Book Reviews

Primate Males and Infants

Primate Paternalism. DAVID MILTON TAUB, Ed. Van Nostrand Reinhold, New York, 1984. xiv, 441 pp., illus. $44. Van Nostrand Reinhold Primate Behavior and Development Series.

This volume is not exclusively concerned with paternal care in the conventional sense but is devoted specifically to the interactions between adult males and conspecific infants. The topic is of interest since attention has been recently focused on analyzing the relationship between mating systems and the relative parental investment of the sexes. Also, as the editor emphasizes, there are few published reports available that give quantitative data on interactions of primate males with infants, including paternal care. Finally, we can perhaps learn more about human parental care roles through analysis and comparison of how the males of different primate species interact with young.

This book contains 16 chapters of which ten include original data. Eight of those ten derive from studies of the genera *Macaca* (macaques) and *Papio* (baboons), and they make fascinating reading because of the diversity of approaches and results. The species differ in both the relative and the absolute frequencies of male-infant interactions, and there are also differences in the degree to which various authors interpret these interactions as male care. For example, rhesus and Japanese macaque males rarely interact with young, but when they do the activities seem to be helpful (chapters by Vessey and Meikle and by Gouzoules). By contrast, male-infant interactions in Barbary macaques are more common but are considered to be exploitative of the infant (chapter by Taub).

The differences derive, in part, from the context in which male-infant interactions occur. During observations of Barbary macaques (*Macaca sylvanus*), Deag and Crook (*Folia Primatol.* **15**, 183 [1971]) noted that subordinate males often picked up and carried infants during agonistic interactions with another male. They suggested that during these triadic interactions males were using infants to regulate social relationships and to prevent an escalation of aggression. They termed the behavior "agonistic buffering."

Triadic interactions seem most common among baboon species and Barbary macaques; authors of chapters on these taxa, however, clearly disagree on whether males are using or helping infants. And, despite sincere attempts to test hypotheses with some rigor, several authors ultimately reach conclusions that do not derive from their data analyses. Strum concludes that male anubis baboons hold infants during triadic encounters because, among other effects, it reduces tension and makes the actor "feel better." The suggestion is creative but is not supported by evidence. Strum does, however, provide a most useful comparison of the major findings from field studies of male-infant interactions in baboons. By contrast, Busse and Hamilton argue that resident male chacma baboons are protecting their offspring (or relatives) from infanticide by immigrant males during triadic interactions. There is some support for this interpretation, but the context is too restrictive and the reader must accept the assumption that infanticide by immigrant males is a common enough phenomenon to have resulted in the evolution of the behavior. I should add that this is one of the few discussions that address the issue of how male behavior might help infants.

Despite the differences between species and authors, the chapters on macaques and baboons provide some of the first real quantitative data on the age, status, and likely relatedness to the infant of males that interact with conspecific young. They describe in considerable detail the forms of these interactions and the contexts in which they occur. They examine the relationship between the "caring" male and the mother of the infant. However, among many of the Old World species discussed herein, there are described cases of individual males and infants with especially close relationships that defy explanation by analysis of available data. Also, few authors examine the infant's role in initiating and maintaining contacts with particular males or look at the effect of the sex of the infant on these phenomena, both factors that could be of importance.

Macaques and baboons, which typically live in multi-male troops and mate polygynously or promiscuously, exhibit much less paternal care (in the conventional sense) than primate species that are considered to be monogamous (or polyandrous) such as the marmosets and tamarins (Callitrichidae) from the New World and the gibbons and siamang (Hylobatidae) from the Old World. This is predicted from evolutionary theory. It is disappointing, therefore, that only one chapter with original data is devoted to a New World species with extensive paternal care (that by Cebul and Epple on the saddle-backed tamarin). Moreover, male-infant interactions in apes are only addressed in one chapter on captive chimpanzees (Davis) despite numerous recent field studies. This lack of coverage is somewhat ameliorated by several review chapters on paternal care in Old and New World primates (Vogt, Taub, and Pook), but the delay in publication of this volume (several chapters were completed in 1980 and 1981) has reduced their usefulness. Finally, there are two chapters that cover human "paternal care" (Hamilton and Lamb) and one (Kurland and Gaulin) that reviews several theoretical issues bearing on the evolution of male parental investment.

Most authors make several unstated and unproven assumptions. One is that male behavior toward infants must be helpful—if it is not shown to be harmful. Another is that males can identify their relatives and will specifically help them. Their fitness will thereby be increased through the action of kin selection. If males "care" for nonrelatives, then reciprocal altruism or a desire to breed with the infant's mother can explain the behavior. Some of these assumptions are not, but should be, discussed explicitly and predictions should be developed for testing them.

Finally, I was disappointed in the editing. Tables and figures are redundant in some places; cross-referencing is poor to nonexistent; there are too many typographical, spelling, and factual errors (for example, "callithricid," "callitrichid," and "Callithrichidae" are all used in a single chapter).

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