

Subject: Anthropology

class note for - DSC - 1B (cc-2)

Topic: Anthropoid Apes.

By - Dr. Som Prasad Giri

Hominoidea

The superfamily Hominoidea consists of three families: Hylobatidae, Pongidae and Hominidae. However, some scholars recognise two families, pongidae, which is divided into two subfamilies, called Hylobatinae and Ponginae, and Hominidae. Hylobatidae (gibbon) and Pongidae (Orangutan, chimpanzee and gorilla) are commonly known as Apes.

Hylobatidae (Gibbon)

The family name of Hylobatidae is Hylobatinae, which comprises two genera : Hylobates or common gibbon consisting of six species, and Symphalangus or Siamang, represented by only one species. The gibbons are distributed in the rain forests of Southeast Asia and also in Northeast India and Myanmar. The siamangs are confined to Sumatra.

Gibbons are arboreal creatures. They are slenderly built with extremely long arms, when they stand erect the hands

touch the ground. This extraordinary length of upper extremity is directly connected with their mode of locomotion. The gibbons are true brachiators. Most of the time they move by swinging from branch to branch clutching briefly with alternate hands. They are capable of fine precision grips. On the ground they can move walking in upright position balancing with their arms.

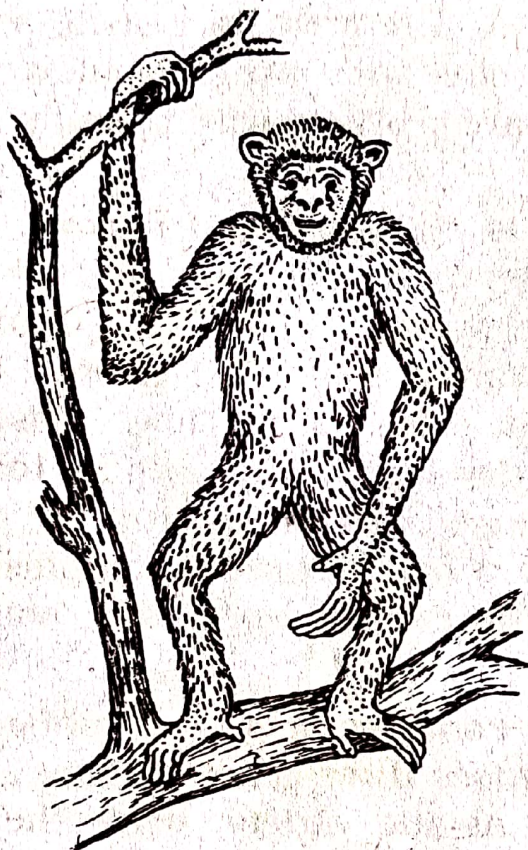


Fig. 3.6 Gibbon

Gibbons live in small family groups consisting of an adult male, an adult female and one or two young offspring. When the young attain maturity they are driven out of the family. Both males and females are very jealous of members of the same sex. Each group maintains distance from intruders by using loud, warning hoots, a sound speciality of them. They resemble arboreal monkeys more closely than the other apes in their ability and speed in the trees. They are the smallest of the apes in size. An adult gibbon weighs about 50 kg. and in height it is about one metre. They live on fruits, nuts, flowers and leaves. Birds, eggs, insects, etc., are also eaten by them.

The common gibbons, however, differ from the siamangs in being smaller in size, having relatively shorter

trunk, broader chest, shorter legs, longer arms, longer cranial capacity, etc.

The body of gibbon is covered with fine woolley hair. However, the face and ischial collosities are devoid of hair covering. The skin colour is usually black.

The digital formula of gibbon is $3 > 2 > 4 > 5 > 1$ for both hands and feet. The great toe, being set apart from the others, is capable of a wide range of movement. The digits, except the thumb, are provided with laterally compressed elongated nails.

Their head is elongated and narrow. Facial portion is comparatively longer than the cranium. Contour of cranium is ovoid. Frontal elevation is low. The position of bregma is at far back on cranial roof. Post-glenoid tubercle is well-developed. Glenoid fossa is shallow. Mastoid and styloid processes are not developed. Supraorbital torus is not found. Orbits are pronounced. Nasal aperture is ovid. Nasal bone are short, broad and flat. Sexual diamorphism is observed in nasal character. The canines are sharp, pointed and big.

