

## Western Hoolock Gibbon

*Hoolock hoolock* (Harlan, 1831)

Bangladesh, India, Myanmar

(2009)

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Western and eastern hoolock gibbons were formerly in the genus *Bunopithecus* as two subspecies. In 2005, Mootnick and Groves placed them in a new genus, *Hoolock* as two distinct species, the western being *Hoolock hoolock* and the eastern, *Hoolock leuconedys*. The western hoolock gibbon occurs in India, Bangladesh and Myanmar, and the eastern hoolock gibbon in India, Myanmar and China.

The range of western hoolock gibbon is strongly associated with contiguous canopy, broad-leaved, wet evergreen and semi-evergreen forests. Hoolock gibbons are important seed dispersers, their diet including mostly ripe fruits, with some flowers, leaves and shoots.

Western hoolock gibbons face numerous threats, and now may be dependent on human action for their survival. Threats include habitat loss due to human encroachment, forest clearance for tea, slash-and-burn cultivation, hunting as food and medicine, and capture for trade. Additional threats include decline in forest quality which affects fruiting trees, canopy cover and the viability of their home ranges. Isolated populations face additional threats arising from intrinsic effects of small populations. Some populations surviving in a few remaining trees are harassed by locals and dogs while attempting to cross clearings between forest patches in search of food.

Habitat loss over the last 3-4 decades suggests that western hoolock gibbons have declined from more than 100,000 to less than 5,000 individuals (a decline of more than 90%). The contiguous forests have borne the brunt of persistent human impacts. Isolated forest fragments hold a few families of about 1-4 individuals; numbers insufficient for long-term survival. Apart from some border forests between India and Myanmar, the remaining habitat is fragmented, holding minimal populations. The extirpation of western hoolock gibbons from 18 locations between 2001 and 2005

has been documented; ten in India and eight in Bangladesh.

About 100 locations of western hoolock gibbons have been recorded in India. In 2005, 77 of those locations had less than 20 individuals, and 47 of these had less than 10. A Population Viability Analysis (PVA) predicted a 75% decline in the population in India and a 95% decline in the population in Bangladesh over the next two decades, based on the current effects of human impacts.

Earlier estimates of western hoolock gibbons in Bangladesh were about 200 in 22 separate locations. Anwar Islam and his team conducted site visits in additional areas since then, and now estimate a total of about 300 individuals comprising 82 groups in 37 sites. In northeastern Bangladesh there are 12 sites with 102 hoolocks. The rest are in 25 sites in the southeast. There may be populations numbering 50-100 individuals in remote areas of the southeast hill tracts, but this has not been confirmed because of inability to visit these sites due to insurgency. During the last 15 or so years, hoolock gibbons have been extirpated from many sites, including Chunati Wildlife Sanctuary in the southeast. The extent of degradation and fragmentation of hoolock gibbon forests in the country is severe and the available habitats are continuing to decline.

The southernmost population of the western hoolock gibbon in Myanmar has been surveyed by Geissmann *et al.* confirming the presence and identification of western hoolock gibbon (*Hoolock hoolock*) in southern Rakhine Yoma, Myanmar, albeit a very small number. Reports of several other surveys in southern Myanmar are pending (Geissmann *et al.* 2008).

There may be much yet to learn about the distribution of the two species of hoolock gibbons. J. Das *et al.* identified the eastern species from Lohit district of Arunachal Pradesh, India, for the first time

in 2005. Also, in a study conducted in the early months of 2009, D. Chetry found a new population of *Hoolock leuconedys* of around 150 groups between the rivers Dibang and Lohit in Lower Dibang Valley District of Arunachal Pradesh, India.

Warren Brockelman has carried out surveys of the eastern hoolock, *Hoolock leuconedys*, in two accessible protected areas east of the Chindwin River in Myanmar since 2005. Recent studies in Mahamyaing Wildlife Sanctuary, western Myanmar, using auditory sampling of groups, produced an estimate of about 6,000 individuals and a mean density of more than 2 groups/km<sup>2</sup> in areas of suitable forest. Preliminary analysis of a survey by WCS–Myanmar and Wildlife Department personnel farther north in the Hukaung Valley (Kachin State) suggested that thousands of hoolocks survive there also. The Hukaung Valley Wildlife Sanctuary includes the headwaters of the Chindwin River and is contiguous with areas in India. The area of evergreen forest in the Hukaung Valley Reserve and contiguous PAs is so large (more than 20,000 km<sup>2</sup>) that the population there is likely to be in the tens of thousands. If so, this represents the largest population of hoolocks anywhere. Nevertheless, these PAs are not well protected and it is hoped that current interest in conservation in this multiple-use area will be sustained.

