

AN AGGRESSIVE INTERACTION BETWEEN TWO FEMALE *Proechimys* sp (Rodentia: Echimyidae)

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Proechimys are nocturnal, medium-size rats that commonly inhabit rain forests throughout South America and are frequently found near buildings (Emmons 1997), open areas and water (Nowak and Paradiso 1983). They generally occupy natural cavities beneath tree roots or among rocks (Nowak and Paradiso 1983), and breeding may occur throughout the year (Emmons 1997, Nowak and Paradiso 1983). Their diet mainly consists of fruit, seeds, and fungi (Emmons 1982), and they utilize areas ranging from 0.15 ha to 1.7 ha (Emmons 1982).

Little is known about the behavior of *Proechimys*, although a few studies have been conducted on animals in captivity (Maliniak and Eisenberg 1971), and little has been published on the ecology of the Amazonian species (Emmons 1982). I report here observations of an extended agonistic interaction between two female *Proechimys* sp, identified to genera by L. H. Emmons (pers. comm.), and tentatively identified to species as *P. simonsi* Thomas (1900).

The rats were engaged in what appeared to be a fight, very similar to a boxing match, in which the animals punched, pushed, and threw one another. On 29 Sept. 1993, between 05:20 and 05:30 am, the two female *Proechimys* sp were observed quietly interacting aggressively on a small, bare patch of ground at the edge of Cocha Cashu, an oxbow lake adjacent to the Cocha Cashu Biological Station, Manu National Park, Madre de Dios, Peru. The site is described in Gentry (1990). This behavior was filmed with a video recorder (Sony Hi-8), and analyzed with a vcr editor (Hi-8 vs-3000).

Through examination of the video, I identified a number of independent behaviors that recurred throughout the entire interaction. These behaviors were performed standing erect on their hindlimbs. Such behaviors included: (1) the rats standing perpendicular to the ground, their head and snouts pointed vertically in the air with their chests pushed out; not touching one another, (2) lunging and leaping toward the other or sideways, (3) forelimb movement including punching, grabbing, pulling, and pushing, (4) one forelimb of each rat locked together with one free to hit or push (Fig. 1a), or both forelimbs locked pushing and shoving one another back and forth (Fig. 1b), and (5) throwing or flipping one another. Individual elements of throws consisted of locked forelimbs, with one female (the aggressor) lunging toward the other (the victim) until the victim is completely vertical. The aggressor

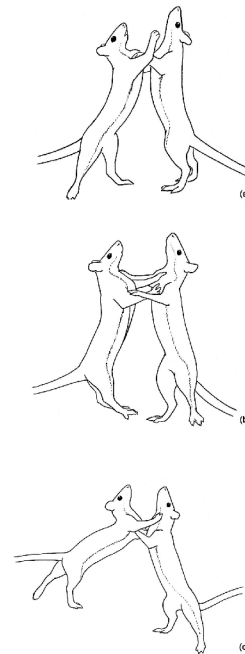


Figure 1. Aggressive interaction between two female *Proechimys*.

then forcefully pushed the victim back, until it was thrown up into the air, and it fell and landed on its back. Flips occurred

when both animals were standing erect with locked forelimbs. The aggressor pushed the victim back and then lunged toward her (Fig. 1c). With forelimbs still locked, the victim lifted and actively flipped the aggressor over her head, causing the aggressor to somersault through the air, and land on its back.

This agonistic behavior was observed for 10 min, until a loud sound frightened the rats, which scurried up the bank. One disappeared toward one of the buildings; the other went into a hole amongst tree roots just above the bank.

The interaction observed may have been a territorial dispute. Toward the end of September, first light is usually

around 05:15 hrs and this dispute may have begun just before dawn when the rats intercepted each other as they approached the same burrow. In the wild, burrows of *P. semispinosus* (Tomes 1860) are defended against adults of the same sex; neighboring home ranges, however, overlap (Maliniak and Eisenberg 1971). Aggression similar to that reported here for the female *Proechymis* sp has been observed in *P. semispinosus* in captivity. The animals stand erect on their hind limbs and vigorously strike one another with their forelimbs (Maliniak and Eisenberg 1971). Rapid escape leaps also occur when one animal is dominated (Maliniak and Eisenberg 1971). In contrast, leaps that occurred throughout this interaction, were directed toward rather than away from, the opposing rat. Other jousting behaviors have been observed in captive red spiny rats (*Maxomys surifer*) (Sokolov *et al.* 1993), wild Central American agoutis (*Dasyprocta punctata*) (Smythe 1978), wild rabbits (*Oryctolagus cuniculus*) (Southern 1948), and brown hares (*Lepus europaeus*) (Grass 2000).

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