Aggressive behaviour of captive Bandicota bengalensis

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Abstract. The aggressive behaviour rhythm of Bandicota bengalensis under different social conditions were studied in the laboratory. The number, intensity and duration of aggressive behaviour peaks varied depending on the number, sex and social status of the interacting conspecifics. Significantly the peaks of aggression were recorded during the dark period. In heterosexual conflicts both sexes were equally belligerent. However in male interactions with more females, the former emerged dominant always. Similarly one male dominated another in male-male encounters. Confrontation amongst several males in the presence of female indicated the existence of only alpha and omega males.

Keywords. Bandicota bengalensis; aggressive behaviour; male dominance; alpha males; omega males.

1. Introduction

Circadian rhythms of rodents have been well documented for behaviour under natural conditions (Marten 1973), for activity movement in cages and mazes (Barnett et al. 1975), for feeding and drinking (Possidente and Birnbaum 1979) and for aggressive behaviour (Landau 1975; Lerwill 1977). Desynchronization of both metabolic and behavioural rhythms of Peromyscus maniculatus occurred due to social stress (Farr and Andrews 1978). Similar dissociation of activity rhythms due to crowding has been observed by several others (Calhoun 1975; Nygren 1978). In this article we report alterations in the rhythms of aggressive behaviour of lesser bandicoot rat, Bandicota bengalensis under different social situations.

2. Material and methods

Bandicota bengalensis, weighing 200–500 g were housed singly in metal cages (35 x 35 x 50 cm) and were fed on rat and mouse feed (Hindustan Lever, India) supplemented with vitamins and vegetables once a week with ad lib supply of water. Photoperiod was regulated at 12 hr light and 12 hr darkness with the light period beginning at 0600 hours. For recording behaviour the animals were transferred to an observation chamber, details of which have been described earlier (Sridhara and Krishnamoorthy 1982). Aggressive behaviour of individual members during encounters between male-female, male-male, female-female, one male-two females and one male-three females were studied. Attempts to study agonistic behaviour in groups involving more than one male were unsuccessful as submissive males died within 24 hr after being grouped with dominant males. One member of the pair/male in pair/group combination was restricted to one portion of the chamber with the other portion housing the
Figures 1-5. Each histogram represents the oscillation of an interacting individual in the cage over a 24 hr period.