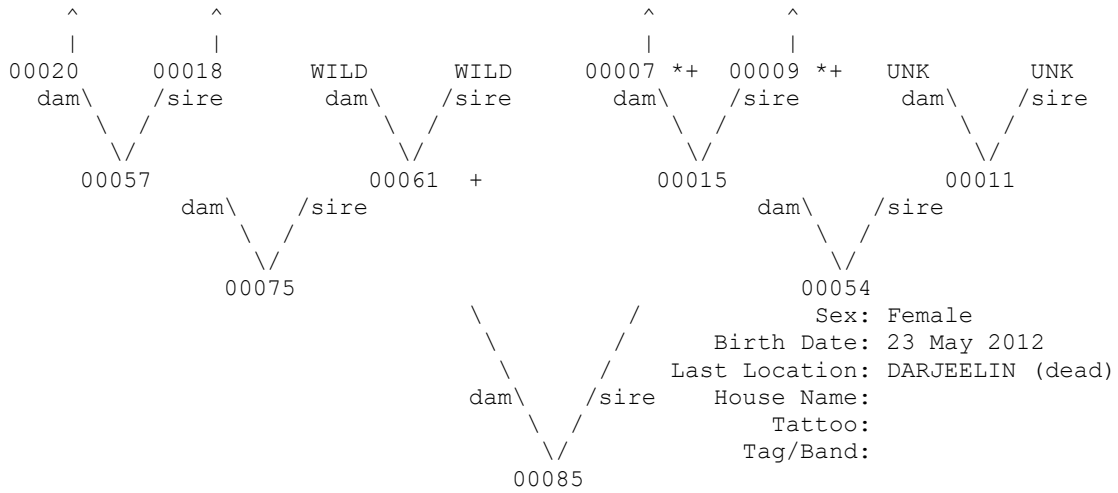
Studbook Number: 00081





=====  
 Taxon Name: AILURUS FULGENS

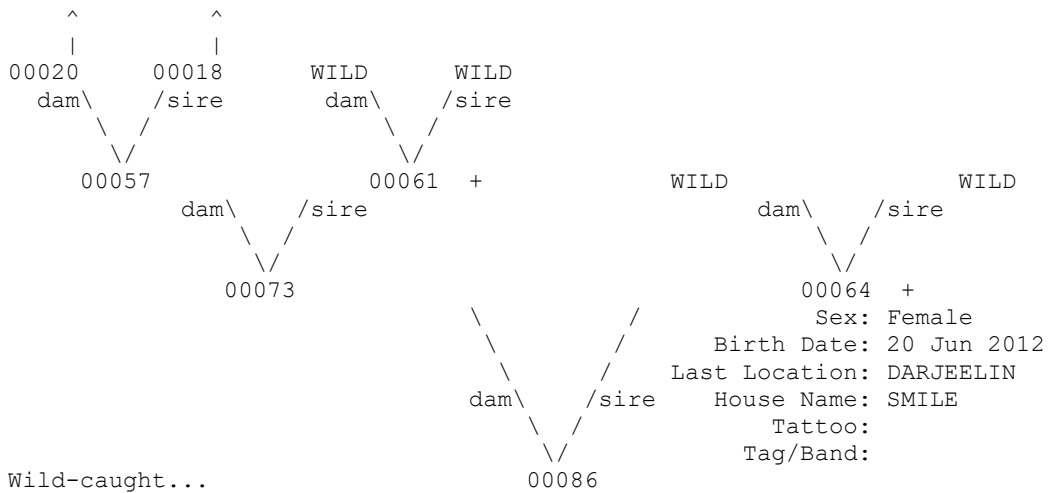
Studbook Number: 00085  
 =====



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

=====  
 Taxon Name: AILURUS FULGENS

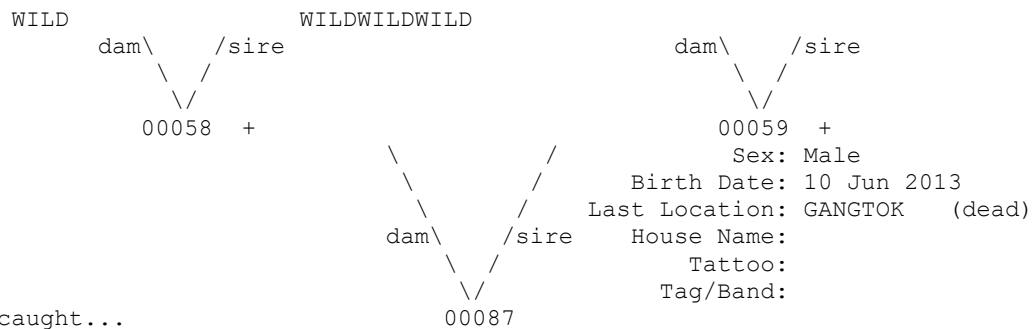
Studbook Number: 00086  
 =====



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

=====  
 Taxon Name: AILURUS FULGENS

Studbook Number: 00087  
 =====

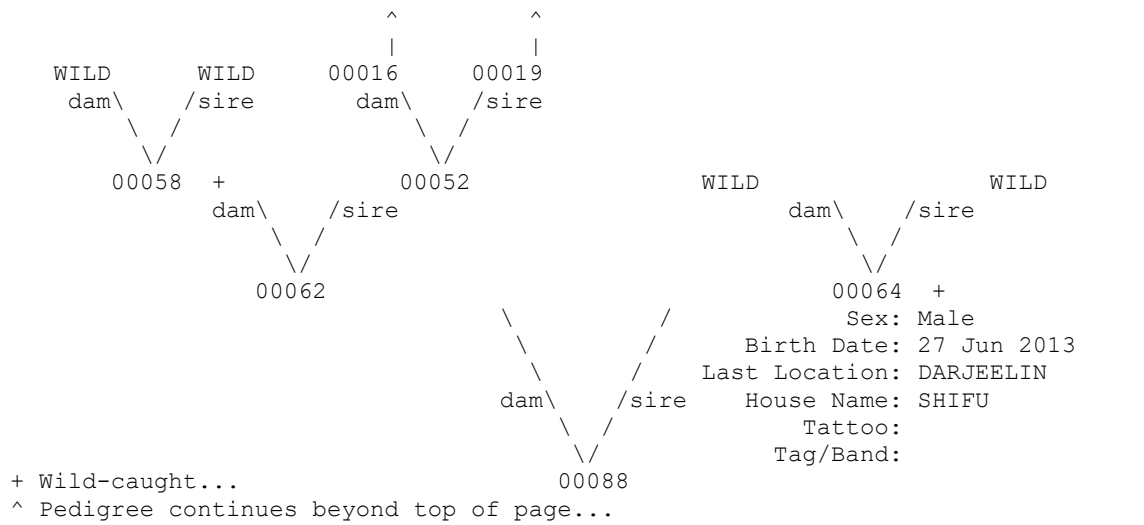


+ Wild-caught...

NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

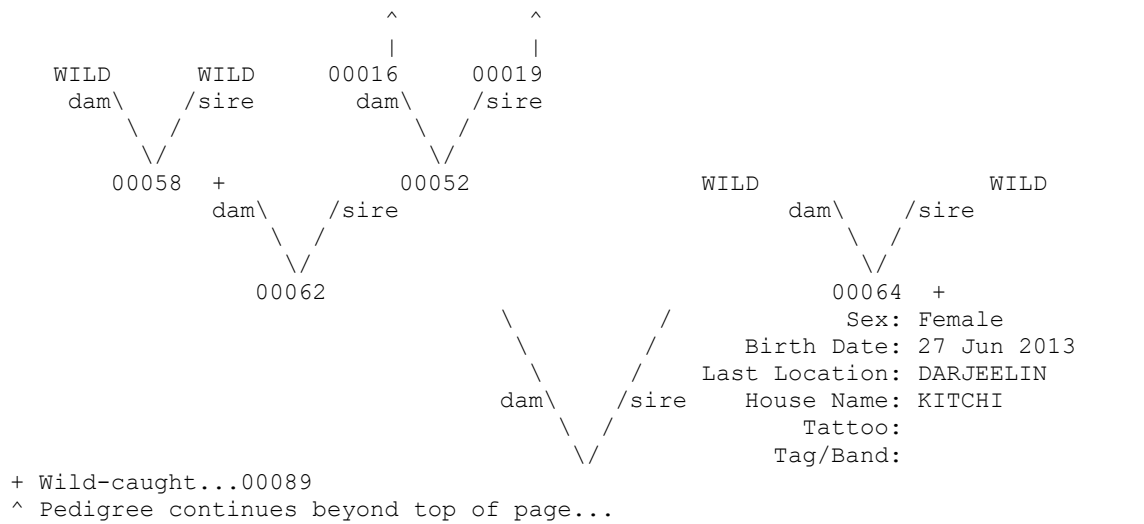
Taxon Name: AILURUS FULGENS

Studbook Number: 00088



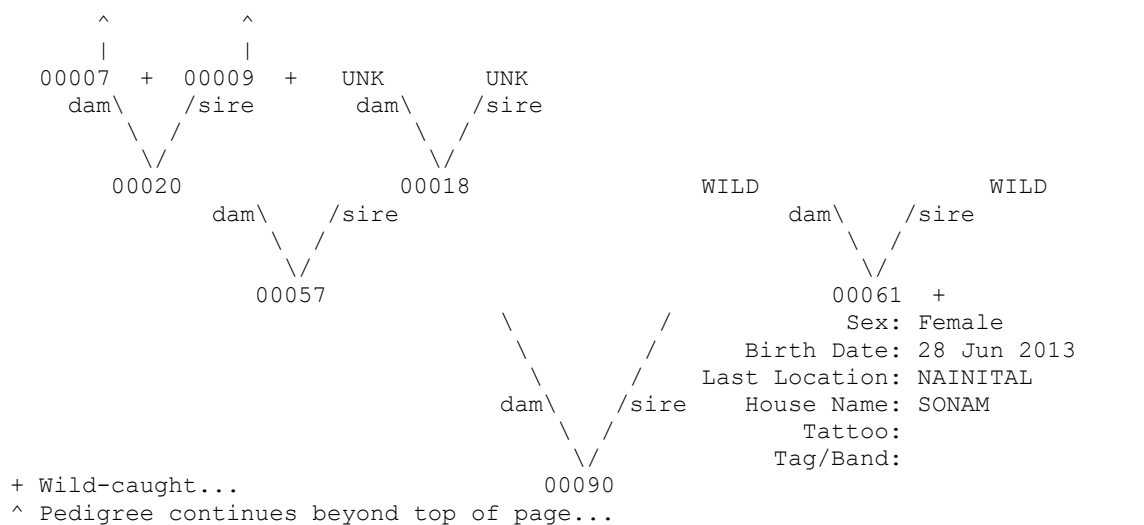
Taxon Name: AILURUS FULGENS

Studbook Number: 00089



Taxon Name: AILURUS FULGENS

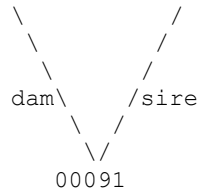
Studbook Number: 00090



NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

Taxon Name: AILURUS FULGENS Studbook Number: 00091

UNK

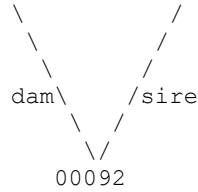


UNK

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

Taxon Name: AILURUS FULGENS Studbook Number: 00092

WILD

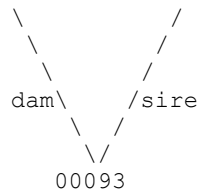


WILD

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

Taxon Name: AILURUS FULGENS Studbook Number: 00093

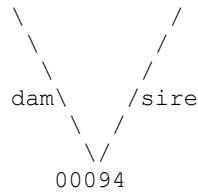
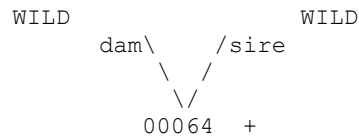
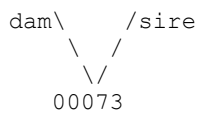
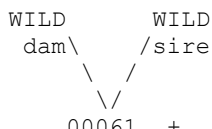
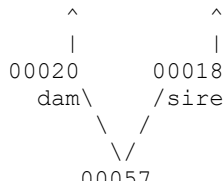
WILD



WILD

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

Taxon Name: AILURUS FULGENS Studbook Number: 00094



Sex: Female  
 Birth Date: 4 Jul 2014  
 Last Location: DARJEELIN  
 House Name: SHINE  
 Tattoo:  
 Tag/Band:

+ Wild-caught...

^ Pedigree continues beyond top of page...



NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

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Taxon Name: AILURUS FULGENS Studbook Number: 00095

