

# husbandry and research

## A further note on the behaviour of semi-free ranging squirrel monkeys

*Saimiri sciureus*

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Further observations of the colony of squirrel monkeys *Saimiri sciureus* at Monkey Jungle, which I have already described (DuMond, 1967), have made it necessary to modify my account of the behaviour of the male squirrel monkey.

My original observations were conducted during May, June and July 1966 when the apparent lack of a male dominance hierarchy was recorded. Investigations conducted over the remainder of the 13 month period up to and including June 1967 showed that, while my findings were correct for the duration of the birth season (June, July and August), during the mating season (December, January and February) the behaviour of the adult male changes considerably. The previously retiring, non-vocal, submissive male, which was more or less excluded from the main group by aggressive females (mostly mothers), became an aggressive, volatile animal quite unlike the same animal observed some months earlier.

During the mating season a very definite dominance hierarchy was observed in the highly ritualised penile display interactions by quantitatively recording the relative roles of the adult males taking part, whereas displays are seldom seen among adult males during the non-mating, birth season. This dominance structure seems somewhat superficial, however, and seems to be overtly expressed primarily while the males are in display interactions. During food competition or sexual interactions dominance is difficult to assess.

The social behaviour of the *Saimiri* has a dynamic quality to it. The relationships between individuals and between the various subgroups in the troop (Mother group, Juvenile group, Adult male group, etc.) change continually as the animals go through the various phases of the socio-sexual cycle. During this cyclical sequence all or most of the animals in each subgroup are

simultaneously involved in the particular phase applicable to it at rather discreet and predictable periods of the year.

In conjunction with these behavioural dynamics we found that the male *Saimiri* has a seasonal spermatogenic cycle and a seasonal acquisition and loss of what appears to be a secondary sexual characteristic which has been termed the 'fatted' condition (DuMond & Hutchison, 1967), in which the subcutaneous fat layer increases, giving the adult male a much heavier appearance about the shoulders and upper torso. This condition is accompanied by the behavioural changes I have mentioned.

The multiple sexual episodes described in 1967 seem to be associated more with sub-adult males; those that are full-sized but not yet socially mature and not developed enough to become fatted males. Multiple sexual episodes of a more stereotyped nature are also frequently observed among the fatted males but usually are not brought to a successful conclusion because of the disruptive influence of the other animals. The more private, single-pair matings are apparently more successful though they are not often seen.

### REFERENCES

- DUMOND, F. V. (1967). Semi-free ranging colonies of monkeys at Goulds Monkey Jungle. *Int. Zoo Yb.* 7: 202-207.  
DUMOND, F. V. & HUTCHISON, T. C. (1967): Squirrel monkey reproduction: The 'fatted' male phenomenon and seasonal spermatogenesis. *Science, N.Y.* 158: 1467-1470.

### FOOTNOTE

A more comprehensive account of squirrel monkey behaviour will appear in 'The Squirrel Monkey in a Seminatual Environment' by F. V. DuMond in the book, *The Squirrel Monkey*, edited by L. Rosenbloom and R. W. Cooper, Academic Press, New York (in press).