

WISSENSCHAFTLICHE KURZMITTEILUNGEN

Observations on a remarkable association of the rhesus monkey (*Macaca mulatta villosa*) with the Himalayan langur (*Presbytis entellus schistaceus*) in the Kumaun Himalayas, India

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The ethology of Indian primates in the wild is still little known, specially with regard to the behaviour between two different generic groups. During the course of observations on the ecology of high altitude wild mammals the authors had the unique opportunity to observe and record a remarkable close association between the Himalayan langur (*Presbytis entellus schistaceus*) and the Indian rhesus monkey (*Macaca mulatta villosa*).

Presbytis e. schistaceus is the long-limbed, long-tailed (60–75 cms high, tail 90–100 cms) primate with a weight of 16–21 kg. The Himalayan race has a heavier coat of hair and is longer whiskered than the plains race, *P. entellus entellus*. The head is almost white and face black. The body colour is pale grey in Kumaun langurs and the hands and feet are grey, and not black as in *Presbytis e. entellus*. The winter coat in Himalayan forms is more luxuriant than in summer. The males can be distinguished from the females by their much larger size, and copious long hair above the eyebrows, forming a bonnet-like structure.

Macaca mulatta villosa, the thick-set, short tailed squat rhesus monkey of Himalayan foot hills is almost 60 cms high and weighs from 6–8 kg. The general body colour is brown, while the hairs on the head radiate backwards from the forehead. The loins and rump callosities are orange-red and the winter coat is thick.

A large troupe of the langurs and a small one of rhesus monkeys was observed near Hanumangarhi hill, Nainital (in the first week of September, 1978), to consort together as one group in a remarkable manner. There were 22 langurs of various ages and sizes, while the rhesus monkeys were only eight in number. The troupe of langurs consisted of two large males, two groups of eight adult females and younger langurs of different age groups, there being four baby-langurs in the group. The eight rhesus monkey's group was made up of one large male (the leader), two large females, three smaller females and two baby monkeys.

They were romping about in a ravine, at a height of about 2000 m situated between two stands of mixed oaks, firs, cypresses and conifers. To our utter amazement one large female langur was moving about on the ground, breast feeding a tiny rhesus baby of a dark brown colour with a short tail. While another rhesus baby was riding piggy-back on a medium sized male langur.

The two large male langurs took up position, one on each side of the ravine, each on a high boulder, as soon as they espied us. The females and younger langurs took to the trees and bounded about from branch to branch. But the large ones remained on the ground rocks, together with the rhesus monkeys, feeling quite safe even when we approached them close to fifty metres. The baby rhesus maintained their positions, one under the breast of an adult

female langur and the other fantastically piggy-back on a younger male. Four half grown baby langurs accompanied their mothers, who moved leisurely to the foot of a tall tree.

However, the large male rhesus (very large for the species) ran up the slope and took up the guard position on a rock. Thus the whole troupe appeared guarded by three sentinels—two on the sides and one up behind the group.

On approaching still nearer one male sentinel langur gave a sharp guttural note, at which all the langurs (with the two baby rhesus on them) bolted up the trees on the sides of the ravine and bounded from tree to tree. The rhesus monkeys on the other hand moved slowly (but in alert condition) to the nearest trees, and climbing up about 3 metres above ground, sat watching us closely. The large male rhesus, however, did not move from its sentinel position. The entire action described above took hardly twenty minutes.

On our receding from the scene, the large male rhesus descended from its high perch and started peeping into cervices of the boulders and rocks and tree-roots, as it was doing before we disturbed them. The langurs and rhesus monkeys also came down to the lower branches of the trees, and busied themselves eating up the new fruits, leaves and buds around them.

A most hazardous and important impact on man of this close association between langurs and rhesus monkeys is the serious health hazard posed by disease transfer from animals to man (HULL 1955). The disease called 'K F D' (Kysanur Forest Disease) which causes high mortality in both wild primates and man is caused by a virus (K F D virus) for which the main vectors are ticks (haematophagous arthropods). The wild primates (specially langurs) are the reservoirs. The close association observed above would cause tick transfer from langurs to monkeys and then to man (since rhesus are always associated with man sometime or other). Thus a chain of virus infections arises from wild langurs to man.

The amazing feature in our observations was the 'at home' congenial atmosphere between the two groups of primates of different genera. This close association appeared to be of mutual benefit, veering to commensalism (food sharing), a remarkable sight not observed by the authors in their long experience of mammals of high altitudes from Kashmir to Nepal. The mutual benefits of this association appear to be: the langurs keeping a tree top watch, and giving warning call at danger; the rhesus keeping a ground watch, specially for snakes and prowling carnivores; the safety offered to langurs by the rhesus from harm by man, as it is venerated and not harmed by man; langurs drop food from trees for the rhesus, while the rhesus pull out edible roots, herbs, and plants, from rock crevices for the langurs who cannot find them easily among the rocks.

This extremely remarkable co-operation in danger and commensalism and even in community suckling of babies between two different genera of primates, appears to be a unique phenomena in the wildlife of the Kumaun Himalayas not recorded anywhere in literature, except for some records of consortment (without any mention of commensalism, inter-generic sucking and baby carrying) (PRATER 1961; GEE 1969).

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