

NATIONAL STUDBOOK

Hoolock Gibbon (*Hoolock hoolock*): III Edition

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Wildlife Institute of India



केन्द्रीय चिड़ियाघर प्राधिकरण
Central Zoo Authority

National Studbook of Hoolock Gibbon (*Hoolock hoolock*) III Edition

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

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FOREWORD

Hoolock gibbon is threatened by a range of anthropogenic factors that undermine its habitat. For such species *ex-situ* conservation offers an opportunity for ensuring their long-term survival. This can be ensured by scientific management to ensure their long term genetic viability and demographic stability. Pedigree information contained in studbooks forms the basis for this management.

The Central Zoo Authority (CZA) in collaboration with zoos in India has initiated a conservation breeding program for threatened species in Indian zoos. As a part of this 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 of Hoolock gibbon (*Hoolock hoolock*): III Edition in Indian zoos. 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 zoos will adopt the recommendations for the scientific management of the captive population.

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Lady Hydari Park Animal Land, Shillong
Lucknow Zoological Park, Lucknow
Manipur Zoological Garden, Imphal
Miao Mini Zoo, Miao
Mini Zoo, Roing
Nagaland Zoological Park, Dimapur
National Zoological Park, New Delhi
Sepahijala Zoological Park, Agartala
Tura Zoo, Akhongi Tura

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HOOLOCK GIBBON

(*Hoolock hoolock*)

Species Information

Gibbons comprise the largest group of apes consisting of 16 species belonging to four genera (*Nomascus*, *Hylobates*, *Symphalangus*, and *Hoolock*) native to South and Southeast Asia.

Taxonomy

Phylum	Chordata
Sub-phylum	Vertebrata
Class	Mammalia
Order	Primates
Family	Hylobatidae
Genus	Hoolock (Mootnick and Groves 2005)
Species	<i>Hoolock hoolock</i> (Harlan 1834)



The species was first described as *Simia hoolock* by Harlan (1834). Over the years, a number of different names for the species have appeared in literature. Groves (1972) placed *hoolock* in the subgenus *Hylobates* based on anatomical, vocal and karyotypic comparisons with other members of the subgenus *Hylobates*. Prouty *et al.* (1983) proposed *Bunopithecus* as a sub-generic division of genus *Hylobates* containing two species *sericus* and *hoolock* (with *hoolock* consisting of 2 subspecies *hoolock* and *leuconedys*). Mootnick and Groves (2005) revised the taxonomy of Hoolock gibbons. Two species were recognized under this classification: *Hoolock hoolock* found west of the Chindwin River and *Hoolock leuconedys* (Groves, 1967) towards its east. The two gibbons are considered to be distinct species due to features in their fur coloration as described by Groves (1967, 1972).

Physical characteristics

Hoolock gibbon adults exhibit distinct sexual dimorphism in pelage colouration (Schultz 1973), the males are black overall and the female becomes varying shades of brown and fawn at maturity. Both *H. hoolock* and *H. leuconedys* infants are born with a pale brown natal coat (infants are nearly white) similar in colouration to that of adult females. Infants of both sexes turn black. The colour change in females takes place during later phases of maturation in comparison to females of other species of the subgenus (Groves 1972). Female hoolock gibbons produce a thermoregulatory orange coloured water soluble secretion on the entire body during high humidity or extreme heat that is similar to the crested gibbons (Genus: *Nomascus*) (Mootnick and Groves 2005). The two species can be differentiated by differences in body coloration; the details of the same are provided below.

In the western species, hands and feet of adult females are generally the same colour as the body hair, with a black fringe on the fingers, toes, and the edge of the hands; the genital region is black in colour. In the eastern species, hands and feet of adult females are slightly paler than the limbs and may have a few white or black hairs and the genital region is similar in colour to the surrounding area (Mootnick and Groves 2005). The eastern hoolock gibbon (*Hoolock leuconedys*) male can be differentiated from the western species (*Hoolock hoolock*) by its grizzled silver coloured chest; a silver genital tuft and the white brow streaks are widely separated in adult males and juveniles of both sexes instead of being partially joined in the midline as in *Hoolock hoolock* (Mootnick and Groves 2005).

Geographic distribution

Western hoolock gibbons (*Hoolock hoolock*) have distribution range extending from eastern Bangladesh, through the north-eastern Indian states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, and Tripura, and north-western part of Myanmar (west of the Chindwin River). The distribution in India was believed to be restricted to south of the Brahmaputra and east of the Dibang (Dingba

Qu) rivers (Choudhury 2001). However, recent studies by Das *et al.* (2006) have recorded the occurrence of the eastern species (*Hoolock leuconedys*) from Lohit district of Arunachal Pradesh, India; a population was further reported from the area between the rivers Dibang and Lohit in lower Dibang valley district of Arunachal Pradesh (Chetry *et al.* 2007), and from the Sadiya area of Assam (Chetry and Chetry 2011). The boundary between the two species of *Hoolock* is the Chindwin River, which flows into the Irrawady River. The two species are known to hybridize at a zone located towards the headwaters in the north.

Habitat

The species inhabits mature forest; tropical evergreen forest, the wetter tropical semi-evergreen forests, sub-tropical monsoon evergreen broadleaf forests, and sub-tropical evergreen broadleaf hill or mountain forests. They appear to be less common in deciduous forest and scrub forest, and absent from mangroves (Choudhury 1996; Gittins and Tilson 1984; Lan 1994) and prefer the mixed patches and pockets of evergreen forests (Choudhury 2009).

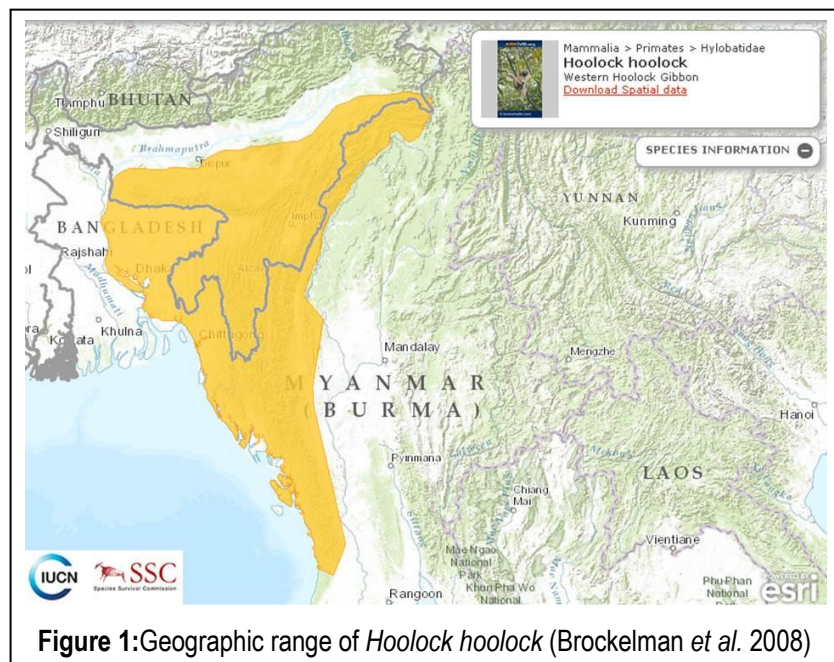


Figure 1: Geographic range of *Hoolock hoolock* (Brockelman *et al.* 2008)

Western hoolock gibbon home ranges include woodlands or orchards, in the villages surrounding Nokrek National Park in the Garo Hills, Meghalaya, and in the Barikuri area in Tinsukia district of eastern Assam (Chetry *et al.* 2007; Choudhury 2001; Kakati 1997). Similar observations were reported of eastern hoolock gibbons living in highly fragmented forest in the southeast boundary of Mehao Wildlife Sanctuary, lower Dibang valley district, Arunachal Pradesh, India (Sarma *et al.* 2013). Hoolock gibbons mostly occur at altitudes of 80-1,500 m (Choudhury 1996; Mukherjee 1986). However, western hoolocks have been recorded up to 2,550 m in Manipur (Choudhury 2001), at elevations of 2,100-2,300 m on the slopes of Mt. Victoria, Chin state (King *et al.* 1995), and up to about 2,600 m on Mt. Saramati in Nagaland of NE-India on the Nagaland-Myanmar border (Choudhury 2006). Throughout its range in these states, the gibbon is sympatric with other primates including the Assamese macaque (*Macaca assamensis*), stump-tailed macaque (*M. arctoides*), pig-tailed macaque (*M. nemestrina*), rhesus macaque (*Macaca mulatta*), capped langur (*Presbytis pileatus*), and slow loris (*Nycticebus coucang*). It is also sympatric with Phayre's leaf monkey (*Trachypithecus phayrei*) in Mizoram and likely in southwest Manipur (Choudhury 2006).

Feeding ecology

All gibbons are fruit-pulp specialist feeders (Chivers 1984). They have a simple stomach with a limited ability to digest the secondary compounds and toxins present in leaves. Tilson (1979) noted that hoolock gibbons used 43 species of plants as a source of food, whereas up to 101 species were recorded by Ahsan (1994). A variety of food species including *Artocarpus chapalasha*, *Bixa orellana*, *Dipterocarpus* spp., *Syzygium* spp., *Mangifera sylvatica*, *Protium serratum*, *Entada* spp., *Ficus* spp., and *Lagerstroemia speciosa*, have been reported for hoolocks in Bangladesh (Muzaffar *et al.* 2007). Animal protein is preferred to that from plants during fruit-shortage (Vellayan 1981) as prolonged dependence on leaves has been known to cause nutritional stress, in juvenile gibbons and severely affect the breeding success of adults (Kakati *et al.* 2009).

