

1. of prehensile
action of hand,
namely,



1. First-Order Behaviour:

(i) Habitat:

Habitat of the primates varies. Some primates like marmoset, slow loris, lemur, spider monkey, and gibbon are arboreal, that is, they habitually live in trees. On the other hand, gorillas are terrestrial. They live on the ground. A large number of primates are semi terrestrial. They spend sometime on the ground, sometime in tree. Such primates are mandrill, macaque, baboon, chimpanzee, etc.

(ii) Locomotion:

According to some anthropologists there are four main patterns of locomotion among the primates. These are: vertical clinging and leaping, brachiation, quadrupedalism and bipedalism. Others want to make it five, like, brachiation, semibrachiation, knuckle-walking, plantigrade, quadrupedal and bipedal. Some prosimians (lemur and tarsier) have the habit of vertical clinging and leaping. The gibbons are true brachiator. They use only arms to swing through the trees.

The gorilla, chimpanzee and orangutan are not true brachiator, but are modified or semibrachiator. In them though arms play major role in locomotion, yet sometimes they are to get support from the legs as well. They may be called knuckle-walker. Because when they move on the ground, their knuckle support parts of the weight of the body. Many primates use all four limbs for locomotion. This is called quadrupedalism. Many New World monkeys, some Old World monkeys, and lemurs have this habit of locomotion on different occasions. Macaque, baboon, mandrill, etc.

, walk on four limbs. Man is the only primate who can walk on two (bipedal) with completely erect posture, though occasionally some other primates also walk on their hind limbs, but not in perfect erect posture.

(iii) Hand:

The primate hands are prehensile. Prehension involves two Things, one, how a hand reaches for an object to hold it, and the other, the position of the hand when it holds the object. Again, as has been identified by J. R. Napier, there are two kinds of prehensile action of hand, namely, the power grip and the precision grip. By the fist it is meant that the hand must hold the object exerting maximum pressure on it so that it is not displaced while using.

The precision grip gives the maximum accuracy of controlling the object to use. The human hand combines these two basic grips in all prehensile movements of hand. The hands of primates show a wide range of variation (Fig. 2. 12). This has happened in course of development under the influence of mode of locomotion and method of feeding.

Social habits are also associated with it. Napier has divided primate hands into three categories on the basis of function. These are: convergent, prehensile with pseudo-opposable thumb, and prehensile with opposable thumb. Man has opposable thumb. He has good control not only of the hand as a whole, but also of each digit.

The human hand has become such skillful biological organ through natural selection. Napier is of opinion that man developed this kind of hand from his terrestrial ancestor rather than arboreal one.

(iv) Dietary Habit:

According to dietary habit the primates can be classified into four groups, namely, folivore (leaf-eater), frugivore (fruit-eater), insectivore (insect-eater) and omnivore (everything-eater). Some want to make one more group by the name granivore (grain and seed-eater) but others like to include it in frugivore. In this connection it should be noted that diet influences the structure of teeth.

Teeth are adapted to dietary habits. Teeth vary in shape and size, and accordingly they perform different functions. It has already been mentioned that primate teeth are adapted for mixed food. The teeth are distinguished into incisor, canine and molar to serve different functions. The incisors used to seize and cut food. The canines are used to grip food. Moreover, it holds food in mouth while chewing.

Molar are provided with cusps. That helps in grinding and cutting food. It is not always easy to categorically say which primate is leaf-eater, which one is fruit-eater or insect-eater and so forth.

Because, for example, the lemurs live on insects, fruits, leaves, nuts, eggs, etc. The marmosets, gibbons, etc., also eat these items.

The diet of orangutans, gorillas, etc., however, consists of fruits, leaves, shoots, etc. The langurs, colobus monkeys are mostly leaf-eater. Again macaque, baboon, chimpanzee, etc., may be called omnivore. Humans also eat everything.

(v) Period of Activity:

On the basis of period of activity we get two types of primates: nocturnal and diurnal. Most of the primates are diurnal.

But tarsiers and most of the lemurs are nocturnal, that is, they move out and carry their activities at night. 2. Second order Behaviour: Social behaviour encompasses interrelationships between individuals and between populations.

‘ Various primates are organized in different ways to perform certain specific duties. Social relations among them vary according to sex, age, dominance, etc. Socialization starts through the mother- infant relationship, interaction among individuals of the same age-group and so forth.