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```

WILD WILDWILDWILD
dam\ /sire dam\ /sire
  \ /  \ /  \ /  \ /
 00058 + 00059 +
 LUCKY   RAM
         Sex: Male
         Birth Date: 2 Jun 2015
         Last Location: GANGTOK (dead)
         House Name: BABY1
         Tattoo:
         Tag/Band:

+ Wild-caught...
dam\ /sire
  \ /
 00095
    
```

=====

Taxon Name: AILURUS FULGENS Studbook Number: 00096

=====

```

^ ^
| |
00020 00018 WILD WILD
dam\ /sire dam\ /sire
  \ /  \ /  \ /  \ /
 00057 00061 + WILD WILD
         dam\ /sire dam\ /sire
         00075 00064 +
                Sex: Male
                Birth Date: 7 Jun 2015
                Last Location: DARJEELIN
                House Name: BALAM
                Tattoo:
                Tag/Band:

+ Wild-caught...
dam\ /sire
  \ /
 00096
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Taxon Name: AILURUS FULGENS Studbook Number: 00097

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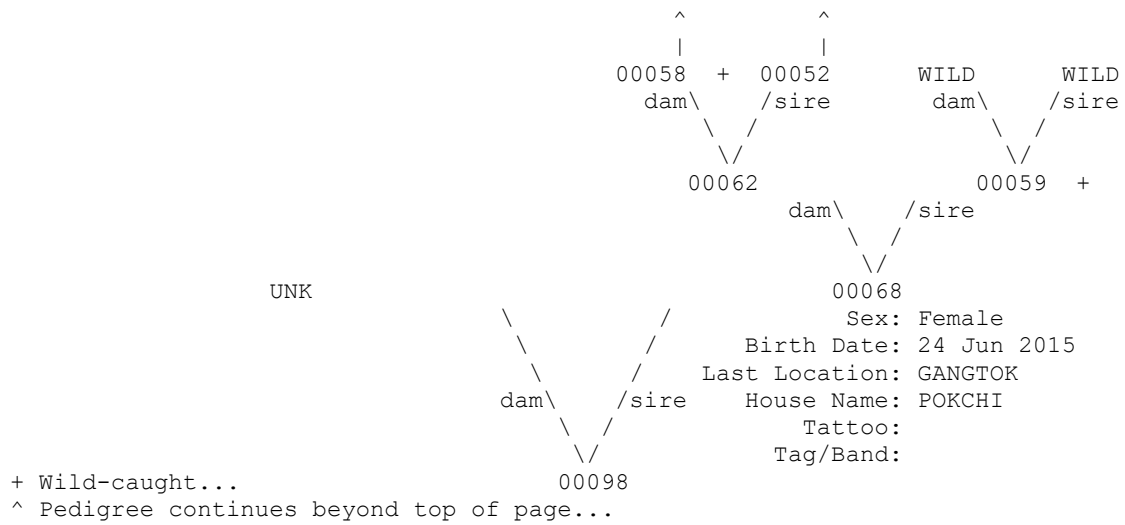
WILD WILDWILDWILD 00020 WILD WILD
dam\ /sire dam\ /sire dam\ /sire dam\ /sire
  \ /  \ /  \ /  \ /  \ /  \ /
 00058 + 00059 + 00018 00018 WILD WILD
         dam\ /sire dam\ /sire dam\ /sire dam\ /sire
         00078 00076
                Sex: Female
                Birth Date: 16 Jun 2015
                Last Location: DARJEELIN
                House Name: PRASANNA
                Tattoo:
                Tag/Band:

