Sexual Behavior of Captive Orangutans

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Opposite-sex pairs of orangutans were tested for sexual behavior during the intermenstrual period of the female. The male orangutan was the primary initiator of sexual interactions and initiated copulation forcefully on a daily basis, irrespective of female resistance. However, although single copulations occurred daily, copulations beyond the first occurred most frequently during midcycle. Other evidence of cyclicity in behavior was the midcycle decrease in female avoidance of the male and increased grooming, proceptivity, and masturbation by the female. Comparative analysis suggests that differences in sexual cyclicity among the great ape species are related to interspecies differences in sexual assertiveness of males and females. Sexual activity in the cycle is relatively brief when the female controls mating, more prolonged when the male is in control. This finding in man’s closest taxonomic affiliates suggests that similar social factors may also influence the distribution of sexual interactions in the human cycle.

KEY WORDS: sexual behavior; cyclicity; orangutan; ape; primate.

INTRODUCTION

Almost 40 years ago, Yerkes (1939) proposed that studies of sexual behavior in the great apes could provide research leads and methodology, insights, and "modes of modification and control" (p. 78) that could be fruitfully applied to the study of human sexuality. In the first laboratory controlled studies on a species of great ape, Yerkes and his colleagues (Yerkes and Elder, 1936a; Yerkes, 1939; Young and Orbison, 1944) found that chimpanzees mated at all phases of the cycle. This work was supported by NSF Grant BMS 75-06287 and PHS Grant RR-00165 from NIH.


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the cycle, but most frequently during an approximately 10-day midcycle period of maximal genital swelling. The degree to which sexual activity was restricted to the midcycle phase was dependent on the social relations of the consorts, i.e., relatively more restricted when the female controlled mating and less restricted when the male was in control. Yerkes believed that periodicity in sexual behavior was a characteristic of all mammalian species, including man, and proposed that "The higher the order of behavioral adaptiveness [general intelligence] and the more dominant the male of the species, the wider the range of copulatory responsiveness in the typical sexual cycle and the greater the tendency of the female to respond accommodatingly to his advances irrespective of her sexual status" (Yerkes, 1939, p. 79). According to this hypothesis, species with relatively advanced intelligence, such as the great apes and man, should differ with respect to the degree of periodicity in sexual behavior, primarily on the basis of interspecies differences in male sexual dominance vis-à-vis the female. Studies recently conducted on gorillas (Hess, 1973; Nadler, 1975b, 1976) supported Yerkes's hypothesis. In this species, sexual interactions were controlled primarily by the female and copulation was restricted to a relatively brief 1-4 day period of the cycle.

Information on sexual behavior of orangutans is derived from observations on zoo animals as well as some sightings in the natural habitat. These limited data suggest that copulation in orangutans occurs without relation to the phase of the female's sexual cycle (Fox, 1929; Asano, 1967; Heinrichs and Dillingham, 1970; Coffey, 1972) and that the male may initiate copulation forcefully in disregard of the female's resistance (Fox, 1929; Coffey, 1972; MacKinnon, 1971, 1974; Rodman, 1973; Rijksen, 1975). The current study was conducted in a controlled laboratory setting to elucidate the characteristics of orangutan sexual interactions under conditions comparable to those in which the other apes were studied.

METHOD

Subjects

The subjects were four opposite-sex pairs of orangutans ranging in age from 16 to 19 years. Three of the pairs were of the Sumatran subspecies (Pongo pygmaeus abelii) and the fourth was Bornean (P. p. pygmaeus). All subjects were wild born but had been living in captivity for more than 10 years at the time the study was initiated. All the subjects tested had bred with each other previously; the females had been delivered of three to five infants each, and all had successfully reared at least one of their offspring. The subjects were housed alone when not being tested, in cages consisting of an indoor, tem-