

# GAUR

## Wild Cattle in Grave Peril

The shy gaur is under grave threat. The largest gregarious wild cattle found in Asia, with the largest population left in India, demands long-term conservation strategy.

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**G**AUR (*Bos gaurus* Lambert, 1804), also called Indian bison, belongs to the sub-family bovinæ (cloven-hoofed mammals) of the order Cetartiodactyla (includes whales and even toads ungulates). It is the largest living bovine confined to the oriental biogeographic region. India supports 85% of its current global population.

India has already lost one large bovid, the Banteng (*Bos banteng*), which was once known to occur in North East India. Gaur is yet another rapidly declining species. It plays an important role by modifying its habitat by way of resetting succession of a forest

habitat to grassland and spreading the propagules of numerous plants. They are also important prey species for the endangered flagship species tiger.

Gaur belongs to the group of wild oxen. These include the Asiatic buffalo, African buffalo, cattle and bison. The ancestors of the gaur evolved from Asia some 20 million years ago. Among the three species of genus *Bos*, the Kouprey (*Bos sauveli*) is found in Cambodia, the Banteng in Java, Borneo, Malaya and parts of Indochina and the gaur from Malaya to India. The domestic cattle (*Bos taurus* and *Bos indicus*) and the yak (*Bos grunniens*) also belong to this genus *Bos*.

Gaur historically occurred throughout the mainlands of south and Southeast Asia and Sri Lanka. Now the gaur is distributed in South and South East Asia from India to peninsular Malaysia, occurring in India, Nepal, Bhutan, Bangladesh, Myanmar, Thailand, China, Laos, Cambodia, Vietnam and Malaysia. There are three subspecies of gaur: *Bos gaurus gaurus*

occurring in India and Nepal; *Bos gaurus reardi* in Indochina, and *Bos gaurus hubbacki* in Malaysia.

In India the gaur is isolated into three disjunct regions, viz., South Western India, Central India and North Eastern India. Gaur occurs from sea level up to at least 2800 m MSL. Its habitat is characterized by large, relatively undisturbed forest tracts and hilly terrain, which provides water and an abundance of forage in the form of coarse grasses (including bamboo), shrubs and trees. The preference for hilly terrain by the gaur is due to the conversion of most of the plains and other low-lying areas to croplands and pastures.

Gaur is the tallest living oxen and the second heaviest. The gaur bull weighs 600-1000 kg and stands 1.6 to 1.9 m of shoulder height whereas cows are about 10 cm shorter than the bull and weigh about 450 to 800 kg. Both sexes have horns, those of the males are especially larger at the base with more outward swath and less curving

### Vernacular names

Hindi - Gaur, Gaur gai  
Mar - Gaviya, Gawa  
Kan - Kadu yethu; kartee  
Tam - Kattu erumai  
Mal - Katu poth  
Bur - Peeoung

Order : Cetartiodactyla  
Family : Bovidae  
Sub-family : Bovinae  
Tribe : Bovini  
Genus : *Bos*  
Species : *Bos gaurus*  
Common name : Gaur

### Synonyms:

*Bos asseel* Horsfield, 1851  
*Bos cavifrons* Hodgson, 1837  
*Bos gaur* Sundevall, 1846  
*Bos gaurus* Lydekker, 1907  
*Bos gour* Hardwicke, 1827  
*Bos subhemachalus* Hodgson, 1837

**Gaur is the largest gregarious wild cattle found in Asia. India holds the greatest proportion of gaur population, with a network of protected areas located in three distinct locations. It is shy and avoids human use areas.**

at the tip. Adult males have pronounced muscular crest between shoulders and a large dewlap hanging between the forelegs and smaller one under the chin.

The adult bulls have shiny black, short-haired pelage, except for white stockings, a gray boss between the horns. Young bulls are dark brown like the cows. The pelage of cow is dark brown in colour and the horns are slenderer, more upright and with a more inward curved than those of bulls. Juveniles are brownish with spike horn. Young calves weigh about 43 kg, have a light brown coat and lack the conspicuous white stockings, which do not appear until they change into a dark brown pelage at the age of about three months.

### Behaviour

The home range size (area of utilization by animals in their annual movement) varies from 7 km<sup>2</sup> to 137 km<sup>2</sup>. Factors such as seasonal changes in vegetation composition, availability of water, gaur group size, and rutting behaviour influence the ranging behaviour.