+ Wild-caught...
dam\ /sire
  \ /
 00097
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NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

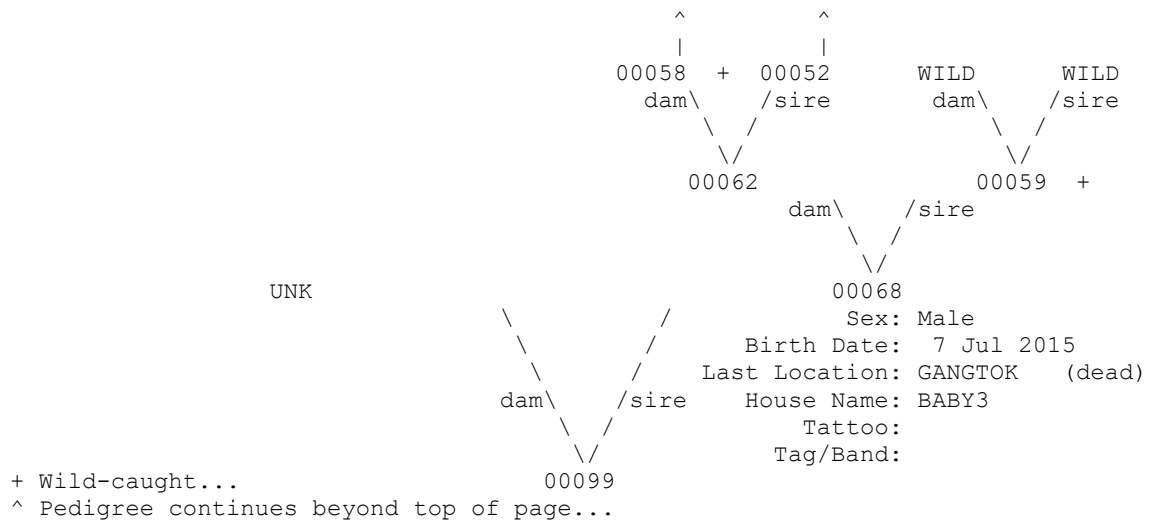
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Studbook Number: 00098  
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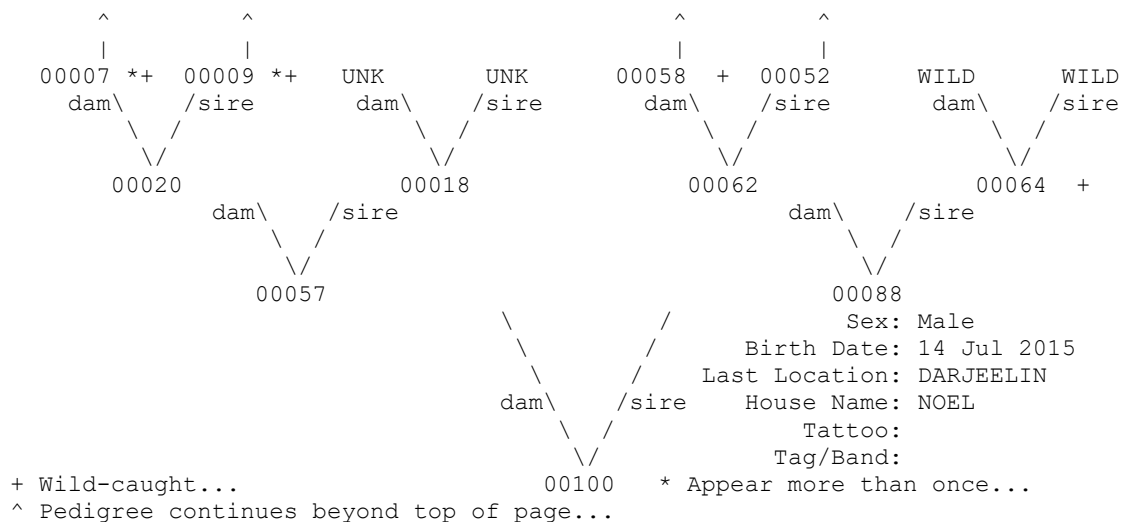