Eastern hoolock gibbons also occur in China. According to Fan Pengfei, a Chinese field biologist, the Chinese eastern hoolock gibbons survive only in Gaoligongshan Nature Reserve (GNR) in Baoshan, Tengchong, and Yingjiang. Based on field surveys, population size in GNR was estimated to be 20–21 groups. There are about 15 groups living outside Gaoligongshan Nature Reserve (based on interviews). The total population size is estimated to less than 150 individuals and is severely fragmented. The largest subpopulation in Yunnan has 8–10 groups; the second largest subpopulation has four groups, and in several sites there are only single groups. Twenty years ago researchers estimated the population size of hoolock gibbons to be less than 200. This was a low estimate due to failure of research to cover all distribution areas. The hoolock gibbon is threatened by poaching in some places and by habitat degradation and fragmentation outside GNR. There are no records of western hoolock gibbons in China to date.

There has been serious concern about the survival of hoolock gibbons for some decades. The species was listed on Schedule I, the highest schedule, on the Indian Wildlife (Protection) Act in 1972. It is categorized as Endangered on the IUCN Red List. 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.

Hoolock gibbons were assessed along with other South Asian primates at a Conservation Assessment and Management Plan workshop held in Coimbatore in 2002. Participants from northeastern India and Bangladesh assembled detailed locality tables which painted a bleak picture for western hoolock gibbons. Participants recommended that a Population and Habitat Viability Assessment (PHVA) Workshop should be conducted for the species. In 2005, a PHVA workshop was conducted for *Hoolock hoolock* in Dhaka, Bangladesh. Among other recommendations, workshop participants suggested that small, isolated, doomed individuals and groups in degraded areas should be translocated to more supportive habitat within their range.

The level of local knowledge required to conduct successful wild-to-wild translocations needed supplementation, so a collaborative initiative between GOs and NGOs in India and Bangladesh for scoping and training in translocation was organized. Two workshops, held in September 2008 for all stakeholders from India and Bangladesh, and February 2009 for senior foresters or their representatives from India generated a great deal of interest as well as a new awareness of the subtleties of such an exercise. Tentative plans were made for each state at the workshop. Arunachal Pradesh has taken the initiative and engaged the Wildlife Trust of India to assist them with an exercise for several isolated groups in an agricultural field in the state. Other northeastern Indian states and Bangladesh are also considering conducting carefully planned and executed translocations. The CAMP, PHVA and translocation training workshops also generated considerably more public awareness activities on hoolock gibbon that are now taking place very regularly, which will be useful also to the translocations when they occur.

There are hundreds of western hoolock gibbons languishing as single individuals or in minute groups in the northeastern Indian states and in Bangladesh. Successfully translocating these to more viable locations in nearby larger areas with resident, established hoolock populations will not only enrich the gene pool and strengthen populations but also salvage animals and their genetic material that would not otherwise survive even a very few years. Such an exercise will also provide a platform with a remarkable profile for enhancing protection as well as for reclaiming and restoring forest patches to create more contiguous habitat for hoolocks. It should also create good will and interest by the public, whose cooperation is necessary for long-term success. However, such exercises should be undertaken with strict adherence to the IUCN/SSC Reintroduction Specialist Group (RSG) reintroduction guidelines. They should also be a “last resort”, after exploring all

other means of conserving both habitats and species, working with locals in the current areas.

The population trends for the western hoolock gibbon observed over recent years in Bangladesh and northeastern India indicate a very rapid decline in numbers for which very little has been done in the way of mitigation. Immediate measures are required by governments, forest departments, local communities and NGOs to limit habitat destruction, initiate or improve habitat restoration and upgrade implementation of protective measures. Although there are indications of increased numbers in this report, it is only because more localities or areas are being visited and found to have hoolock gibbons sometimes in significant numbers. This should not, in any way, lead to complacency but to greater efforts to see that the threats which have plagued the hoolock gibbon in the past 3-4 decades are addressed and contained.