The gaur is a gregarious animal. The group structure is very fluid and dynamic.

Three different associations are observed *i.e.* the solitary males, bull groups and mixed herds. Solitary individuals are mostly adult males and they form bachelor herds. Gaur bull group exhibits less cohesion and frequently disperse. The mixed group size ranges from 1 to 47 and consists of adult females, sub-adults and young ones. Females generally lead a group.

Licking each other is a social gesture. The number of bulls in a herd changes according to the breeding period. Mature males associate with cows during the rut (breeding period). Gaurs exhibit different vocalizations advertising their mood and temperament. They snort and give phoo/pffhong calls when alarmed or

surprised, the moo call is given when they come out to feed in the open, the bulls during rut give out a high pitched and far carrying whistle-like call.

In undisturbed areas the gaur is mainly diurnal (active during day) but in areas of high human disturbance, it is reported to become mainly nocturnal (active during night). Activity pattern of gaur shows a bimodal diurnal activity pattern in feeding with peaks in the morning and evening hours. The movement of animals is also higher during the early morning and late evening hours. Resting is highest during the afternoon hours. The animals are observed to lie in the cover during the hottest period of the day and rumination mostly occurs during this period.

Rutting, flehmen (up curled lip movement), tending and mounting are some of sexual behaviour observed in gaur bulls. The mating season of gaur varies in Central India (December to January) and South India (November to March) according to seasonal variation in the rainfall. The gestation period of gaur is nine months and litter size is one.

The gaur has adapted to both browsing and grazing modes of foraging. When high grass is available the grass appears to be a major part of its diet. Gaur feeds on a variety of plants. The varied food species selection has enabled the gaur to colonize a wide



*From top:* Banteng (Distributed in India in the past but now extinct in India); Adult male gaur showing black colour coat and musculature; Adult female gaur with brown body colour and converged horn; A gaur mixed herd with adult female, juvenile and calves.



Fires in dry deciduous forests during summer destroy the gaur habitat (top); Cattle are potential competitors for wild gaur and sources of diseases to wild ungulates (above).

range of vegetation types from dry thorn forest to wet evergreen forest. It has been observed to feed on 155 species of plants belonging to 38 families in tropical dry deciduous forests.

### Threats & Conservation

The red list of threatened species categorizes gaur as a vulnerable species. Today they are in 11 range states with the estimated population being around 13,000 to 30,000 with approximately 85% of population being present in India. India thus has the best chance for long-term conservation of this species. The gaur is listed in CITES Appendix-I, which bans all international trade of gaur products. It is protected under Schedule I of Wildlife (Protection) Act 1972 of India.

Habitat loss has been largely responsible for the large-scale decline of the gaur range and it remains a major

threat to gaur conservation in Asia. Habitat degradation and fragmentation affects gaur population in two ways: a) Physical disturbance caused by people such as woodcutting and forest fire and b) Loss of food availability due to extensive cattle grazing.

Gaur habitats have become fragmented throughout the ranges. Even within this fragmented gaur range only a small portion is actually protected. Therefore, the actual range of gaur may include protected areas and adjoining non-protected areas. It is important to identify these areas for better management. Most gaur range countries are developing countries with limited financial resources to commit to conservation, so funds remain a major constraint in gaur conservation.

Poaching of gaur for meat and trophies is another serious threat in



conservation of gaur even in protected areas.

Epidemic diseases such as Rinderpest are also a widespread cause of death in gaur. The disease has been reported in this species from Southern and Central India. Gaur has also been reported to die from foot-and-mouth disease and anthrax.

One of the major limitations is lack of information regarding the population, habitat requirements and population dynamics in most protected areas apart from the failure to use existing information in conservation planning.

*Ex situ* conservation programmes are implemented for gaur in the US and Europe. However, these captive populations are too small and dangerously inbred. In 2001, a gaur was cloned in the US but it died within a couple of days.

Gaur is the largest gregarious wild cattle found in Asia. India holds the greatest proportion of gaur population, with a network of protected areas located in three distinct locations. It is shy and avoids human use areas. Species-specific studies and management intervention are required for the long-term conservation of species.

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