Pongidae

The family Pongidae has one subfamily, called Ponginae, which comprises three genera : Pongo, Pan and Gorilla. The Pongo is the Asiatic variety, while the other two form the African variety. Some like to put Gorilla and Pan (Orangutan) under one species, Pan.

Pongo (Orangutan)

Orangutans are found today only in the islands of Sumatra and Borneo. The fossil records give evidence that at one time they were distributed over a larger area. The orangutan and the gibbon appear to be more closely related to each other than they are to the other two apes, gorilla and chimpanzee.

Orangutans are largely arboreal. They have long arms with powerful hands and mobile shoulders, which help them in brachiation. But their movement is slow because of their large size, though they climb trees with ease using their hands and feet almost interchangeably. On the ground, they walk using both hands and feet, when they look like an old man bent because of age. They are gentle and lethargic. They are

capable of controlling their facial muscles, more particularly around the mouth and nose, and thereby they can produce a variety of facial expressions. With the help of their opposable thumb and the other four fingers they can pick up small objects.

Not much is known about the social behaviour of the orangutans. They live in small groups of two to four. The males prefer to live alone. They live on vegetarian diet. The weight of adult males varies between 60 and 80 kg. The height is about 1.5 metre. They build nests in trees to sleep.



Fig. 3.7 Orang-utan

Their body is coated with reddish hair. The skin colour is usually brownish. The face is sinognathous, that is, concave in profile. From the side the nose also looks like concave, because the root is narrow and flat and nasal bridge is not elevated. The thumb is short. Other fingers are long and narrow bearing flat nails. The digital formula is $3 > 4 > 2 > 5 > 1$.

Cranium is small in comparison to the enormous facial portion. Supraorbital torus is absent. Forehead is rounded, Nasal bones are fused together and very small in size. Mastoid

and glenoid processes are not developed. Postglenoid tubercle is well developed. Glenoid fossa is shallow. Average cranial capacity for male is 416 c.c. Mandible is very big and projected. Chin is absent.

Among the orangutans sexual dimorphism is observed. The males are much bigger than the females. The male canines are big, sharp and tusk-like.

Gorilla

Gorillas are found in the equatorial region of West Central Africa. They are divided into two subspecies : lowland or coastal gorilla occupying the west central coast and mountain or eastern gorilla living in the highlands of central Africa. Their habitats are of different kinds, like low rain forests, bamboo forests, mountain forests, woodlands and open mountain slopes.

The coastal gorillas are the largest in size of all the primates. A full-grown adult male stands about 1.8 metre tall and weighs about 200 kg.



Fig. 3.8 Gorilla

Though like the other apes, the gorillas are also called brachiators, their normal locomotion is not brachiation. They usually walk with all the fours. They rarely walk bipedally on the ground. However, they spend considerable part of the day time in more or less erect position. In time of chest-beating they stand almost erect. They are terrestrial animals, but they build their nests for sleeping in the trees. The young and females do more tree-climbing than the males.

Gorillas look ferocious and aggressive especially when they do chest-beating, which however, is a part of their ritual behaviours on different occasions. Actually they are gentle and peaceful. Gorillas live in groups of around 5 to 30. The dominant male member is the leader of the group. He is usually silver backed, which is because of aging. Many young adult males are forced to live alone, because among them the sex-ratio is about one male to two females. The females always give motherly protection to the youngs. Gorillas are vegetarian. They live on leaves, roots, bamboo shoots, vegetables, fruits, etc.

The forelimbs of the gorillas are considerably longer than the hind limbs, which are robust. Their hands are comparable to that of man in the sense that the thumb is more developed and fingers are shorter and broader than in the other apes. The feet, though are adopted to arboreal habit, appear to resemble human foot. Great toe is opposable.

Facial portion of the skull is of enormous size; cranium is smaller. Jaw and face are projected forward. Supraorbital ridges are very thick and form a torus. Forehead is low. Nasal bridge is slightly elevated; nasal root is low and flat. Sagittal crest is marked. Jaw is very strong. Canines are large and sharp.

