The Social Behavior of a Marmoset (Saguinus fuscicollis) Group
II: Behavior Patterns and Social Interaction

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ABSTRACT. The behavioral patterns and social interaction of a marmoset (Saguinus fuscicollis) group in a semi-naturalistic environment were observed for 14 months. The analysis showed that, of the 32 behavior patterns observed, the 10 most frequent accounted for over 97 per cent of the total behavior. One pattern, sit and look, accounted for 44 per cent of the total behavior. The two most frequent social behavior patterns, grooming and social play, were concentrated in different parts of the group. The focal point of grooming was the adult female; social play was characteristic of younger animals 4-20 months of age. These results were compared with other studies of marmosets and with primate studies on grooming and social play.

INTRODUCTION

Among the smallest in size of the true primates are the marmosets and tamarins, members of the New World monkey family Callithricidae. For this and other reasons, marmosets have become increasingly popular as laboratory subjects for behavioral and biomedical research. (Following the classification of HERSCHKOVITZ (1968) the name “marmoset” will be used for all genera of Callithricidae.) Information on the behavior of these monkeys in the wild, however, is very limited, and the few field studies that have been done (HLADIK & HLADIK, 1969; MOYNIHAN, 1970; THORINGTON, 1968) have found it nearly impossible to gather detailed social behavior. Therefore, it has been necessary to rely upon the laboratory studies of captive groups for our picture of the behavior of marmoset monkeys. The work of EPPLE has been particularly noteworthy in the regard. Over the last 10 years, she has maintained captive groups of various marmoset species and has detailed the social structure and especially the communication patterns of these monkeys in several articles (EPPLE, 1968, 1970a, b, 1971, 1975a, b).

Our research on marmoset monkeys has been of a slightly different approach. Studying one group of saddle-backed tamarins (Saguinus fuscicollis) in a relatively large semi-naturalistic greenhouse environment, we have been concerned with the social behavior of the group over an extended period of time (VOGT, 1975; VOGT, CARLSON, & MENZEL, in press) and with the problems of group structure: What is it and how can it be completely and adequately described (VOGT, in press)? This study reports information from just one part of that larger project. The present paper is concerned with the details of behavior and their role in social interaction in a captive marmoset group in a semi-naturalistic environment.

METHOD

APPARATUS

A 10×4×3.5 m glass greenhouse served as the enclosure for the group of monkeys.
All radiators, hot water pipes, heaters, and ventilation equipment were covered with wire mesh screening. A central observation chamber was constructed of plexiglass and plywood so that all the enclosure could be seen from inside the chamber (Fig. 1).

A thermostatically controlled natural gas heater was installed in addition to the radiator heaters to help maintain the 21 degrees to 27 degrees C temperature range. Large perch trees and branches were placed throughout the area at several heights as pathways for the monkeys. Four large (2 to 3 m high) rubber trees, two banana trees, and several smaller tropical shrubs and vines were planted in the 50 cm soil base over the gravel floor during July–September 1972. All plants flourished in the warm temperature, high humidity (50% to 80%) and the "rain shower" every other day from an overhead sprinkler system. Enclosed wooden hutch boxes (30 x 25 x 25 cm) for sleeping, as well as wooden food platforms (30 x 100 cm), were placed at each end of the greenhouse. From time to time, old decayed perch branches were replaced with new ones. As the group increased in numbers, the smaller hutch boxes were replaced with larger boxes (38 x 30 x 30 cm).

SUBJECTS

The original group consisted of four saddle-backed tamarins (*Saguinus fuscicollis*) obtained from Dr. GISELA EPPEL of the University of Pennsylvania; these were an adult breeding pair with a 2-month-old female offspring and an unrelated 14-month-old male. Since 27 October, 1972, the group has been free-ranging within the greenhouse. Daily diet consisted of fruits, vegetables, dairy products, a canned food (Science Diet-Marmoset, Hill Packing Company, Topeka, Kansas 66001) containing 4000 U.S.P. units of vitamin D₃ per pound, and large amounts of insects (crickets and mealworms).

Because of severe fighting, the unrelated male *Harry*, was removed from the group on 14 September, 1973. During the study period two sets of twins were born to the adult female, *Lilly*: on 20 March, 1973, a male and a stillborn; on 20 August, 1973; two males (See Fig. 2 for data on animals and the study period).

OBSERVATION PROCEDURE

The method of data collection for the daily 30-minute afternoon observation sessions, averaging 4.5 per week, was as follows: The experimenter entered the obser-