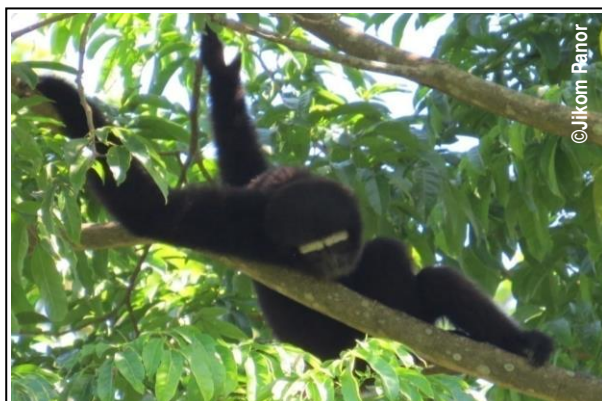
A study by Islam *et al.* (2013) showed that Western Hoolock gibbons spent maximum portion of their total activity time in feeding (32.30%) followed by foraging (27.90%), resting (23.50%), while social and other activities (calling, playing, territorial, travel, allo-grooming, aggression, sexual activities) accounted for only 16.30% of their activity budgets.

Locomotion

Gibbons are specialized for an arboreal mode of life with specialized adaptations that enable brachiation and suspensory feeding (Grand 1972). They have long forelimbs with long digits and prehensile feet with flexible ankle joints that enable brachiation (Vereecke and Aerts, 2008) enabling bipedal walking (Crompton *et al.* 2008).

Social organization and behaviour

Gibbon's are primarily monogamous, forming long-lasting pair-bonds, and are typically found in small family groups with a single adult female, a single adult male and one to four offspring (Brockelman *et al.* 1998; Geissmann 1991; Leighton 1987; Reichard and Barelli 2008). However recent studies indicate extra-pair copulations in hylobatid populations, suggesting the possibility of a more dynamic social system and reproductive strategy followed than originally reported (Palombit 1996; Reichard and Barelli 2008). Patch size is a crucial determinant of gibbon group size with small patches supporting the smallest group sizes (mean 2.5, n = 2 groups), whereas larger groups were found in medium-sized fragments (mean 3.29, n = 24 groups) and large forest-tracts (mean 3.9, n = 28 groups) (Kakati *et al.* 2009).



It is assumed that young adult gibbons are forced to leave their natal groups by way of antagonistic interactions from the same-sex parent (Chivers 1984; Leighton 1987). The young individuals usually leave their groups as a result of peripheralization (Leighton, 1987). Young adults may remain peripheral to neighbouring groups, containing juveniles/sub-adults of opposite-sex in order to attract a mate (Chivers 1984).

Vocal communication

Gibbons exhibit species specific loud, long, stereotyped vocalizations referred to as “calls” (short vocalizations) and “songs” (longer vocalizations) (Haimoff, 1984; Marshall and Sugardjito, 1986). Reports suggest that the song bouts serve to defend territory in females and to guard mates in males (Cowlshaw 1992).

Reproduction

Sexual maturity in both sexes of *Hoolock hoolock* occurs between 6 and 8 year (Tilson 1979) and is characterized by a fading of the black body coat to the adult colouration in females. Sexual swellings among female Hoolocks are less prominent and have not been reported for the species (Lauppe 2012). The female estrus cycle lasts on average 27.8 days while menstrual blood flow has been documented to last for 2-4 days (Matthews 1946). Matings in hoolock gibbon are usually initiated by the male (Chetry *et al.* 2007); however, proceptive behaviours of the female prior mating has also been reported (Yang 1998). Sexual solicitation behaviours include grooming, playing and moving close to the mate (Cheyne and Chivers 2006). Yang (1998) reported that copulation in captive hoolock gibbons last for 20 seconds while in wild hoolock gibbons the reported time is 36.6 seconds on average (Alfred and Sati 1987; Ahsan 2000). A single infant is born after a gestation period of 180– 240 days (Ahsan 2000).

Table 1: Life-history traits of Hoolock gibbons

Age at sexual maturity	6-8 years (Tilson 1979)
Gestation period	180-240 days (Ahsan 2000)
Birth seasonality	November to March (Sati and Alfred 2001)
Inter-birth interval	2.5–3 years (Cunningham and Mootnick 2009)
Reproductive tenure	10-20 years from the age of sexual maturity (Das <i>et al.</i> 2005)

Threats and conservation measures

The major threats are caused by the destruction, degradation and fragmentation of forests for settled and shifting agriculture, plantations, logging, fuelwood collection, and development projects such as mining, roads, and railways (Chetry *et al.* 2007); and poaching for bush meat and trade (Srivastava 1999; Choudhury 2006). Habitat degradation and poaching have accounted for more than 50% decline in the Hoolock gibbon population in South Asia in the last 50 years (Molur *et al.* 2003).

The species is protected under Schedule I, of the Indian Wildlife (Protection) Act 1972. It is categorized as ‘Endangered’ A2acd+3cd+4acd based on the IUCN Red List Criteria, 2009. The western hoolock gibbon was designated as one of the top 10 threatened gibbon taxa of the world in a resolution taken in the gibbon symposium of the Congress of the International Primatological Society at Beijing in 2002.

Status in Captivity

The Species360-ZIMS database (18 April 2018) records the presence of the species at 5 institutions in India with a total of 29 (16.8.5) specimens with no reports of the species in institutions outside the country. The CZA inventory (Table 2) indicates the presence of 47(24.17.6) specimens, at 9 Indian zoos while the data that was made available by holding zoos for the compilation of the studbook includes 48 (25.16.7) specimens at 9 locations.

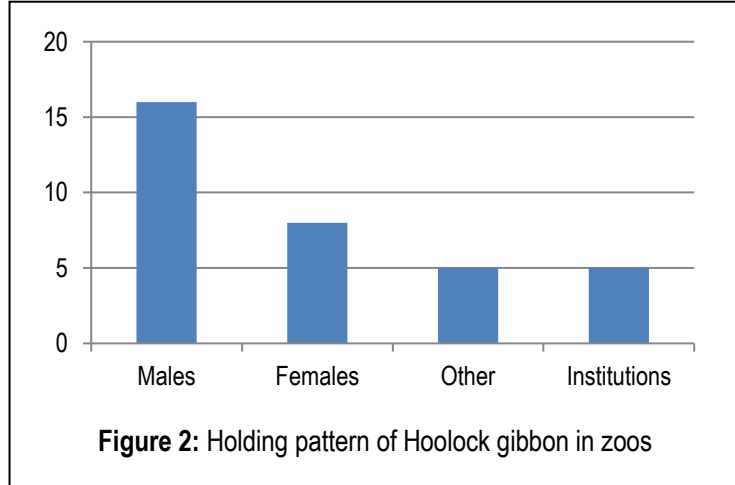


Figure 2: Holding pattern of Hoolock gibbon in zoos

Table 2: Status of Hoolock gibbon in zoos

Zoo Name	Species360				CZA Inventory				Studbook			
	Male	Female	Unsexed	Total	Male	Female	Unsexed	Total	Male	Female	Unsexed	Total
Assam State Zoo and Botanical Garden, Guwahati	4	3	0	7	3	4	0	7	4	4	0	8
National Zoological Park, New Delhi	1	1	0	2	1	1	0	2	1	1	0	2
NawabWazid Ali Shah Zoological Gardens, Lucknow	1	0	0	1	1	0	0	1	1	0	0	1
Biological Park Itanagar	10	3	5	18	10	3	5	18	8	3	7	18
Sepahijala Zoological Park, Agartala	0	1	0	1	0	1	0	1	1	0	0	1
Aizawl Zoological Park, Aizawl	--	--	--	--	4	5	0	9	4	5	0	9
Nagaland Zoological Park, Rangapahar	--	--	--	--	2	0	1	3	2	1	0	3
Manipur Zoological Garden, Imphal	--	--	--	--	1	1	0	2	1	1	0	2
Miao Mini Zoo, Miao	--	--	--	--	3	1	0	4	3	1	0	4
Total	16	8	5	29	24	17	6	47	25	16	7	48

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 Hoolock gibbon 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 CZA inventory was used as a benchmark for population estimates (Table 1). Deviations from the same are attributed to the inclusion of three unsexed animals from Biological Park, Itanagar, (NSB 00109, 00110 and 00121) included in the Species360 Taxon report downloaded in May 2018.
- The studbook includes all specimens present in Indian zoos for which records were available from holding institutions. Efforts were made to retrieve information on their holding from the taxon report of the species from the Species360 website for institutions from which records were not received
- The mnemonics present in the SPARKS software were used as names for individual institutions; while for those institutions for which mnemonics were not present in the SPARKS Software, the same were assigned based on their location listed on the CZA Website and the same are listed in the location glossary (Annexure IV). The mnemonic India was used for all specimens acquired from the wild.

Analysis

Demographic Status

Historical Population

The studbook includes a total of 121(61.49.11) specimens that have been housed at 12 Indian zoos. The first recorded entry of the species in captivity was at Assam State Zoo Cum Botanical Garden in 1980, with a wild origin pair being acquired by the zoo. Growth in the population has been primarily due to wild origin specimens that form approximately 83% of the captive population, while births in captivity account for approximately 17% of the total population. Only approximately 15% of the captive population is reproductively active. The population since its inception has also witnessed 71 deaths. Figure 3 and Table 3 summarize the trends of the historical population while Annexure I includes detailed event-wise information on individual specimens.