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Studbook Number: 00099  
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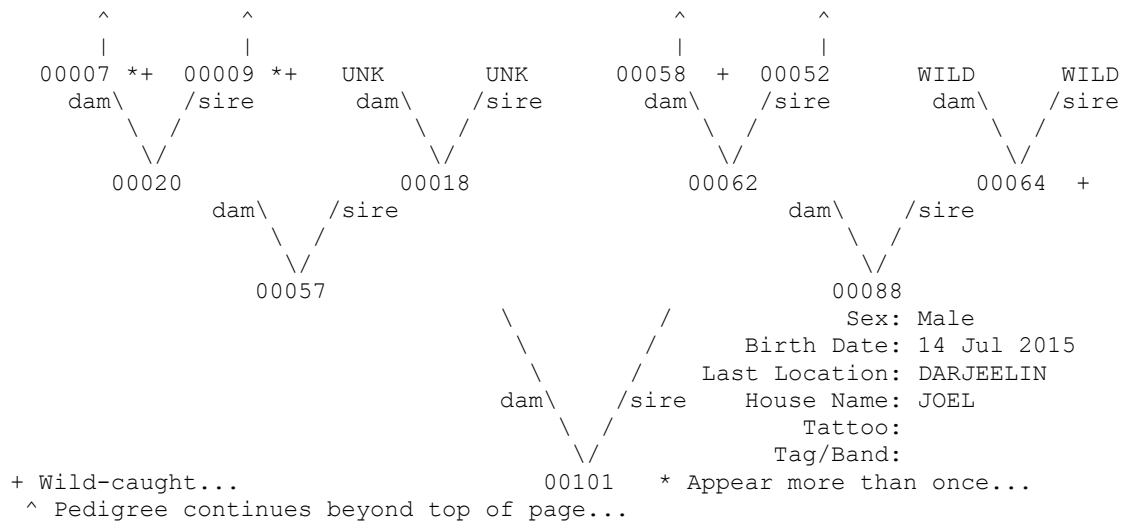
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Studbook Number: 00100  
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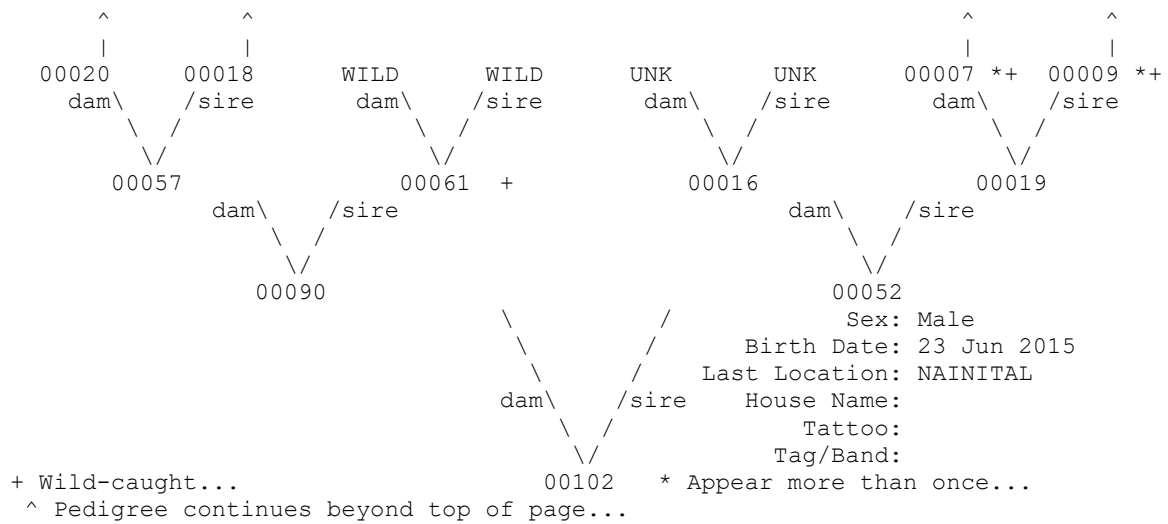


NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

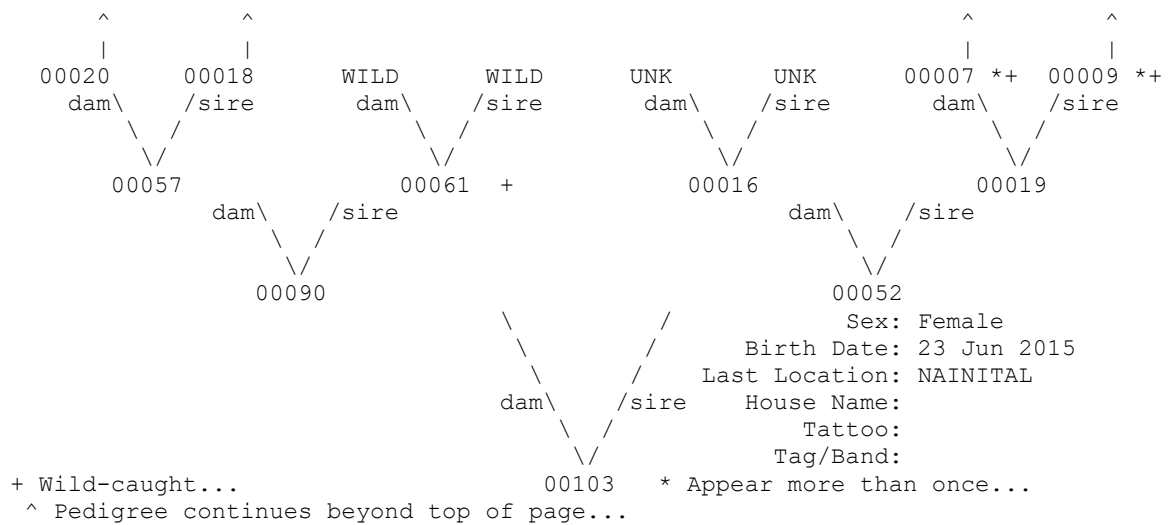
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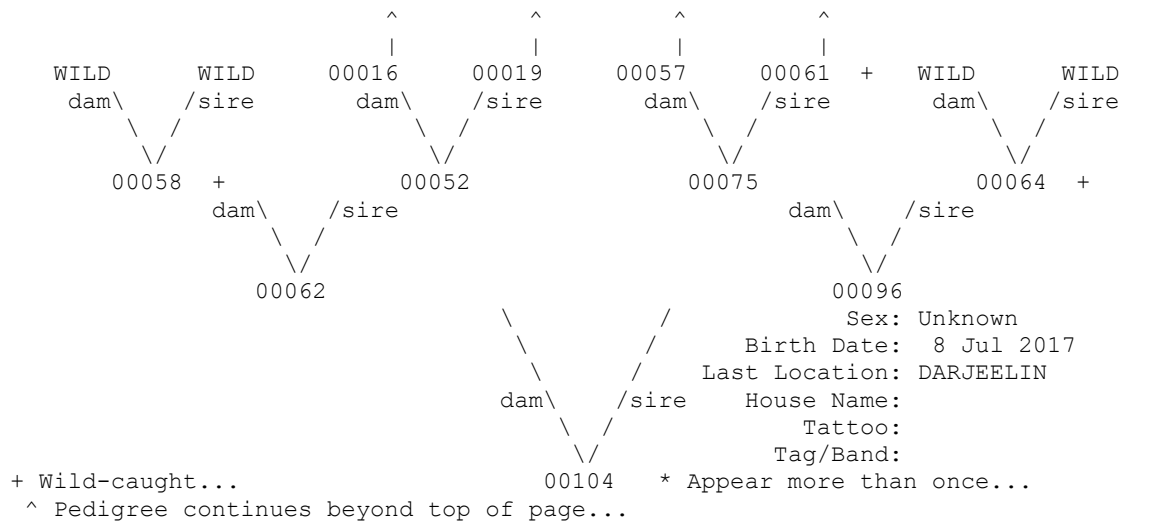
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NATIONAL STUDBOOK RED PANDA (*AILURUS FULGENS FULGENS*) III EDITION