(i) Mother-infant Relationship:

First let us discuss mother-infant relationship or child rearing. In primates gestation period is long (lemur 18 weeks; macaque 25 weeks; gibbon 30 weeks; chimpanzee 34 weeks). Duration of infancy stage also increases from lemur (6 months) to macaque (1 year and 6 months), gibbon (2 years) and chimpanzee (3 years). Thus, prolonged child care appears to be a common feature among the primates.

Schultz has said that ‘ child dependency increases from prosimian to monkey and then to ape’. This increase indicates longer period needed by the infants to learn. During this period infants remain very close to their mothers because they are totally dependent on their mothers for food, protection and

even movement. This is a very crucial period for the infants as well as primate societies.

Infants are nourished by mother's milk. In time other kinds of food are provided. At the same time they gradually learn the food habits of the group. Not only that, they start observing the other activities also. Infants cling to the abdominal part of their mothers as the mothers move from place to place. However, they are carried by their mothers in other ways also. Mothers take all care for protection of their infants. Though the mother is the central figure, child rearing may be regarded as a group activity also, because other adult females also are involved in it.

In some primates the males also take part in looking after the infants.

(ii) Relation with Others:

As they cross the infant stage and enter into juvenile stage; occasionally they leave the company of their mothers and go around to see things themselves. They observe the activities of the adults and thereby learn where they may go, which they are to avoid, what animals are considered to be their enemies and similar other things. Besides, they play among the members of their age-group as well as with their mothers. Play may be regarded as an adaptive function. This helps in socialization also. Through play they learn many things, e. g.

, the strength of their mates, to interact with their mates, to integrate into the group, to judge the rank of their mother, etc. Mothers play with them in such a manner so that they can learn something through that. For example,

they learn to hang from a tree, to swing back and forth, to judge their strength, to improve the power of coordination, etc.

It is not that in primate societies one learns everything from his mother. The society or the group also conveys a wide range of collective wisdom to the offspring enabling them to survive.

(iii) Classification of Primate Groups:

There are five fold classifications of primates given below.

Some anthropologists have identified three major groups, namely, single pair of adults as seen among gibbons, seaman's, etc.; one-male group represented by some lingers, hamadryad baboons, gelada baboons, patas monkeys, etc.; and, multi-male group as found among lingers, baboons, macaques, most New World monkeys, etc.

Others have preferred five-fold classification. Solitary pattern, in which the spheres of activity of adult males and females are not the same. They do not interact often. Family group consists of an adult pair and their young offspring unmake group, which may again be divided into two. In one, an adult male constantly lives with a group of females and young, while in the other an adult male keeps periodic contact. Multimale group in which several adult males, females, and young live together. Again, according to another five grade classification, groups are arranged from solitary individuals to large group led by a single male.

There are other classifications also. A group live in its own home range.

Rarely do they intrude into other's territory. Miller and Weitz have offered a

social classification system of primates based on several ecological factors: environment, diet and period of activity. Taking into account the period of activity they have made two categories: Nocturnal and Diurnal. Nocturnal primates include abnormal insect-eaters. They lead solitary life. On approach of predators they flee away.

Though each has a small home range, occasionally home ranges appear to overlap. Diurnal primates comprise arboreal leaf-eaters, arboreal omnivores, semi terrestrial leaf-eaters, semi terrestrial omnivores and terrestrial arid-country primates. As the names imply the groups live under different environmental conditions and have different dietary habits. Many other habits also show a wide range of variation.

One important aspect of social organization of the primates is dominance hierarchy. In a group there is a leader and other members have their respective status. To each rank some activities are assigned. This arrangement helps to maintain cohesiveness of the group. Unlike human, the primates do not indulge in sexual activity any time. The females experience a period of heat, known as estrus, when they attract males.

During this period some primates emit smell, others change appearance of particular part of the body. This is done by production of certain hormones. In general, the males are more aggressive and dominant than the females. Different methods are used by the primates to communicate with each other. Following Miller and Weitz these may be grouped under four major categories, namely, olfactory communication, tactile communications, visual

signals and auditory signals. Olfactory communication system is more prevalent among the prosimians.

Spread of urine or feces, rubbing of secretion of glands, etc., are different methods of olfactory communication. Communication between mother and infant is usually carried on by tactile method. Embracing, kissing, caressing, etc.

, are included in this method. Different postures of body, movements of head, positions of tail, swelling of sexual organs, etc., are some of the visual signals used by the primates. Primate auditory signals include beating of chest, shaking of branch of tree, slapping on grounds, etc.