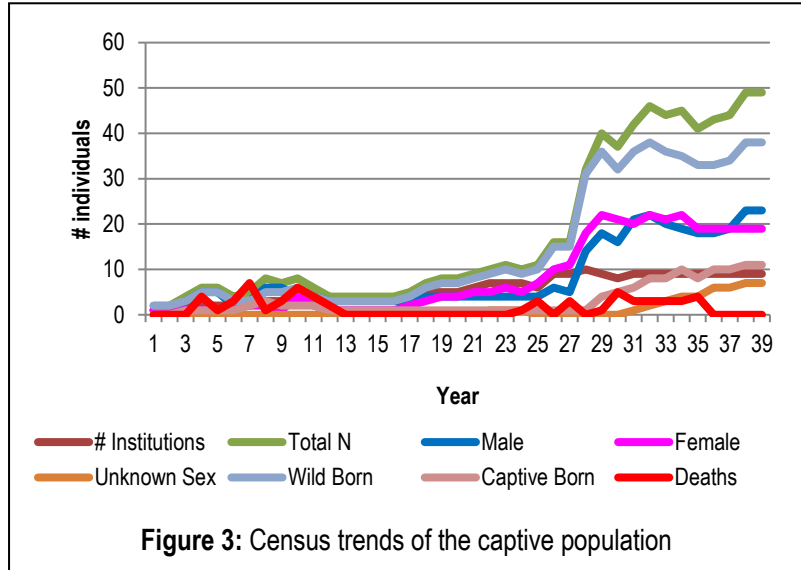


Table 3: Summary of the Historical Population

	Males	Females	Unknown	Total
Studbook size	61	49	11	121
Acquisition from wild	53	44	4	101
Deaths	37	30	4	71
Breeding individuals	9	9	0	18
Lost to follow up/ released	6	3	1	10

Living Population

The living population includes 48 (25.16.7) specimens housed at nine institutions; with approximately 81% wild origin specimens. Only 19% animals are proven breeders in the living population. Table 4 summarizes the status of the living population while Annexure II provides location-wise specimen details of the living individuals. A perusal of Table 1 and Annexure II reveals the presence of 54% of the population at a two locations (Biological Park, Itanagar and Assam State Zoo cum Botanical Garden, Guwahati).

Table 4: Summary of living population

	Males	Females	Unknown	Total
Living	25	16	7	48
Wild-born	22	17	0	39
Captive-born	2	2	7	11
Breeding	5	4	0	9

Population Vital Rates

The population is currently declining at a rate of approximately 10% annually with both sexes declining at an almost equitable rate. The

Table 5: Vital rates of the captive population

	Males	Females	Total
λ : Population growth rate	0.890	0.899	0.895
T: Generation time (in years)	14.8	13.0	13.9
N 20: Projected population after 20 years	2.5	5.3	7.8

captive population has a generation time of 13.9 years a consequence of its natural history as the species reaches sexual maturity at approximately 6 – 8 years while free ranging. The declining population trend is also reflected in the projected population after 20 years with a decline of 40 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 33 (24.19) known age living specimens indicates a biasness towards males. The living population includes 30 (12.13.5) animals in reproductively active age classes (7 – 20 years for males and >7 – 16 years for females Figure 4). An additional 2 specimens of unknown sex are also present in the pre-reproductive age classes. It also shows the presence of 5 (2.3) specimens in the post reproductive age class. The age distribution suggests that the population is declining as is suggested by the limited number of specimens of pre-reproductive age classes and the small number 9 (5.4) of specimens (Table 4) that are actually reproducing.

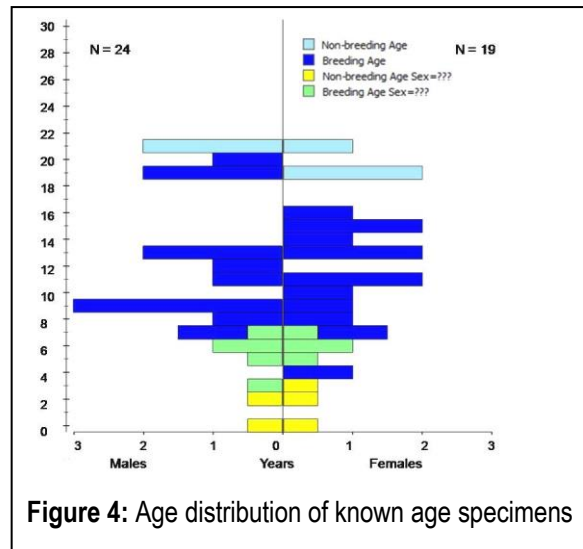


Figure 4: Age distribution of known age specimens

Genetic Status

Table 6 summarizes the genetic status of the living population. Analysis indicates that it originates from 13 founders although the population includes 101 wild origin specimens. The living population of 48 specimens retains approximately 93% of the genetic diversity brought in by these 13 founders. The unequal representation of the founders in the living population has resulted in the population having the founder genome equivalents of only 7.19 wild origin specimens. Breeding between related individuals has been restricted, as is reflected by the values of mean inbreeding and population mean kinship. The poor representation of the founder base and the presence of a small proportion of the population that is reproductively active is a cause for concern.

Table 6: Genetic Summary of the current population

Genetic parameters	Current
Founders	13
Living Animals	48
Percent Ancestry Known	100
Gene Diversity (GD)	0.9305
Founder Genome Equivalent (FGE)	7.19
Mean Inbreeding (F)	0.000
Population mean kinship (Mk)	0.0695
Ne/N	0.1429

Pairing Recommendations

The pairing recommendations (table 7) for the species in captivity have been arrived at based on 'Mate Suitability Index' (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. Pairing recommendations could be made for only 9 pairs though the population includes 31(16.8) specimens of known age and sex and 4 animals of unknown sex in the reproductively active age classes as the current population comprises of closely related individuals, additionally details of parentage are not available for a large proportion of the animals.

Table 7: Pairing recommendations

Sire	Sire location	Dam	Dam location	F	dGD	MSI
00090	Miao	00079	Miao	0.0000	0.0067	1
00114	Kohima	00107	Kohima	0.0000	0.0124	1
00113	Assam	00112	Assam	0.0000	0.0172	1
00111	Assam	00092	Assam	0.0000	0.0213	1
00091	Aizawl	00098	Aizawl	0.0000	0.0280	1
00085	Assam	00042	Assam	0.0000	0.0280	1
00089	Itanagar	00119	Delhi	0.0000	0.0307	1
00115	Kohima	00083	Sepahijala	0.0000	0.0331	1
00096	Miao	00012	Aizawl	0.0000	0.0350	1
00032	Itanagar	00030	Itanagar	0.0000	0.0350	4
00082	Assam	00104	Assam	0.0000	0.0369	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 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 Hoolock gibbons includes 48 (25.16.7) individuals. It includes 35(24.11) wild origin specimens of which 6 (5.1) are effective founders, while the remaining animals are yet to contribute to the population. The population is currently declining with a λ of 0.897 per annum. The population retains a large proportion of genetic diversity (93% introduced from 13 founders and the presence of limited number of captive origin animals).

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 (50). The outcomes indicate that the population in captivity is likely to become extinct within 25 years due to the current rate of decline. The population variables used and the outcomes of the simulation are presented in Figure 5.

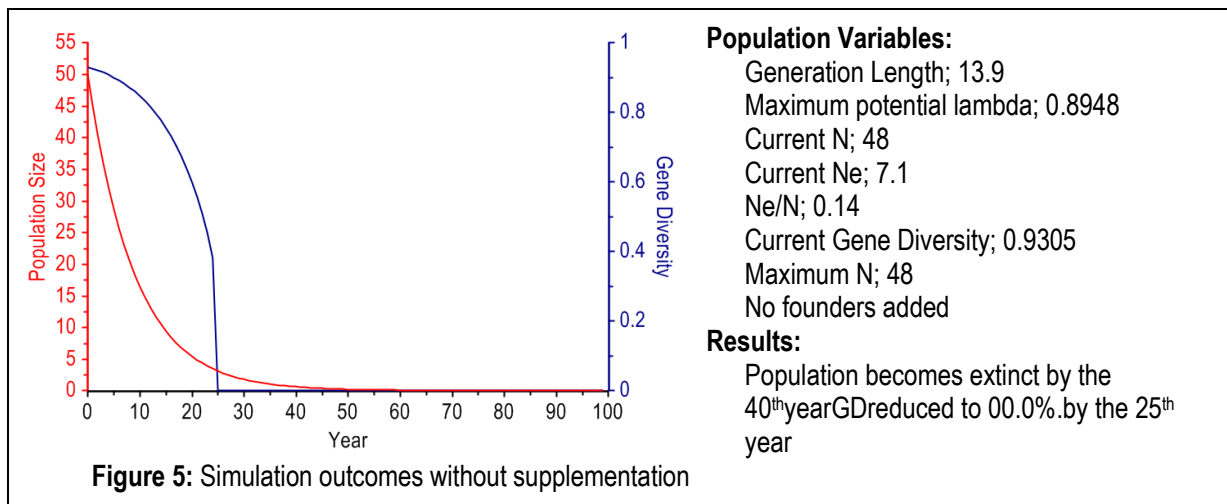
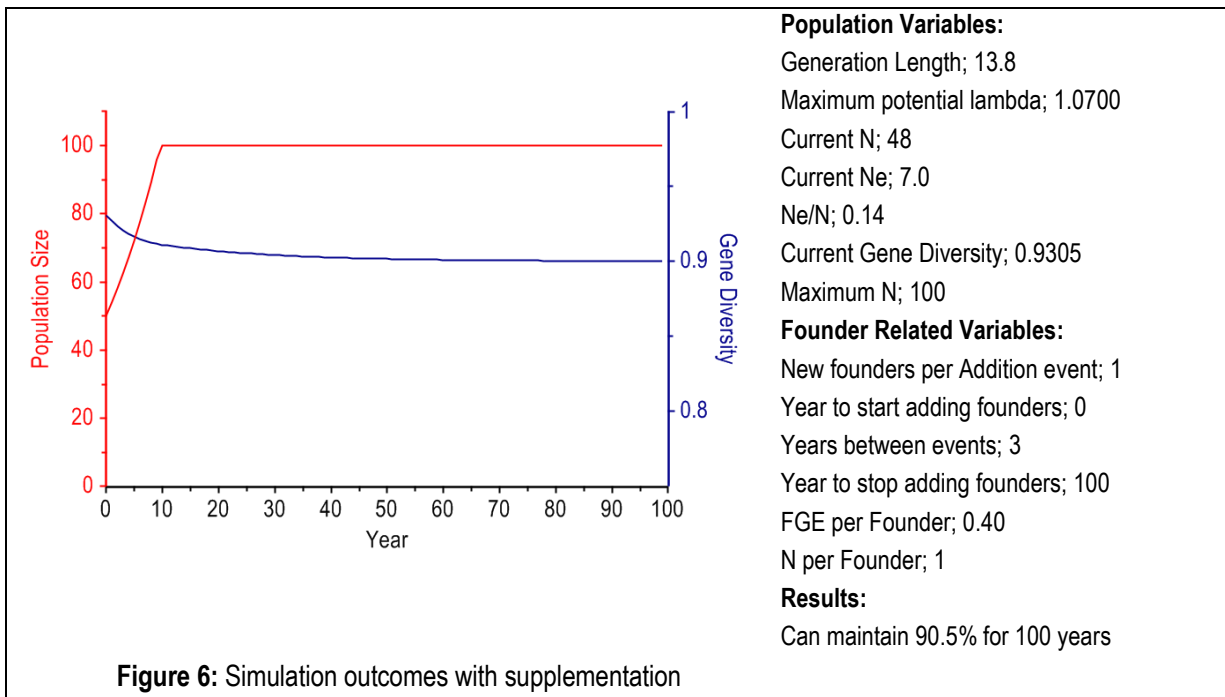