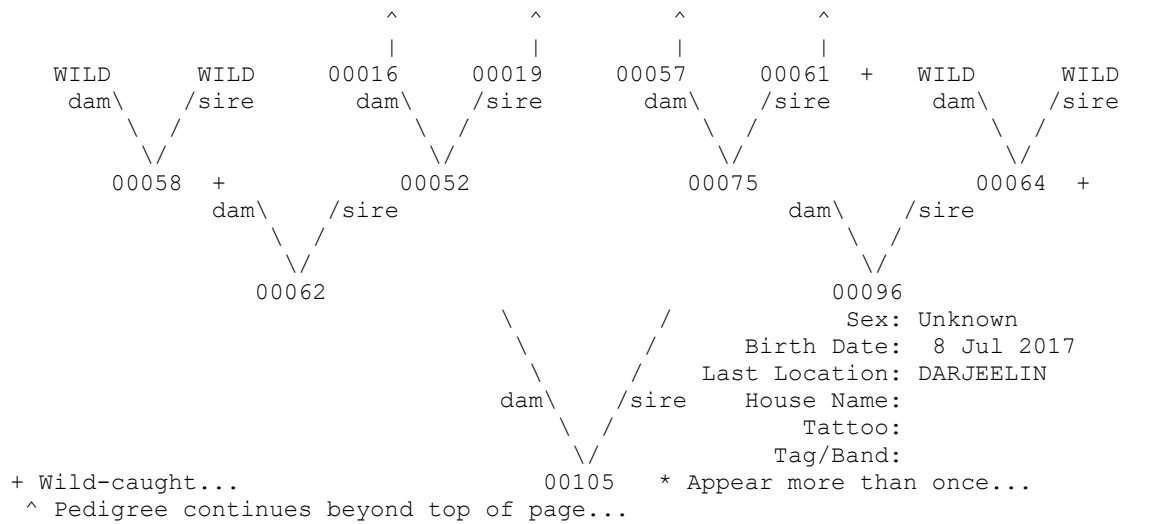
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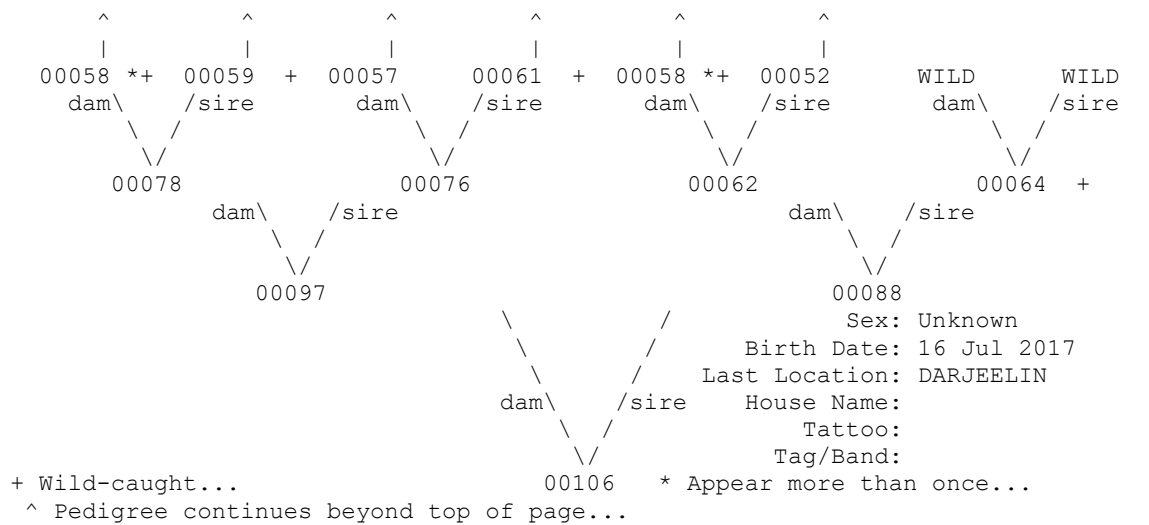
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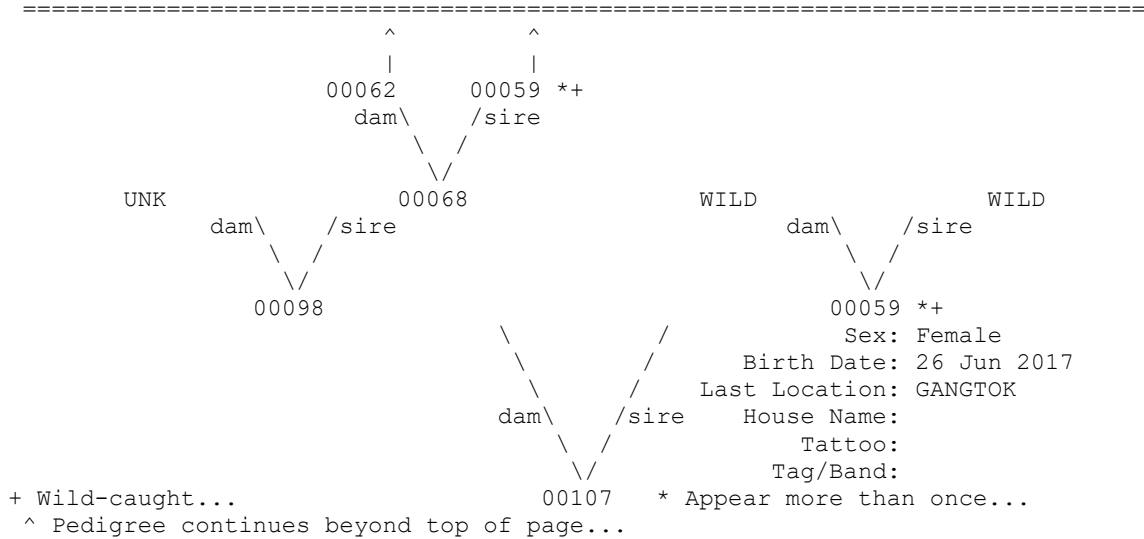
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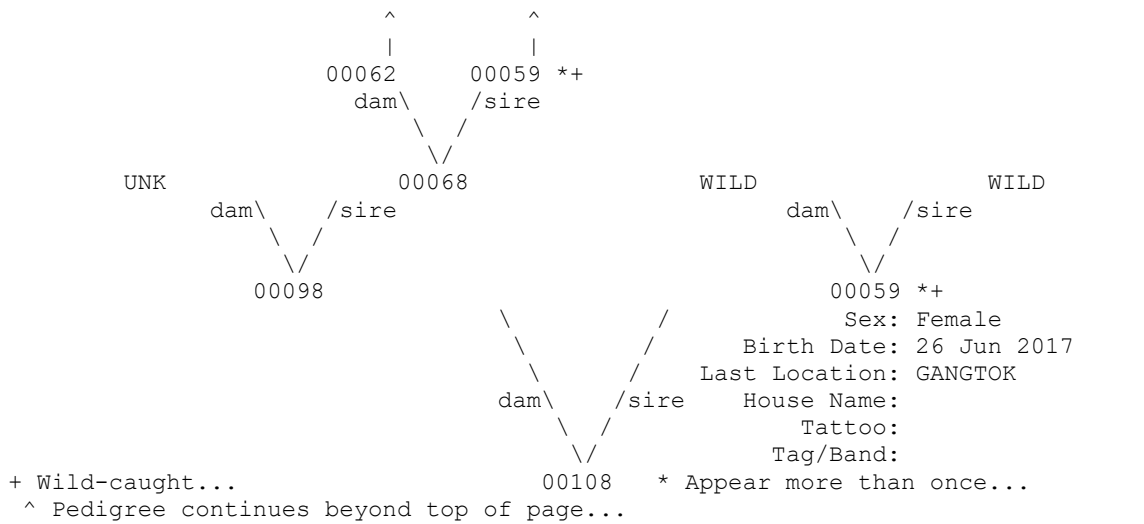