Pan (Chimpanzee)

Tropical forests of Africa is the homeland of the chimpanzees. Their habitats include varieties of environmental settings, mountains, woodlands, rain forests, etc. The chimpanzees are divided into four subspecies or varieties, each occupying different geographical regions. One of the varieties is commonly known as bald headed. One as Pygmy and other two as common chimpanzees.

In anatomical traits the chimpanzees are more or less similar to the gorilla. But the former is much smaller in size than the latter. Chimpanzees are more active and noisy. Their diet is mostly vegetarian, but occasionally they eat ants, meat and fish also. It is reported that chimpanzees can use tool. They pick up small pieces of grass or twigs and prepare a some sort of tool, which they poke into termite nests to catch termites and eat the same. They live in groups. Reports vary

as regard the sizes of groups. According to one report there are 2 to 48 members in one group; while according to another it is around 8, somewhat smaller than that of gorillas. A group moves from place to place in search of food. A group is, however, not rigidly well-organised. The dominance of hierarchy is also not strong. Among them grooming is more than in gorillas.

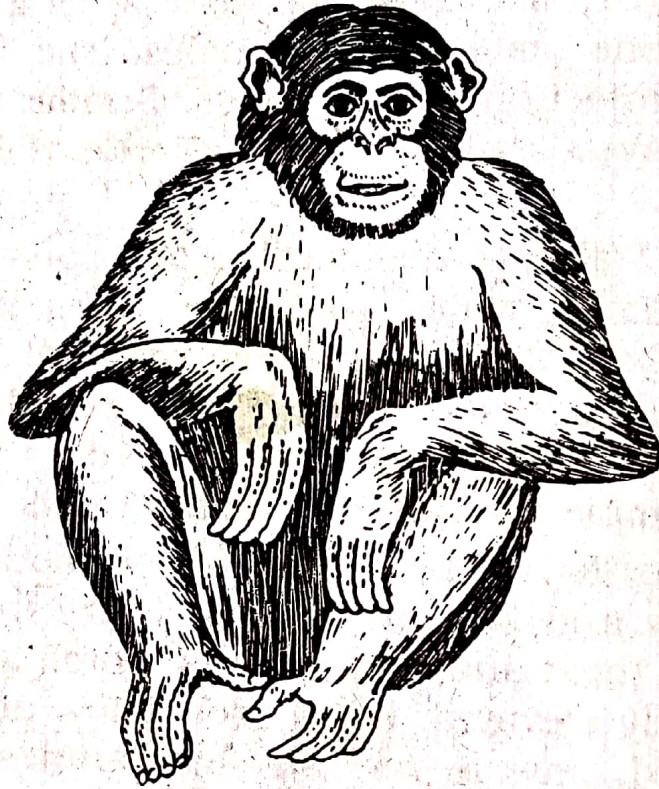


Fig. 3.9 Chimpanzee

Like gorillas they also move quadrupedally on the ground. Often they stand on their hind limbs. But very rarely they walk bipedally. In the trees chimpanzees swing for short distances using their arms. They can use their hands for various purposes like holding, grooming, building nests and using tools. The hands are long and narrow with opposable thumbs. The feet are also long and narrow, and are used for holding purposes as well. Long, coarse, shaggy hairs cover the body somewhat sparsely. Skin colour is somewhat variable.

Cranium with a cranial capacity of about 40 c.c. is larger than the facial portion. Supraorbital ridges are prominent and continuous to form torus, though not so massive as in gorillas. Nasal bones are small and fused. Jaw is strong with a forward projection. Canines are sharp, large and pointed.

N.B. The skull of chimpanzee may be distinguished from that of gorilla by its size. Chimpanzee's skull is smaller than gorilla skull. In chimpanzee the cranium is relatively bigger. In chimpanzee supraorbital ridges are continuous, while those are discontinuous in orangutan and by that one is distinguishable from the other. Chimpanzee skull differs from gibbon skull by its absolutely large size.

The skull of gorilla is much bigger than that of gibbon. In orangutan the mandible is much larger in relation to the skull, the supraorbital ridges are discontinuous and the face is sinognathous, and by these orangutan skull is distinguishable from gorilla skull.

Orangutan skull is much bigger than gibbon skull. Therefore, by the size itself the skull of gibbon is easily distinguishable from that of chimpanzee and gorilla.

Hominidae