Figure 5: Simulation outcomes without supplementation

Scenario II:

The outcomes of the simulation that was run using a growth rate of 7% ($\lambda = 1.07$) and a maximum population size of 150 specimens with supplementation by one effective founder every four 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. 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

Habitat destruction and illegal hunting continue to threaten the long-term survival of Hoolock gibbon in their natural habitats across their distribution range. They are accordingly listed in the Schedule I of the Wildlife Protection Act of India and as Endangered in the IUCN Redlist of threatened species (2009). Maintenance of demographically stable and genetically viable *ex-situ* populations is thus crucial for ensuring the continued survival of the species.

A review of the status of the current captive population in Indian zoos based on analysis of available pedigree records indicates that:

- The population is showing a declining trend (-10%) and characterized by a small size (N = 48).
- The population includes a limited number of proven breeders [N = 9; (5:4)], though a large proportion belong to reproductively active age classes [N = 30 (12.3.5)].
- It retains 93% of genetic diversity originating from 13 founders. Unequal representation of founder genome; however, as is indicated by the founder genome equivalents (7.19).

The captive population of Hoolock gibbon in Indian institutions therefore requires intensive management efforts towards ensuring achievement of *ex-situ* conservation goals to address the concerns identified to ensure that the population remains viable over the next 100 years.

1. Hoolock gibbon is a monogamous species living in family groups; appropriate social structure of the specimens housed in captivity need to be maintained to ensure optimum reproductive output.
2. They are an arboreal species only descending to the ground to cross gaps in forest gaps. Housing facilities created for the species need to address the arboreal nature of the species.
3. Simulations run using PMx software indicate that supplementation with one effective founder every three years and increasing the population growth rate to 1.0700 and population size to 100 specimens to ensure viability of the population.
4. It is also essential to equalize family sizes and ensure an equal representation of founder animals to retain the maximum possible genetic diversity in the captive population.
5. The formation of breeding pairs as suggested in the breeding recommendations should be carried out with appropriate socialization prior to the mating season. As a prerequisite towards ensuring effective socialization, all new introductions should be in controlled conditions and supervision.

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Annexure I

 Historical population Hoolock gibbon (*Hoolock hoolock*)

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00001	M	~ 1982	UNK	UNK	DACCA DELHI	~ 1982 06-Apr-90 20-Feb-91	Birth Transfer Death
00002 210001	F	~ 1986	UNK	UNK	DACCA DELHI	~ 1986 04-Jun-90 09-Dec-14	Birth Transfer Death
00003 600032 0006B776BE	M	~ 1987	WILD	WILD	INDIA ASSAM	12-Feb-90 12-Feb-90 15-Sep-09	Capture Transfer Death
00004 HOG-2 LAXMI 0006B89D7F	F	~ 1985	WILD	WILD	INDIA SEPAHIJAL	10-Apr-96 11-Apr-96 02-Jan-10	Capture Transfer Death
00005 3 BUANGI 98102058074	F	~ 1999	WILD	WILD	INDIA AIZAWL	05-Mar-00 06-Mar-00	Capture Transfer
00006 HANGI	?	????	WILD	WILD	INDIA AIZAWL	???? ???? 19-Jul-04	Capture Transfer Death
00007 TE-A	M	????	WILD	WILD	INDIA AIZAWL	???? ???? 31-Dec-04	Capture Transfer Death
00008 VALA	?	????	WILD	WILD	INDIA AIZAWL	???? ???? 28-Dec-06	Capture Transfer Death
00009	?	~ Mar 2001	WILD	WILD	INDIA ROING	12-May-01 12-May-01 03-Feb-04	Capture Transfer Death
00010 SARASWATI	F	~ 1999	WILD	WILD	INDIA SEPAHIJAL	02-Jun-02 02-Jun-02 30-Apr-03	Capture Transfer Death
00011 ZOVI(NEW)/Mary 98102056874	F	~ 2003	WILD	WILD	INDIA AIZAWL	16-Jan-04 18-Jan-04	Capture Transfer
00012 CHALBENGI 98102057838	F	~ 2003	WILD	WILD	INDIA AIZAWL	05-Feb-04 07-Feb-04	Capture Transfer
00013 8 BUKA 98102055892	M	~ 2006	WILD	WILD	INDIA AIZAWL	26-Apr-07 28-Apr-07 7 Oct 2012	Capture Transfer Death
00014 HOG-1 MANIKA 0006B7422C	F	????	WILD	WILD	INDIA SEPAHIJAL	13-May-05 13-May-05 15-Apr-09	Capture Transfer Death

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00015 600033 MINI 0006B729F1	F	~ 1997	WILD	WILD	INDIA ASSAM	27-Jun-05 27-Jun-05 07-Mar-13	Capture Transfer Death
00016 1 BAWIHA 98102055847	M	~ 2005	WILD	WILD	INDIA AIZAWL	03-Feb-06 05-Feb-06	Capture Ltf
00017	M	????	WILD	WILD	INDIA SHILLONG TURA	???? ???? 08-Sep-05 28-Jun-06	Capture Transfer Transfer Death
00018 2 NUTEI 98102058298 210003	F	~ 2005	WILD	WILD	INDIA AIZAWL DELHI	???? 09-Jan-07 09-Sep-14	Capture Transfer Transfer
00019	F	????	WILD	WILD	INDIA TURA	31-Mar-06 31-Mar-06 24-Sep-06	Capture Transfer Death
00020 DUMA	M	????	WILD	WILD	INDIA AIZAWL	25-Sep-06 26-Sep-06	Capture Ltf
00021 BANKAWIA	M	????	WILD	WILD	INDIA AIZAWL	12-Oct-06 13-Oct-06	Capture Ltf
00022 H1 LINGGI	M	~ 1999	WILD	WILD	INDIA ITANAGAR	12-Mar-07 12-Mar-07	Capture Transfer
00023 H-2 DELLO	F	~ 1997	WILD	WILD	INDIA ITANAGAR	12-Mar-07 12-Mar-07 22-Oct-13	Capture Transfer Death
00024 H-4 YASUM	F	~ 1997	WILD	WILD	INDIA ITANAGAR	12-Mar-07 12-Mar-07	Capture Transfer
00025 H-16 BABY 98102057VB156	M	~ 2005	00022	00023	INDIA ITANAGAR	12-Mar-07 12-Mar-07	Capture Transfer
00026 H-5 LAGDER	M	~ 1997	WILD	WILD	INDIA ITANAGAR	15-Mar-07 15-Mar-07	Capture Transfer
00027 H-6 RUKMINI	F	~ 1997	WILD	WILD	INDIA ITANAGAR	15-Mar-07 15-Mar-07 28-Oct-10	Capture Transfer Death
00028 H-3 NEGA 98102055475	M	~ 2000	00026	00027	INDIA ITANAGAR	15-Mar-07 15-Mar-07 23-Aug-09	Capture Transfer Death
00029 H-9 981098102057899	M	~ 1997	WILD	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00030 H-10 YAPA 98100800507	F	~ 2001	00029	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer
00031 H-11 MITHUM	M	????	WILD	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07 02-Jun-09	Capture Transfer Death
00032 H-12 TAPING 98102056942	M	~ 2005	WILD	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer
00033 H-17 PINTU 98102055475	M	~ 2006	WILD	WILD	INDIA ITANAGAR MIAO	04-Dec-07 04-Dec-07 ????	Capture Transfer Ltf
00034 H-13 DEOMALI 210002 98102055330	M	~ 2005	WILD	WILD	INDIA ITANAGAR DELHI	20-Jan-08 20-Jan-08 04-Jul-10	Capture Transfer Transfer
00035	M	????	WILD	WILD	INDIA TURA	21-Jan-08 21-Jan-08 16-Feb-08	Capture Transfer Death
00036 HOG-3 NARAYAN 0006B742FA	M	~ Feb 2005	WILD	WILD	INDIA SEPAHIJAL	22-Sep-08 22-Sep-08 28-Jun-13	Capture Transfer Death
00037 H-15 CUTE 98102056666	M	~ 2004	WILD	00038	INDIA ITANAGAR	23-Feb-08 23-Feb-08	Capture Transfer
00038 H-14 MISHMI BAIDEO 98102055876	F	~ 1999	WILD	WILD	INDIA ITANAGAR	23-Feb-08 24-Feb-08	Capture Transfer
00039 H-18 ANGA HOG-5 981020858060	F	05-Jul-08	00026	00027	ITANAGAR SEPAHIJAL	05-Jul-08 29-Aug-12 15-Nov-14	Birth Transfer Death
00040 H-19 JIMMY 98102057183	M	22-Sep-08	00028	00024	ITANAGAR	22-Sep-08	Birth
00041 SENI	?	????	WILD	WILD	INDIA AIZAWL	???? ????	Capture Transfer Ltf
00042 127 MUNNI	F	~ Jul 2006	WILD	WILD	INDIA SHILLONG ASSAM	25-Sep-06 25-Sep-06 18-Dec-08	Capture Transfer Transfer

