

THE TAIL AND ITS DISPLAY BEHAVIOUR IN THE GOLDEN LANGUR,
PRESBYTIS GEEI KHAJURIA

R. P. MUKHERJEE AND S. S. SAHA

Zoological Survey of India, Calcutta

ABSTRACT

The paper describes the difference in the structure of the tail between the adult male and adult female in the Golden langur. The subterminal part is more bushy in adult male than adult female.

In vertebrates, the tail movement is functionally a part of the activity of the trunk muscles. Tail elevation represents a local exaggeration of increased tonus in the anti-gravity muscles of the back, and the lateral movement represents contraction of the longissimus muscles. In the terrestrial mammals, however, trunk undulations are no longer part of normal locomotion, and tail elevation is more widespread than tail waving (Andrew, 1964).

Different species of monkeys of the genus *Cercopithecus* are readily distinguishable during locomotion by their tail position (Haddow, 1952). In the Common Langur, *Presbytis entellus* (Dufresne) (Fig. 1E) also, tail display provides clue for differentiation between the northern and southern populations in India (Jay, 1965). Again, in the Rhesus Monkey, *Macaca mulatta* (Zimmermann), tail carriage is correlated with dominance (Ojha, 1974). Social hierarchy in order of dominance of individuals in a group exists in the Rhesus Monkey, the apex of the social pyramid being invariably occu-

ried by a male commonly known as the dominant male. Unlike in the langurs, in which a normal bisexual group has generally one adult male, the question of retention of the dominant position arises only when some of the subadult male members of the group become adult, or an outsider challenges the position of the leader in the established group. Despite this, the display of various organs that establish communication among the individuals is also exhibited in the langurs. From the structural modifications such as larger canines and bigger size, and other secondary sex characters, namely, modification of colour pattern in the anogenital region including the scrotal sac, the adult male in the group can readily be recognised in langurs. But in the Golden Langur, *Presbytis geei* Khajuria, the display of the anogenital region, particularly the scrotal sac, is apparently obscured due to luxuriant growth of its hair. Again, unlike in other langurs, the colour differentiation of that region is altogether absent.

Variations in the tails of primates (Fig. 1)

may be correlated with the habits of the animals. In the restricted ecozone in the canopy of the dense tropical forests and for arboreal habits, the tail in certain species of primates serves as an important organ for visual communication. The suspended tail serves best as a display organ amidst the thick foliage when the animal is on the

is present in the species of *Colobus* (Fig. 1B) in the African region. In the Indian sub-region, a beautiful tuft is present in the Liontail Macaque, *Macaca silenus* (Linnaeus) (Fig. 1A), and we have observed the tassel formation at the tail tip to a certain degree in the Golden Langur as well as in the Capped Langur, *Presbytis pileatus* (Blyth)