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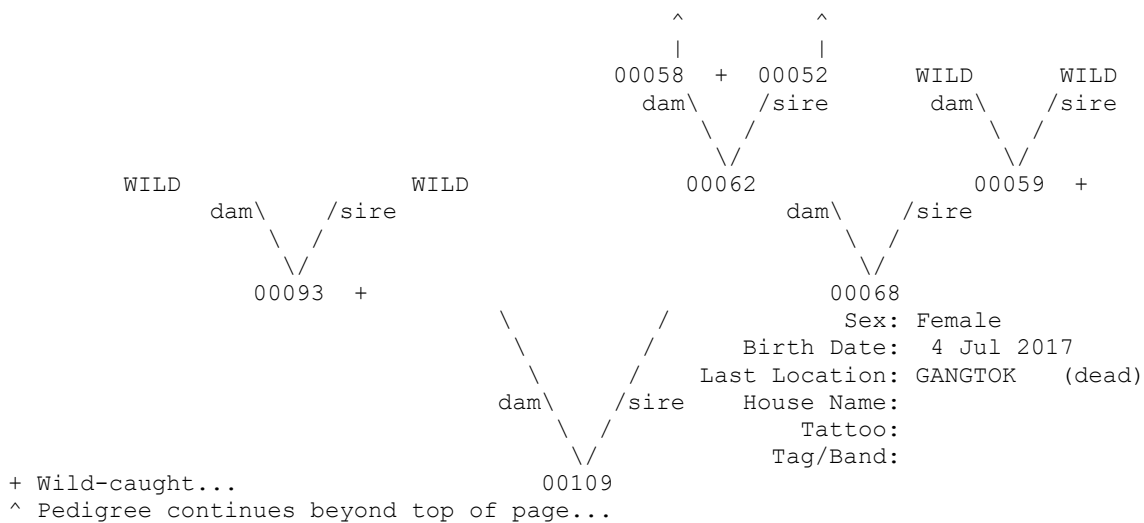
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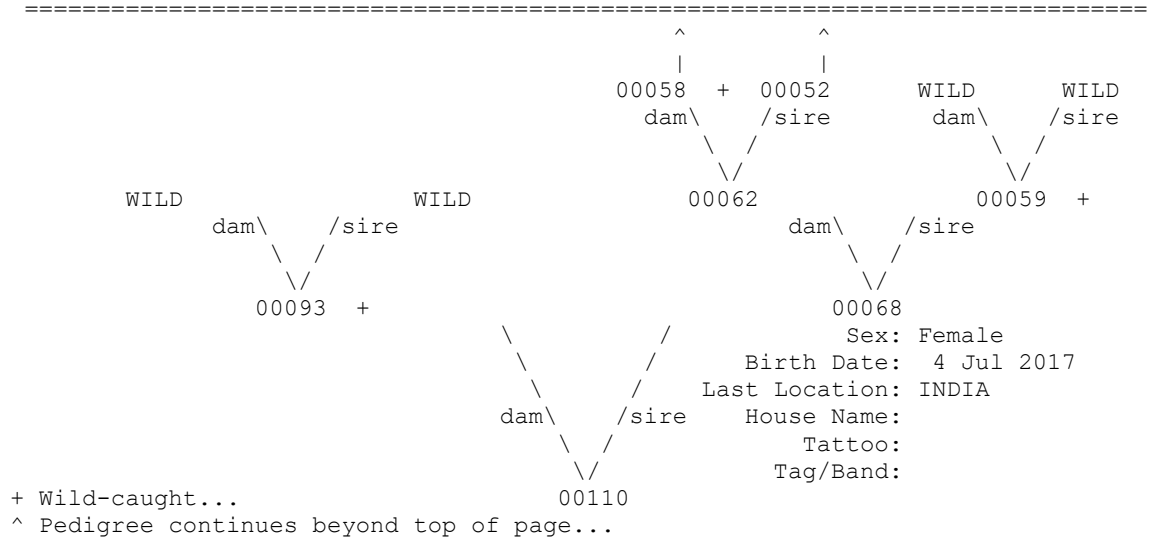
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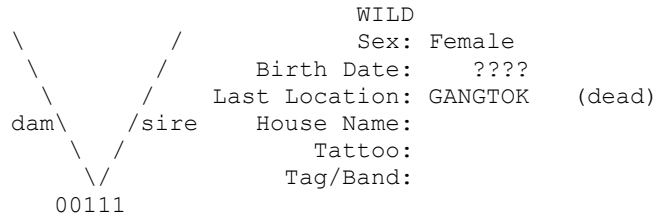
Taxon Name: AILURUS FULGENS Studbook Number: 00109



Taxon Name: AILURUS FULGENS

Studbook Number: 00111

WILD



## Location Glossary

<b>Mnemonic</b>	<b>Location</b>
Darjeeling	Padmaja Naidu Himalayan Zoological Park, Darjeeling
Gangtok	Himalayan Zoological Park, Gangtok
Nainital	Pt. G.B.Pant High Altitude Zoo, Nainital
India	All animals captured from the wild
Singalila	Singalila Wildlife Sanctaury