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
600035 0006B756AE							
00043	F	~ Nov 2001	WILD	WILD	INDIA MIAO	~ Feb 2002 ~ Feb 2002	Capture Ltf
00044 600001	M	~ 1972	WILD	WILD	INDIA ASSAM	12-Jan-80 12-Jan-80 30-Jul-83	Capture Transfer Death
00045 600002	F	~ 1978	WILD	WILD	INDIA ASSAM	25-Mar-80 25-Mar-80 19-Aug-83	Capture Transfer Death
00046 600003	M	~ 1978	WILD	WILD	INDIA ASSAM	21-Dec-82 21-Dec-82 19-Jul-84	Capture Transfer Death
00047 600005	M	~ 1979	WILD	WILD	INDIA ASSAM	04-Feb-83 04-Feb-83 18-Sep-85	Capture Transfer Death
00048 600006	M	~ 1979	WILD	WILD	INDIA ASSAM	04-Feb-83 04-Feb-83 19-Sep-85	Capture Transfer Death
00049 600004	F	~ 1979	WILD	WILD	INDIA ASSAM	11-Mar-83 11-Mar-83 12-Apr-83	Capture Transfer Death
00050 600007	M	~ 1981	WILD	WILD	INDIA ASSAM	06-Apr-83 06-Apr-83 18-Sep-85	Capture Transfer Death
00051 600008	F	~ 1981	WILD	WILD	INDIA ASSAM	06-Apr-83 06-Apr-83 18-Jun-86	Capture Transfer Death
00052 600009	F	~ 1978	WILD	WILD	INDIA ASSAM	24-Apr-83 24-Apr-83 04-Nov-83	Capture Transfer Death
00053 600010	M	~ 1981	WILD	WILD	INDIA ASSAM	26-Apr-84 26-Apr-84 22-Jun-86	Capture Transfer Death
00054 600011	F	~ 1981	WILD	WILD	INDIA ASSAM	06-May-85 06-May-85 22-Jun-86	Capture Transfer Death
00055 600012	F	~ 1984	WILD	WILD	INDIA ASSAM	05-Mar-86 05-Mar-86 20-Jun-86	Capture Transfer Death
00056 600013	F	~ 1984	WILD	WILD	INDIA ASSAM	05-Mar-86 05-Mar-86 08-Jul-86	Capture Transfer Death
00057 600014	M	~ 1978	WILD	WILD	INDIA ASSAM	07-Apr-86 07-Apr-86 28-Aug-86	Capture Transfer Death
00058 600015	M	~ 1978	WILD	WILD	INDIA ASSAM	07-Apr-86 07-Apr-86 16-Jul-86	Capture Transfer Death
00059	M	~ 1980	WILD	WILD	INDIA	10-Apr-86	Capture

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
600016					ASSAM	10-Apr-86 07-Oct-87	Transfer Death
00060 600017	F	~ 1983	WILD	WILD	INDIA ASSAM	19-Apr-86 19-Apr-86 15-Sep-88	Capture Transfer Death
00061 600018	M	~ 1984	WILD	WILD	INDIA ASSAM	08-Jun-86 08-Jun-86 17-Jul-89	Capture Transfer Death
00062 600019	M	~ 1982	WILD	WILD	INDIA ASSAM	14-Feb-87 14-Feb-87 31-Jul-89	Capture Transfer Death
00063 600020	M	~ 1985	WILD	WILD	INDIA ASSAM	22-Jul-87 22-Jul-87 01-Sep-89	Capture Transfer Death
00064 70 KALU	M	????	WILD	WILD	INDIA LUCKNOW	27-Nov-87 27-Nov-87	Capture Transfer
00065 600021	M	10-Dec-87	00061	00060	ASSAM	10-Dec-87 31-Jul-88	Birth Death
00066 600022	M	~ 1987	WILD	WILD	INDIA ASSAM	25-Apr-88 25-Apr-88 19-Sep-89	Capture Transfer Death
00067 600023	F	~ 1986	WILD	WILD	INDIA ASSAM	25-Apr-88 25-Apr-88 17-Aug-88	Capture Transfer Death
00068 600024	F	~ 1988	WILD	WILD	INDIA ASSAM	14-Mar-89 14-Mar-89 02-Apr-89	Capture Transfer Death
00069 600025	F	~ 1988	WILD	WILD	INDIA ASSAM	14-Mar-89 14-Mar-89 12-Sep-89	Capture Transfer Death
00070 600026	F	~ 1987	WILD	WILD	INDIA ASSAM	08-Apr-89 08-Apr-89 09-Jun-90	Capture Transfer Death
00071 600027	F	~ 1987	WILD	WILD	INDIA ASSAM	21-Apr-89 21-Apr-89 28-Feb-91	Capture Transfer Death
00072 600028	M	~ 1988	WILD	WILD	INDIA ASSAM	11-May-89 11-May-89 29-Oct-90	Capture Transfer Death
00073 600029	F	~ 1987	WILD	WILD	INDIA ASSAM	11-May-89 11-May-89 02-Dec-90	Capture Transfer Death
00074 600030	M	~ 1988	WILD	WILD	INDIA ASSAM	14-Jun-89 14-Jun-89 25-May-90	Capture Transfer Death
00075 600031	M	~ 1987	WILD	WILD	INDIA ASSAM	12-Feb-90 12-Feb-90 15-Sep-09	Capture Transfer Death
00076	M	????	WILD	WILD	INDIA	~ 1997	Capture

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
					IMPHAL	~ 1997 07-Jun-11	Transfer Death
00077	F	~ 1997	WILD	WILD	INDIA IMPHAL	~ 1997 ~ 1997 04-Oct-11	Capture Transfer Death
00078 RANI 71	F	????	WILD	WILD	INDIA LUCKNOW	26-Mar-98 26-Mar-98 04-Oct-12	Capture Transfer Death
00079	F	????	WILD	WILD	INDIA MIAO	20-Feb-05 20-Feb-05	Capture Transfer
00080 YAPI	F	????	WILD	WILD	INDIA ITANAGAR INDIA	15-Mar-07 15-Mar-07 ????	Capture Transfer Release
00081 H-7 MR. BATT 98102055475	M	~ 1997	WILD	WILD	INDIA ITANAGAR	15-Mar-07 15-Mar-07	Capture Transfer
00082 135 600034 BABU 0006B77654	M	~ 1999	WILD	WILD	INDIA SHILLONG ASSAM	13-Aug-07 13-Aug-07 18-Dec-08	Capture Transfer Transfer
00083 HOG-6 BAWIHI 98102057696	F	~ 2006	WILD	WILD	INDIA AIZAWL SEPAHIJAL	08-Nov-07 09-Nov-07 23-Mar-13	Capture Transfer Transfer
00084 5 BULI 98102058298	F	~ 2006	WILD	WILD	INDIA AIZAWL	09-Nov-07 10-Nov-07	Capture Ltf
00085 136 600036 HARUBABU 0006B771C6	M	~ Apr 2008	WILD	WILD	INDIA SHILLONG ASSAM	03-Oct-08 03-Oct-08 18-Dec-08	Capture Transfer Transfer
00086 H-20 TORAM	F	05-Oct-08	00022	00023	ITANAGAR	05-Oct-08	Birth
00087 H-21 DAOLI	M	29-Jun-09	00029	00038	ITANAGAR	29-Jun-09 01-Sep-10	Birth Death
00088	M	~ Dec 2008	WILD	WILD	INDIA MIAO	05-Sep-09 05-Sep-09	Capture Transfer
00089 INNOW	M	????	WILD	WILD	INDIA ITANAGAR	???? ????	Capture Transfer
00090	M	~ Jan 2010	WILD	WILD	INDIA MIAO	23-Mar-10 23-Mar-10	Capture Transfer
00091 OP-1 BOBOA	M	????	WILD	WILD	INDIA AIZAWL	15-Apr-10 15-Apr-10	Capture Transfer

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00092 600037	F	~ 2009	WILD	WILD	INDIA ASSAM	04-May-10 04-May-10 20 Feb 2011	Capture Transfer Death
00093 KALI	F	~ Jan 2010	WILD	WILD	INDIA IMPHAL	09-Jun-10 09-Jun-10	Capture Transfer
00094 H-23 BOGI/ATI-OPAN	M	09-Aug-10	00026	00027	ITANAGAR	09-Aug-10 21-Jan-12	Birth Death
00095 ROCKY	M	~ 2007	WILD	WILD	INDIA KOHIMA	14-Sep-10 14-Sep-10	Capture Transfer
00096	M	~ May 2009	WILD	WILD	INDIA MIAO	07-Nov-10 07-Nov-10	Capture Transfer
00097 H-22 JISU	?	25-Dec-10	00022	00023	ITANAGAR	25-Dec-10	Birth
00098 OP-2 CHHURI	F	????	WILD	WILD	INDIA AIZAWL	10-Mar-11 10-Mar-11	Capture Transfer
00099 HOG-4 KRISHNA	M	~ 2009	WILD	WILD	INDIA SEPAHIJAL	08-May-11 08-May-11 20-Sep-14	Capture Transfer Death
00100 ZB-1 ZARA 98102057879	M	05-Jun-11	00016	00005	AIZAWL	05-Jun-11	Birth
00101 H-25 MUNUMUNU 98102056396	F	????	WILD	WILD	INDIA MIAO ITANAGAR	???? ???? 20-Jun-11 05-Sep-14	Capture Transfer Transfer Death
00102 H-32 NAGAR	?	18-Sep-11	00029	00038	ITANAGAR	18-Sep-11	Birth
00103 H-27 SONU	?	30-Jun-12	00037	00024	ITANAGAR	30-Jun-12	Birth
00104 600039 BABLI	F	~ 2004	WILD	WILD	INDIA ASSAM	10-Mar-13 10-Mar-13	Capture Transfer
00105 H-31 ITA	?	26-Mar-13	00026	000101	ITANAGAR	26-Mar-13	Birth
00106 ZB-2	?	16-Sep-13	00016	00005	AIZAWL	16-Sep-13	Birth
00107 TWO-FI	F	~ 2011	WILD	WILD	INDIA KOHIMA	25-Nov-13 25-Nov-13	Capture Transfer
00108 MAKIMACHA	M	????	WILD	WILD	INDIA IMPHAL	~25 Jul 2016 06-Aug-16	Capture Transfer
00109 H-33 NEHA	?	08-Aug-15	00029	00038	ITANAGAR	08-Aug-15	Birth