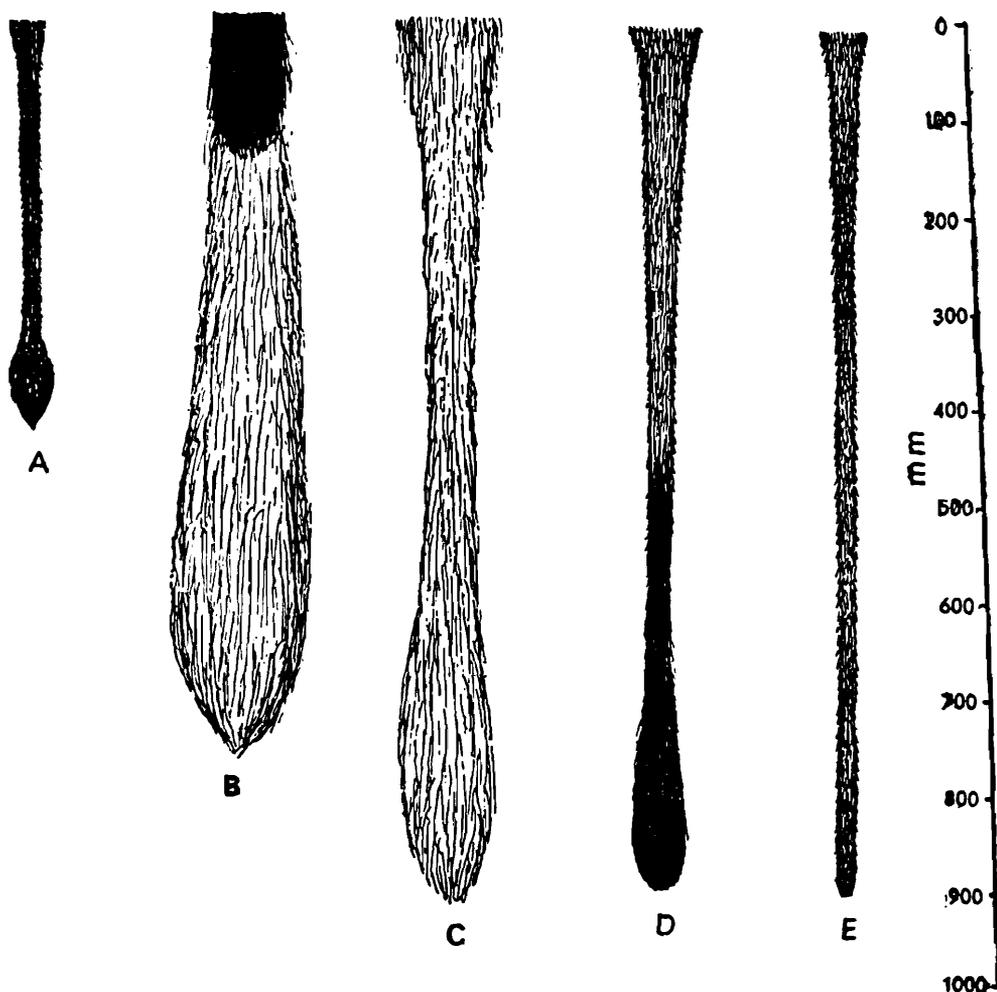


Fig. 1 (A-E) Diagrammatic representation of the tails of some primates. A—*Macaca silenus*, B—*Colobus polycomos*, C—*Presbytis geei*, D—*Presbytis pileatus*, E—*Presbytis entellus*.

branch of tree. Modification of the tail structure, as an efficient display organ of the following species of primates, is apparently correlated with their arboreal habits.

Formation of tassel and tuft at the tail tip has been a feature of certain species. A big tassel along the free end of the tail

(Fig. 1D). In the Golden Langur (Fig. 1C), the thick and bushy tail arises at the coccyx and tapers for a few centimetres; it is then uniformly cylindrical throughout until the subterminal part, where it again thickens to form a small swollen tassel. In adult males, the tassel is larger and thicker than in adult females. This feature is

more pronounced in the adult males of Golden Langur than the Capped Langur. It may be interesting to note that under the genus *Presbytis* this characteristic feature is pronounced only in these two parapetric species, namely, the Golden Langur and the Capped Langur in India. These two species can be differentiated, to a certain extent, from the mode of display of their tail, that is, from the tail carriage itself besides other morphological characters. In Capped Langur the tail is elevated more than Golden Langur in locomotion and the tail is not so bushy and the tassel is not so developed as in Golden Langur. Moreover, this langur has a thorough control over its tail, suggesting a highly increased tonus in the antigravity muscles of the back. This, thus reflects its locomotory habits as an admixture of terrestrial and arboreal movements. In the Golden Langur, on the other hand, the tail display is tail waving, an unfamiliar mammalian display on land, suggesting the longissimus contraction. It thus, reflects its habits being restricted to arboreal movements. This langur has apparently no control over its tail in so far as no loop formation has ever been observed, and the tail is passively tossed sidewise during locomotion. One of us (R. P. M.) had an opportunity to observe a Golden Langur troop on the ground in the Sakosh river bed at Jamduar in Assam. Unlike in *P. entellus*, where the tail is carried above the ground, in Golden Langur the tail hangs down (Pl. V) while the monkeys are moving on the ground. Adherence to arboreal habits has been observed in the free ranging groups of the Golden