## References

- Brockelman, W. Y., Hla Naing, Chit Saw, Aung Moe, Zaw Linn, Thu Kyaw Moe and Zaw Win. 2009. Census of eastern hoolock gibbons (*Hoolock leuconedys*) in Mahamyaing Wildlife Sanctuary, Sagaing Division, Myanmar. In: *Wild Gibbon Populations: New Understandings of Small Ape Socioecology, Population Biology, and Conservation*, D. Whittaker and S. M. Lappan (eds.). Springer Verlag, New York. In press.
- Chetry, D., R. Chetry, A. Das, C. Loma and J. Panor. 2008. New distribution records for *Hoolock leuconedys* in India. *Primate Conservation* (23): 125–128.
- Choudhury, A. 20001. Primates in northeast India: an overview of their distribution and conservation. *ENVIS Bulletin: Wildlife and Protected Areas* 1(1): 92–101.
- Choudhury, A., 2006. The distribution and status of hoolock gibbon, *Hoolock hoolock*, in Manipur, Meghalaya, Mizoram, and Nagaland in Northeast India. *Primate Conservation* (20): 79–87.
- Choudhury, A. 2009. The distribution, status and conservation of hoolock gibbon, *Hoolock hoolock*, in Karbi Anglong District, Assam, Northeast India. *Primate Conservation* (24). In press.
- Das, J., M. M. Feeroz, M. A. Islam, J. Biswas, P. Bujarborus, D. Chetry, R. Medhi and J. Bose. 2003. Distribution of hoolock gibbon (*Bunopithecus hoolock hoolock*) in India and Bangladesh. *Zoos' Print Journal* 18(1): 969–976.
- Das, J., J. Biswas, R. Medhi, J. Bose, D. Chetry, P. Bujarborua and F. Begum. 2003. Distributional status of hoolock gibbon (*Bunopithecus hoolock*) and their conservation in southern Assam, India. *Tigerpaper* 30(4): 26–29.
- Das, J., P. C. Bhattacharjee, J. Biswas and D. Chetry. 2005. *Western Hoolock Gibbon: Socioecology, Threats and Conservation Action Plan*. Department of Zoology, Gauhati University, and Primate Research Centre, Northeast Centre, Guwahati, India. 70pp.
- Das, J., J. Biswas, P.C. Bhattacharjee and S. M. Mohnot. 2006. First distribution records of the eastern hoolock gibbon (*Hoolock hoolock leuconedys*) from India. *Zoos' Print Journal* 21(7): 2316–2320.
- Geissmann, T., M. Grindley, F. Momberg, N. Lwin and S. Moses. 2008. Hoolock gibbon and Biodiversity Survey and Training in Southern Rakhine Yoma, Myanmar: Preliminary report. Myanmar Primate Conservation Program, BANCA, FFI, PRCF and Yangon University, Yangon, Myanmar. 31pp.
- Geissmann, T., M. Grindley, F. Momberg, N. Lwin, and S. Moses. 2009. Hoolock gibbon and biodiversity survey and training in southern Rakhine Yoma, Myanmar. *Gibbon Journal* 5: 7–27.
- Islam, A. and M. M. Feeroz. 1992. Ecology of the hoolock gibbon of Bangladesh. *Primates* 33: 451–464.
- Kakati, K. 2006. Fragment-living—a study of hoolock gibbons in Assam, India. *Gibbon's Voice* 8(1): 1–4.
- Kakati, K. and S. Sathyakumar. 1999. The effect of habitat loss on feeding and ranging behavior of hoolock gibbons (*Hylobates hoolock*) in a small forest fragment in north east India. In: *Fourth International Anthropological Congress of Ales Hrdlicka: Abstracts*, D. Sabik, J. Vigner and M. Vigner (eds.), p.73. World Anthropology at the turn of the Century, Set Out, Prague.
- Kumar, A., K. K. Mary and P. Bagchie. 2009. Present distribution, population status, and conservation of western hoolock gibbons *Hoolock hoolock* (Primates: Hylobatidae) in Namdapha National Park, India. *Journal of Threatened Taxa* 1(4): 203–209.
- MacKinnon, J. and K. MacKinnon. 1987. Conservation status of the primates of the Indo-Chinese subregion. 8: 187–195.
- Molur, S., D. Brandon-Jones, W. Dittus, A. Eudey, A. Kumar, M. Singh, M. M. Feeroz, M. Chalise, P. Priya and S. Walker. 2003. *Status of South Asian Primates: Conservation Assessment and Management Plan (C.A.M.P.) Workshop Report, 2003*. Zoo Outreach Organisation/CBSG—South Asia, Coimbatore, India. 432pp.
- Molur, S., S. Walker, A. Islam, P. Miller, C. Srinivasulu, P. O. Nameer, B. A. Daniel and L. Ravikumar (eds.). 2005. *Conservation of Western Hoolock Gibbon (Hoolock hoolock hoolock) in India and Bangladesh: Population and Habitat Viability Assessment (P.H.V.A.) Workshop Report, 2005*. Zoo Outreach Organisation/CBSG South Asia, Coimbatore, India. 132pp.
- Mootnick, A. R. 2006. Gibbon (Hylobatidae) species identification recommended for rescue or breeding centers. *Primate Conservation* (21): 103–138.
- Mootnick, A. R. and C. P. Groves. 2005. A new generic name for the hoolock gibbon (Hylobatidae). *International Journal of Primatology* 26: 971–976.
- Srivastava, A. 2006. Conservation of threatened primates of Northeast India. *Primate Conservation* (20): 107–113.