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00110 H-34 PULU	?	21-Apr-15	00081	00030	ITANAGAR	21-Apr-15	Birth
00111 600050 MANSE 0006CD387F	M	????	WILD	WILD	INDIA ASSAM	~ 1 Nov 2011 14-Nov-11	Capture Transfer
00112 600051 LILEE 0006CDDOAC	F	????	WILD	WILD	INDIA ASSAM	~ 1 Nov 2011 14-Nov-11	Capture Transfer
00113 600052 DEEPU 000757EDB9	M	????	WILD	WILD	INDIA ASSAM	???? 05-Aug-17	Capture Transfer
00114 JHONNY	M	????	WILD	WILD	INDIA KOHIMA	???? 26-Jan-17	Capture Transfer
00115 HOLLY	M	????	WILD	WILD	INDIA KOHIMA	???? 02-Feb-17	Capture Transfer
00116 CHARLIE 98102055874	M	????	WILD	WILD	INDIA AIZAWL	03-Feb-05 25-May-09	Capture Transfer
00117 SITA	F	29-Oct-91	UNK	UNK	ASSAM	29-Oct-91	Birth Lf
00118 RAM	M	25-Nov-95	UNK	UNK	ASSAM	25-Nov-95	Birth Lf
00119 KUSHA 0006590EA8	M	24-Sep-99	00118	00117	ASSAM DELHI	24-Sep-99	Birth Lf
00120 600052 DEEPU	M	????	WILD	WILD	INDIA ASSAM	???? 05-Aug-17	Capture Transfer
00121 H-35	?	21-Oct-17	00081	00030	ITANAGAR	21-Oct-17	Birth
TOTAL: 121 (62.47.12)							

Annexure II

Living population of Hoolock gibbon (*Hoolock hoolock*)

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
Aizawl Zoological Park, Aizawl							
00012 CHALBENGI 98102057838	F	~ 2003	WILD	WILD	INDIA AIZAWL	05-Feb-04 07-Feb-04	Capture Transfer
00091 OP-1 BOBOA	M	????	WILD	WILD	INDIA AIZAWL	15-Apr-10 15-Apr-10	Capture Transfer
00098 OP-2 CHHURI	F	????	WILD	WILD	INDIA AIZAWL	10-Mar-11 10-Mar-11	Capture Transfer
00100 ZB-1 ZARA 98102057879	M	05-Jun-11	00016	00005	AIZAWL	05-Jun-11	Birth
00106 ZB-2 Tekeuhi	F	16-Sep-13	00016	00005	AIZAWL	16-Sep-13	Birth
00116 CHARLIE 98102055874	M	????	WILD	WILD	INDIA AIZAWL	03-Feb-05 25-May-09	Capture Transfer
00005 3 BUANGI 98102058074	F	~ 1999	WILD	WILD	INDIA AIZAWL	05-Mar-00 06-Mar-00	Capture Transfer
00011 ZOVI(NEW)/Mary 98102056874	F	~ 2003	WILD	WILD	INDIA AIZAWL	16-Jan-04 18-Jan-04	Capture Transfer
00013 8 BUKA 98102055892	M	~ 2006	WILD	WILD	INDIA AIZAWL	26-Apr-07 28-Apr-07	Capture Transfer
Total: 9(4.5.0)							
Assam State Zoo cum Botanical Garden, Guwahati							
00042 127 MUNNI 600035 0006B756AE	F	~ Jul 2006	WILD	WILD	INDIA SHILLONG ASSAM	25-Sep-06 25-Sep-06 18-Dec-08	Capture Transfer Transfer
00082 135 600034 BABU 0006B77654	M	~ 1999	WILD	WILD	INDIA SHILLONG ASSAM	13-Aug-07 13-Aug-07 18-Dec-08	Capture Transfer Transfer

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
00085 136 600036 HARUBABU 0006B771C6	F	~ Apr 2008	WILD	WILD	INDIA SHILLONG ASSAM	03-Oct-08 03-Oct-08 18-Dec-08	Capture Transfer Transfer
00104 600039 BABLI	F	~ 2004	WILD	WILD	INDIA ASSAM	10-Mar-13 10-Mar-13	Capture Transfer
00111 600050 MANSE 0006CD387F	M	????	WILD	WILD	INDIA ASSAM	~ 1 Nov 2011 14-Nov-11	Capture Transfer
00112 600051 LILEE 0006CDDOAC	F	????	WILD	WILD	INDIA ASSAM	~ 1 Nov 2011 14-Nov-11	Capture Transfer
00113 600052 DEEPU 000757EDB9	M	????	WILD	WILD	INDIA ASSAM	???? 05-Aug-17	Capture Transfer
00120 600052 DEEPU	M	????	WILD	WILD	INDIA ASSAM	???? 05-Aug-17	Capture Transfer
Total: 8(4.4.0)							
National Zoological Park, New Delhi							
00018 2 NUTEI 98102058298 210003	F	~ 2005	WILD	WILD	INDIA AIZAWL DELHI	???? 09-Jan-07 09-Sep-14	Capture Transfer Transfer
00034 H-13 DEOMALI 210002 98102055330	M	~ 2005	WILD	WILD	INDIA ITANAGAR DELHI	20-Jan-08 20-Jan-08 04-Jul-10	Capture Transfer Transfer
Total: 2 (1.1.0)							
Nagaland Zoological Park, Dimapur							
00095 ROCKY	M	~ 2007	WILD	WILD	INDIA KOHIMA	14-Sep-10 14-Sep-10	Capture Transfer
00107 TWO-FI	F	~ 2011	WILD	WILD	INDIA KOHIMA	25-Nov-13 25-Nov-13	Capture Transfer
00114 JHONNY	M	????	WILD	WILD	INDIA KOHIMA	???? 26-Jan-17	Capture Transfer
Total: 3 (2.1.0)							
Biological Park, Itanagar							
00022 H1	M	~ 1999	WILD	WILD	INDIA ITANAGAR	12-Mar-07 12-Mar-07	Capture Transfer

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
LINGGI							
00025 H-16 BABY 98102057VB156	F	~ 2005	00022	00023	INDIA ITANAGAR	12-Mar-07 12-Mar-07	Capture Transfer
00026 H-5 LAGDER	M	~ 1997	WILD	WILD	INDIA ITANAGAR	15-Mar-07 15-Mar-07	Capture Transfer
00029 H-9 981098102057899	M	~ 1997	WILD	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer
00030 H-10 YAPA 98100800507	F	~ 2001	00029	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer
00032 H-12 TAPING 98102056942	M	~ 2005	WILD	WILD	INDIA ITANAGAR	04-Dec-07 04-Dec-07	Capture Transfer
00037 H-15 CUTE 98102056666	M	~ 2004	WILD	00038	INDIA ITANAGAR	23-Feb-08 23-Feb-08	Capture Transfer
00040 H-19 JIMMY 98102057183	M	22-Sep-08	00028	00024	ITANAGAR	22-Sep-08	Birth
00081 H-7 MR. BATT 98102055475	M	~ 1997	WILD	WILD	INDIA ITANAGAR	15-Mar-07 15-Mar-07	Capture Transfer
00086 H-20 TORAM	F	05-Oct-08	00022	00023	ITANAGAR	05-Oct-08	Birth
00089 H-22 INNOW	M	????	WILD	WILD	INDIA ITANAGAR	???? ????	Capture Transfer
00097 H-24 JISU	?	25-Dec-10	00022	00023	ITANAGAR	25-Dec-10	Birth
00102 H-26 NAGAR	?	18-Sep-11	00029	00038	ITANAGAR	18-Sep-11	Birth
00103 H-27 SONU	?	30-Jun-12	00037	00024	ITANAGAR	30-Jun-12	Birth
00105 H-28 ITA	?	26-Mar-13	00026	000101	ITANAGAR	26-Mar-13	Birth
00109	?	08-Aug-15	00029	00038	ITANAGAR	08-Aug-15	Birth

Stud# Local ID NAME Transponder	Sex	Birth Date	Sire	Dam	Location	Date	Event
H-33 NEHA							
00110 H-34 PULU	?	21-Apr-15	00081	00030	ITANAGAR	21-Apr-15	Birth
00121 H-35	?	21-Oct-17	00081	00030	ITANAGAR	21-Oct-17	Birth
Total: 18 (8.3.7)							
NawabWazid Ali Shah Zoological Garden, Lucknow							
00064 70 KALU	M	????	WILD	WILD	INDIA LUCKNOW	27-Nov-87 27-Nov-87	Capture Transfer
Total: 1 (1.0.0)							
Manipur Zoological Park, Imphal							
00093 KALI	F	~ Jan 2010	WILD	WILD	INDIA IMPHAL	09-Jun-10 09-Jun-10	Capture Transfer
00108 MAKIMACHA	M	????	WILD	WILD	INDIA IMPHAL	~25 Jul 2016 06-Aug-16	Capture Transfer
Total: 2 (1.1.0)							
Mini Zoo, Miao							
00079	F	????	WILD	WILD	INDIA MIAO	20-Feb-05 20-Feb-05	Capture Transfer
00088	M	~ Dec 2008	WILD	WILD	INDIA MIAO	05-Sep-09 05-Sep-09	Capture Transfer
00090	M	~ Jan 2010	WILD	WILD	INDIA MIAO	23-Mar-10 23-Mar-10	Capture Transfer
00096	M	~ May 2009	WILD	WILD	INDIA MIAO	07-Nov-10 07-Nov-10	Capture Transfer
Total: 4 (3.1.0)							
Sepahijala Zoological Park, Agartala							
00083 HOG-6 BAWIHI 98102057696	F	~ 2006	WILD	WILD	INDIA AIZAWL SEPAHIJAL	08-Nov-07 09-Nov-07 23-Mar-13	Capture Transfer Transfer
Total: 1 (0.1.0)							
Total living: 48 (25.16.7) at 9 Institutions							