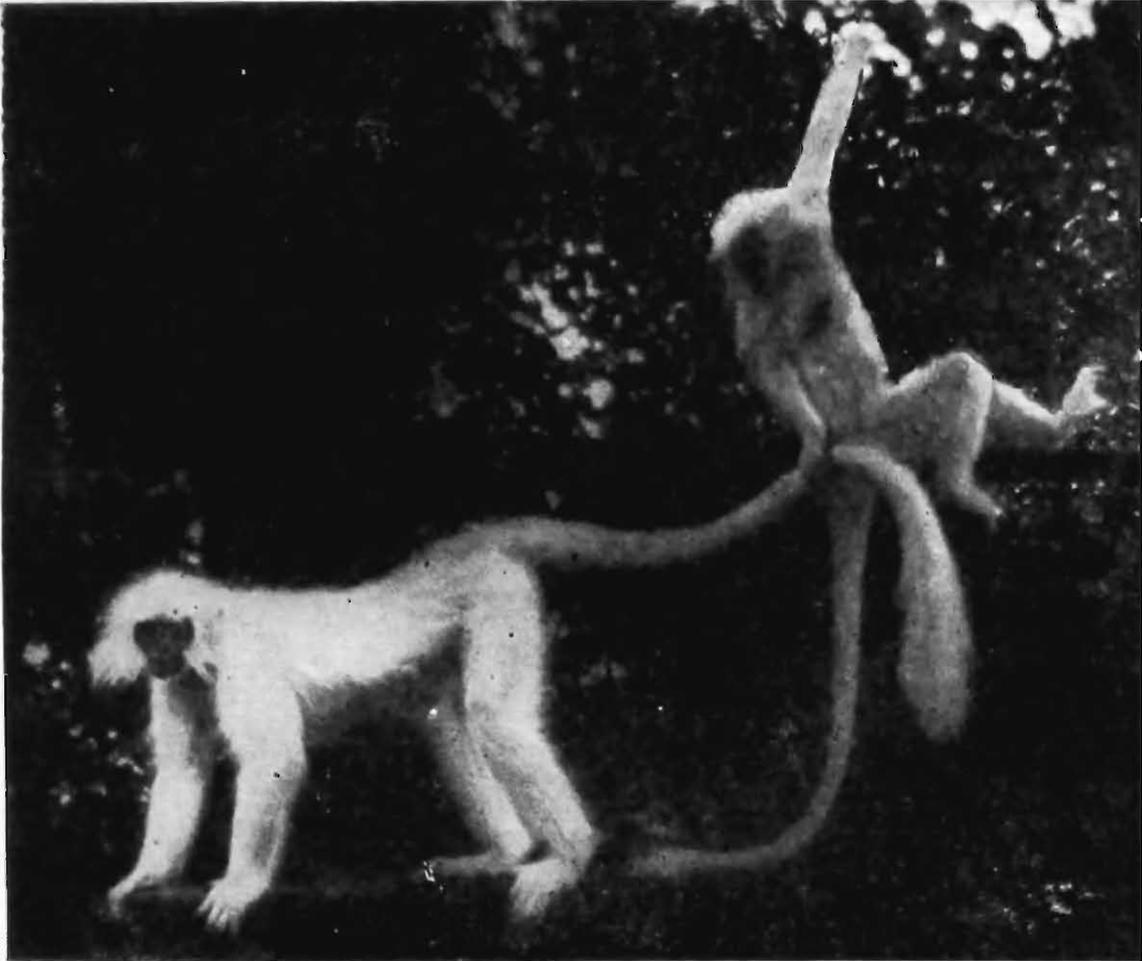
Langur (Mukherjee and Saha, 1974). The tail carriage during locomotion in the horizontal plane in this species has been observed as a clumsy affair, and while jumping through a wide gap from one branch to another, the tail has been found as if to follow the animal as a flying appendage.

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Presbytis geei Khajuria

Note the thick tassel in the tail of the adult male (standing) held playfully by the adult female. The tassel tail of the female (lying horizontally on the platform) is not as thick.