PRIMATE STUDIES

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The general objective of this research is to develop our understanding of the biological basis for social behavior in non-human primates. To this end, a number of studies have been carried out in the last year which address this aim from several interdisciplinary perspectives.

The study subject concerns a population of wild toque macaques (Macaca sinica), which live in their natural forest habitat at Polonnaruwa. In this population over 550 macaques from 25 different social groups have been individually identified, and their social behaviors, demographic fates and kinship lineages have been traced over the past 13 years. There is, therefore, a unique and invaluable resource of information available from this population that allow us to address many basic sociobiological questions.

The fundament to these studies concerns the long-term monitoring of individual life-histories (births, deaths, emigrations and immigrations), particularly as these are influenced by certain social behaviors and environmental changes. In the last year, as in all years, on the practical side, this involved the regular updating of individual identities for all macaques in the population, the monthly censusing of all macaques in all 25 social groups, regular testing of dominance rank relations among members within groups as well as between groups, and the weighing of macaques in order to define individual differences in physical growth.

These basic monitoring researches were supplemented with studies of a narrower focus. Thus, we trapped and biomedically processed nearly 200 macaques from several groups in order to take blood samples for genetic and immunological analyses. (All macaques were released unharmed hours after trapping). The aim of this set of studies is to define the genetic structure of the population, as well as to determine paternities for young macaques. The determination of paternities is unique for any wild vertebrate population, and this new information sets the stage for future research at very frontier of sociobiological science. The immunological assays serve to define individual differences in morbidity. All demographic, growth, genetic and immunological data are tied to identified individuals of known age, sex, matrilineal kinship, social rank and history. Therefore, we are able to test for statistically significant patterns among these various interrelationships.

A student project, examining the behaviors of old-aged and of injured animals, is in the final phase of dissertation writing. One major publication appeared in print in 1987 and two more are in press. One of these papers tests several hypotheses concerning the causes of social group division, and some of these results will be reviewed in the oral presentation of this year's progress. Finally, one film was produced concerning the primate research at Polonnaruwa. The film will be distributed internationally for television.