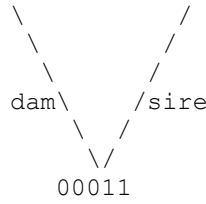
NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00011
 =====

WILD

WILD



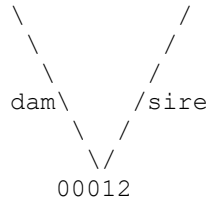
Sex: Female
 Birth Date: ~ 2003
 Last Location: AIZAWL
 House Name: Zovi (new) /Mary
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00012
 =====

WILD

WILD



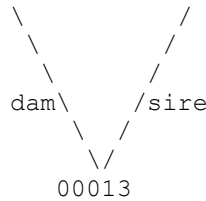
Sex: Female
 Birth Date: ~ 2003
 Last Location: AIZAWL
 House Name: Chalbengi
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00013
 =====

WILD

WILD



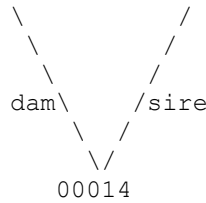
Sex: Male
 Birth Date: ~ 2006
 Last Location: AIZAWL (dead)
 House Name: BUKA
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00014
 =====

WILD

WILD



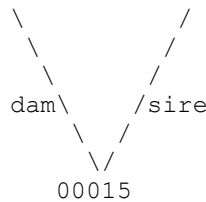
Sex: Female
 Birth Date: ????
 Last Location: SEPAHIJAL (dead)
 House Name: manika
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00015
 =====

WILD

WILD



Sex: Female
 Birth Date: ~ 1997
 Last Location: ASSAM (dead)
 House Name: MINI
 Tattoo:
 Tag/Band:

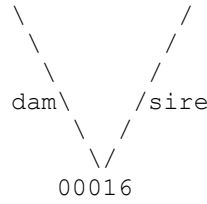
NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00016
 =====

WILD

WILD



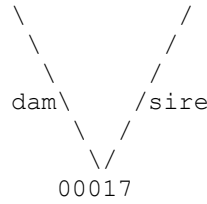
Sex: Male
 Birth Date: ~ 2005
 Last Location: AIZAWL
 House Name: BAWIHA
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00017
 =====

WILD

WILD



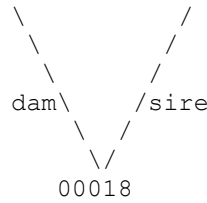
Sex: Male
 Birth Date: ????
 Last Location: TURA (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00018
 =====

WILD

WILD



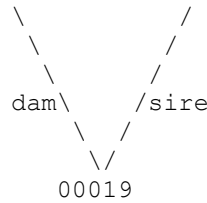
Sex: Female
 Birth Date: ~ 2005
 Last Location: DELHI
 House Name: Nutei
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00019
 =====

WILD

WILD



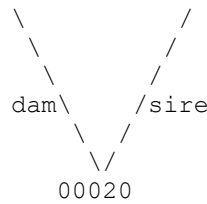
Sex: Female
 Birth Date: ????
 Last Location: TURA (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00020
 =====

WILD

WILD



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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00030
 =====

		WILD		WILD
			dam\	/sire
			\	/
	WILD		00029	+
			Corneal	
			Sex: Female	
			Birth Date: ~ 2001	
			Last Location: ITANAGAR	
			House Name: YAPA	
			Tattoo:	
			Tag/Band:	
			dam\	/sire
			\	/
			00030	
+ Wild-caught...				

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00031
 =====

	WILD			WILD
			dam\	/sire
			\	/
			00031	
			Sex: Male	
			Birth Date: ????	
			Last Location: ITANAGAR (dead)	
			House Name: mithum	
			Tattoo:	
			Tag/Band:	

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00032
 =====

	WILD			WILD
			dam\	/sire
			\	/
			00032	
			Sex: Male	
			Birth Date: ~ 2005	
			Last Location: ITANAGAR	
			House Name: TAPING	
			Tattoo:	
			Tag/Band:	

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00033
 =====

	WILD			WILD
			dam\	/sire
			\	/
			00033	
			Sex: Male	
			Birth Date: ~ 2006	
			Last Location: MIAO	
			House Name: Pintu	
			Tattoo:	
			Tag/Band:	

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00034
 =====

	WILD			WILD
			dam\	/sire
			\	/
			00034	
			Sex: Male	
			Birth Date: ~ 2005	
			Last Location: DELHI	
			House Name: DEOMALI	
			Tattoo:	
			Tag/Band:	

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=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00035
 =====

WILD

WILD



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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00036
 =====

WILD

WILD



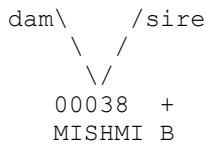
Sex: Male
 Birth Date: ~ Feb 2005
 Last Location: SEPAHIJAL (dead)
 House Name: narayan
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00037
 =====

WILD

WILD



WILD



Sex: Male
 Birth Date: ~ 2004
 Last Location: ITANAGAR
 House Name: CUTE
 Tattoo:
 Tag/Band:

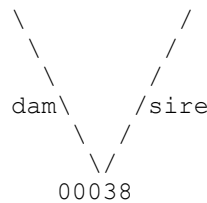
+ Wild-caught...

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00038
 =====

WILD

WILD



Sex: Female
 Birth Date: ~ 1999
 Last Location: ITANAGAR
 House Name: MISHMI BAIDEO
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00039
 =====

<p>WILD</p> <pre> dam\ /sire \ / \ / \ / \ / V 00027 + Rukmini </pre>	<p>WILDWILDWILD</p> <pre> \ / \ / \ / \ / V dam\ /sire \ / \ / V 00039 </pre>	<pre> dam\ /sire \ / \ / \ / \ / V 00026 + LAGDER Sex: Female Birth Date: 5 Jul 2008 Last Location: SEPAHIJAL (dead) House Name: ANGA Tattoo: Tag/Band: </pre>
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+ Wild-caught...

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00040
 =====

<p>WILD</p> <pre> dam\ /sire \ / \ / \ / \ / V 00024 + YASUM </pre>	<p>WILD</p> <pre> \ / \ / \ / \ / V dam\ /sire \ / \ / V 00040 </pre>	<p>WILD</p> <pre> dam\ /sire \ / \ / \ / \ / V 00027 + Rukmini </pre>	<p>WILDWILDWILD</p> <pre> dam\ /sire \ / \ / \ / \ / V 00026 + LAGDER dam\ /sire \ / \ / \ / \ / V 00028 + nega Sex: Male Birth Date: 22 Sep 2008 Last Location: ITANAGAR House Name: JIMMY Tattoo: Tag/Band: </pre>
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+ Wild-caught...

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00041
 =====

<p>WILD</p> <pre> \ / \ / \ / \ / V dam\ /sire \ / \ / V 00041 </pre>	<p>WILD</p> <pre> Sex: Unknown Birth Date: ??? Last Location: AIZAWL House Name: Tattoo: Tag/Band: </pre>
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=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00042
 =====

<p>WILD</p> <pre> \ / \ / \ / \ / V dam\ /sire \ / \ / V 00042 </pre>	<p>WILD</p> <pre> Sex: Female Birth Date: ~ Jul 2006 Last Location: ASSAM House Name: MUNNI Tattoo: Tag/Band: </pre>
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NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00043
 =====

WILD

WILD



Sex: Female
 Birth Date: ~ Nov 2001
 Last Location: MIAO
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00044
 =====

WILD

WILD



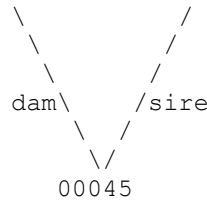
Sex: Male
 Birth Date: ~ 1972
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00045
 =====

WILD

WILD



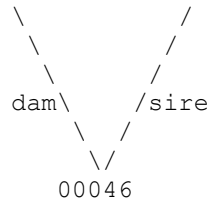
Sex: Female
 Birth Date: ~ 1978
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00046
 =====

WILD

WILD



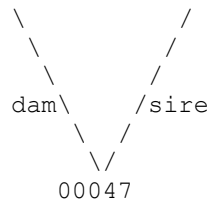
Sex: Male
 Birth Date: ~ 1978
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00047
 =====

WILD

WILD



Sex: Male
 Birth Date: ~ 1979
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00048

=====

WILD



WILD

Sex: Male
 Birth Date: ~ 1979
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00049

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1979
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

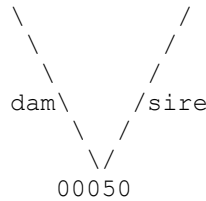
Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00050

=====

WILD



WILD

Sex: Male
 Birth Date: ~ 1981
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

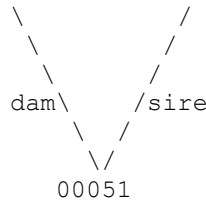
Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00051

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1981
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

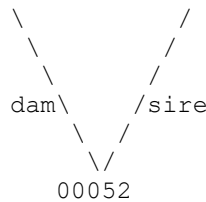
Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00052

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1978
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00053

=====

WILD



WILD

Sex: Male
 Birth Date: ~ 1981
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

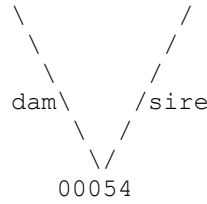
Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00054

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1981
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00055

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1984
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00056

=====

WILD



WILD

Sex: Female
 Birth Date: ~ 1984
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====

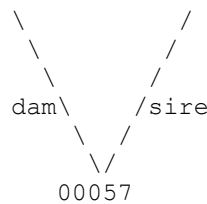
Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00057

=====

WILD



WILD

Sex: Male
 Birth Date: ~ 1978
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00058
 =====

WILD

WILD



Sex: Male
 Birth Date: ~ 1978
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00059
 =====

WILD

WILD



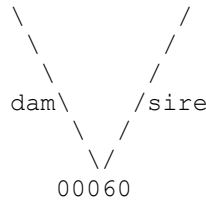
Sex: Male
 Birth Date: ~ 1980
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00060
 =====

WILD

WILD



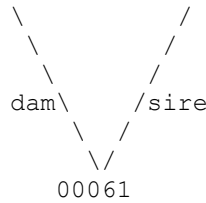
Sex: Female
 Birth Date: ~ 1983
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00061
 =====

WILD

WILD



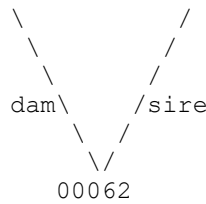
Sex: Male
 Birth Date: ~ 1984
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00062
 =====

WILD

WILD



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

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00073
 =====

WILD

WILD



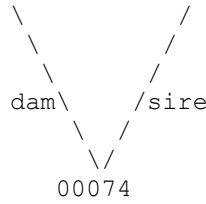
Sex: Female
 Birth Date: ~ 1987
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00074
 =====

WILD

WILD



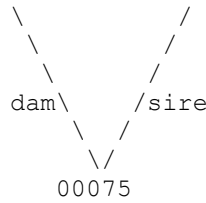
Sex: Male
 Birth Date: ~ 1988
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00075
 =====

WILD

WILD



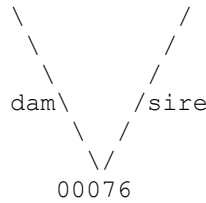
Sex: Male
 Birth Date: ~ 1987
 Last Location: ASSAM (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00076
 =====

WILD

WILD



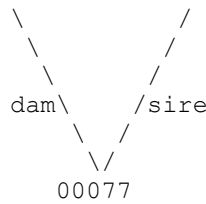
Sex: Male
 Birth Date: ????
 Last Location: IMPHAL (dead)
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00077
 =====

WILD

WILD



Sex: Female
 Birth Date: ~ 1997
 Last Location: IMPHAL (dead)
 House Name:
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00078
 =====

WILD

WILD



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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00079
 =====

WILD

WILD



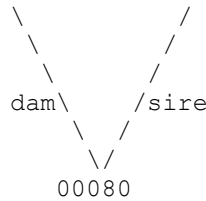
Sex: Female
 Birth Date: ????
 Last Location: MIAO
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00080
 =====

WILD

WILD



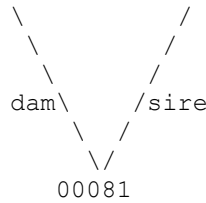
Sex: Female
 Birth Date: ????
 Last Location: INDIA
 House Name: yapi
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00081
 =====

WILD

WILD



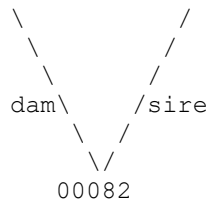
Sex: Male
 Birth Date: ~ 1997
 Last Location: ITANAGAR
 House Name: Mr. Batt
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00082
 =====

WILD

WILD



Sex: Male
 Birth Date: ~ 1999
 Last Location: ASSAM
 House Name: BABU
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00083
 =====

WILD



WILD

Sex: Female
 Birth Date: ~ 2006
 Last Location: SEPAHIJAL
 House Name: BawihBawihi
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00084
 =====

WILD



WILD

Sex: Female
 Birth Date: ~ 2006
 Last Location: AIZAWL
 House Name: BULI
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00085
 =====

WILD



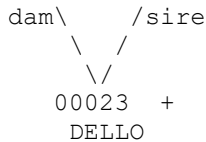
WILD

Sex: Male
 Birth Date: ~ Apr 2008
 Last Location: ASSAM
 House Name: HARUBABU
 Tattoo:
 Tag/Band:

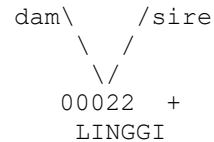
=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00086
 =====

WILD



WILDWILDWILD



Sex: Female
 Birth Date: 5 Oct 2008
 Last Location: ITANAGAR
 House Name: TORAM
 Tattoo:
 Tag/Band:

+ Wild-caught...

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00087
 =====

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 00029 +
 Corneal
 Sex: Male
 Birth Date: 29 Jun 2009
 Last Location: ITANAGAR (dead)
 House Name: DAOLI
 Tattoo:
 Tag/Band:

+ Wild-caught...

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00088
 =====

WILD

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 00088

WILD

Sex: Male
 Birth Date: ~ Dec 2008
 Last Location: MIAO
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00089
 =====

WILD

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 00089

WILD

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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00090
 =====

WILD

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 00090

WILD

Sex: Male
 Birth Date: ~ Jan 2010
 Last Location: MIAO
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00091
 =====

WILD

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 00091

WILD

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

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK Studbook Number: 00092
 =====

WILD



WILD

Sex: Female
 Birth Date: ~ 2009
 Last Location: ASSAM
 House Name:
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK Studbook Number: 00093
 =====

WILD

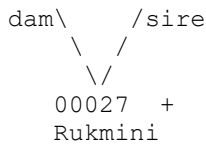


WILD

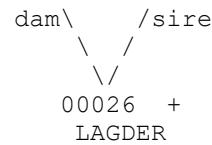
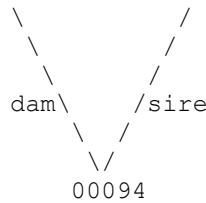
Sex: Female
 Birth Date: ~ Jan 2010
 Last Location: IMPHAL
 House Name: KALI
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK Studbook Number: 00094
 =====

WILD



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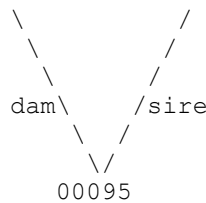


Sex: Male
 Birth Date: 9 Aug 2010
 Last Location: ITANAGAR (dead)
 House Name: BOGI/ATI-OPAN
 Tattoo:
 Tag/Band:

+ Wild-caught...

=====
 Taxon Name: HOOLOCK HOOLOCK Studbook Number: 00095
 =====

WILD

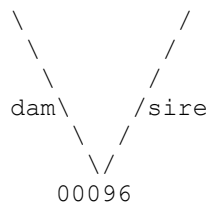


WILD

Sex: Male
 Birth Date: ~ 2007
 Last Location: KOHIMA
 House Name: Rocky
 Tattoo:
 Tag/Band:

=====
 Taxon Name: HOOLOCK HOOLOCK Studbook Number: 00096
 =====

WILD



WILD

Sex: Male
 Birth Date: ~ May 2009
 Last Location: MIAO
 House Name:
 Tattoo:
 Tag/Band:

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00097

=====

WILD

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 00023 +
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WILDWILDWILD

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 00097

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 00022 +
 LINGGI

Sex: Unknown
 Birth Date: 25 Dec 2010
 Last Location: ITANAGAR
 House Name: JISU
 Tattoo:
 Tag/Band:

+ Wild-caught...

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00098

=====

WILD

dam\ /sire
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 00098

WILD

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

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00099

=====

WILD

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 00099

WILD

Sex: Male
 Birth Date: ~ 2009
 Last Location: SEPAHIJAL (dead)
 House Name: KRISHNA
 Tattoo:
 Tag/Band:

=====

Taxon Name: HOOLOCK HOOLOCK

=====

Studbook Number: 00100

=====

WILD

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 BUANGI

WILDWILDWILD

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 00100

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 00016 +
 BAWIHA

Sex: Male
 Birth Date: 5 Jun 2011
 Last Location: AIZAWL
 House Name: Zara
 Tattoo:
 Tag/Band:

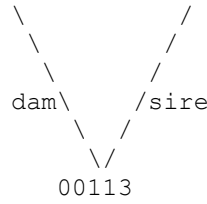
+ Wild-caught...

NATIONAL STUDBOOK OF HOOLOCK GIBBON (*HOOLOCK HOOLOCK*) – III EDITION

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00113
 =====

WILD



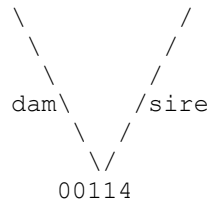
WILD

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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00114
 =====

WILD



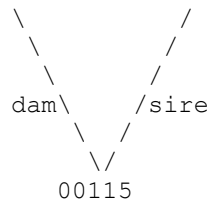
WILD

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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00115
 =====

WILD



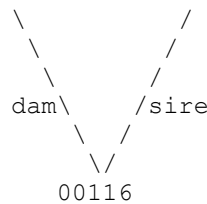
WILD

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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00116
 =====

WILD



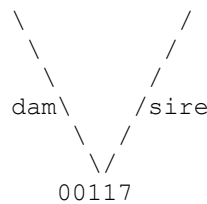
WILD

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

=====
 Taxon Name: HOOLOCK HOOLOCK
 =====

Studbook Number: 00117
 =====

UNK



UNK

Sex: Female
 Birth Date: 29 Oct 1991
 Last Location: ASSAM
 House Name: SITA
 Tattoo:
 Tag/Band:

Location Glossary

Mnemonic	Location
AIZAWL	Aizawal Zoological Park, Aizawal
ASSAM	Assam State Zoo cum Botanical Garden, Guwahati
DACCA	Dhaka Zoo, Dhaka, Bangladesh
DELHI	National Zoological Park, New Delhi
IMPHAL	Manipur Zoological Garden, Imphal
INDIA	
ITANAGAR	Biological Park Itanagar
KOHIMA	Nagaland Zoo, Kohima
LUCKNOW	NawabWazid Ali Shah Zoological Garden, Lucknow
MIAO	Mini Zoo, Miao
ROING	Mini Zoo, Roing
SEPAHIJAL	Sepahijala Zoological Park, Agartala
SHILLONG	Lady Hydari Park Zoo, Shillong
TURA	Nehru Park Cum Mini Zoo, Danakgre, Tura