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Cover Photo: Dr. Lynn Margulis, Symposium Keynote Speaker, describes the structure and ecology of living stromatolites. Some, visible as grayish mounds near her feet, line the shore of Storrs Lake whereas others occur farther out in deep water. (See paper by D. C. Edwards, this volume).

Back Cover Photo: Group photo of the 6th Symposium participants and speakers.

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STUDY OF RATS ON SAN SALVADOR ISLAND, BAHAMAS

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ABSTRACT

In March 1995, two rats were live-trapped along the Hard Bargain Trail, 1.6km from its beginning at the eastern side of the island. One additional rat was caught in Bernie's Cave near the Polly Hill settlement. We believe these to be *Rattus rattus*, the black rat, based on the ratio of tail lengths to head and body lengths. These rats seem to be smaller and lighter in color than what has been described for this species in the West Indies. Further study may reveal that evolutionary changes have occurred in the species while in isolation on San Salvador Island. No evidence for the existence of the Bahamian hutia on San Salvador was found in this study.

INTRODUCTION

The only species of mammals reported from San Salvador Island, other than five species of bats (Andersen, 1994), are rats and mice. These rodents are assumed to be the introduced Old World Genera, *Rattus* and *Mus*. However, we have found no definitive studies of these rodents on San Salvador Island in the literature. A live Bahamian hutia (*Geocapromys ingrahami*) has never been reported on San Salvador, but remains have been found in archaeological sites (Olson, Pregill and Hilgartner, 1990).

After the cutting of Hard Bargain Trail into the interior of the island, the sighting of small mammals was reported by persons hiking

the trail. The mammals appeared to be rat-like, but some reports were of a larger mammal, perhaps the hutia. This paper reports the first collection of mammals along this trail.

MATERIALS AND METHODS

On 19 March 1995, 21 Tomahawk live traps were set along the Hard Bargain Trail, 1.6km from its beginning on the east side of the Island and just beyond the 60 foot hill (Figure 1, HB). We also set several traps inside Bernie's Cave at the Polly Hill Settlement (Figure 1, B). The traps were left overnight and checked on the morning of 20 March. No mouse-sized traps were set.

RESULTS AND DISCUSSION

Two adult male rats were caught in the traps along the Hard Bargain Trail (Figures 2 and 3). One rat had a body mass of 165g, a head and body length of 160mm, and a tail length of 200mm. The other rat had a body mass of 139g, a head and body length of 140mm, and a tail length of 190mm. A single male rat was caught inside Bernie's Cave. This specimen had a body mass of 147g, a head and body tail length of 160mm, and a tail length of 200mm. The color of all three rats was brown with some reddish color on the anterior portion of the back; the undersides were light gray to almost white in color. One rat, when released, ran up a tree with agility indicating that these

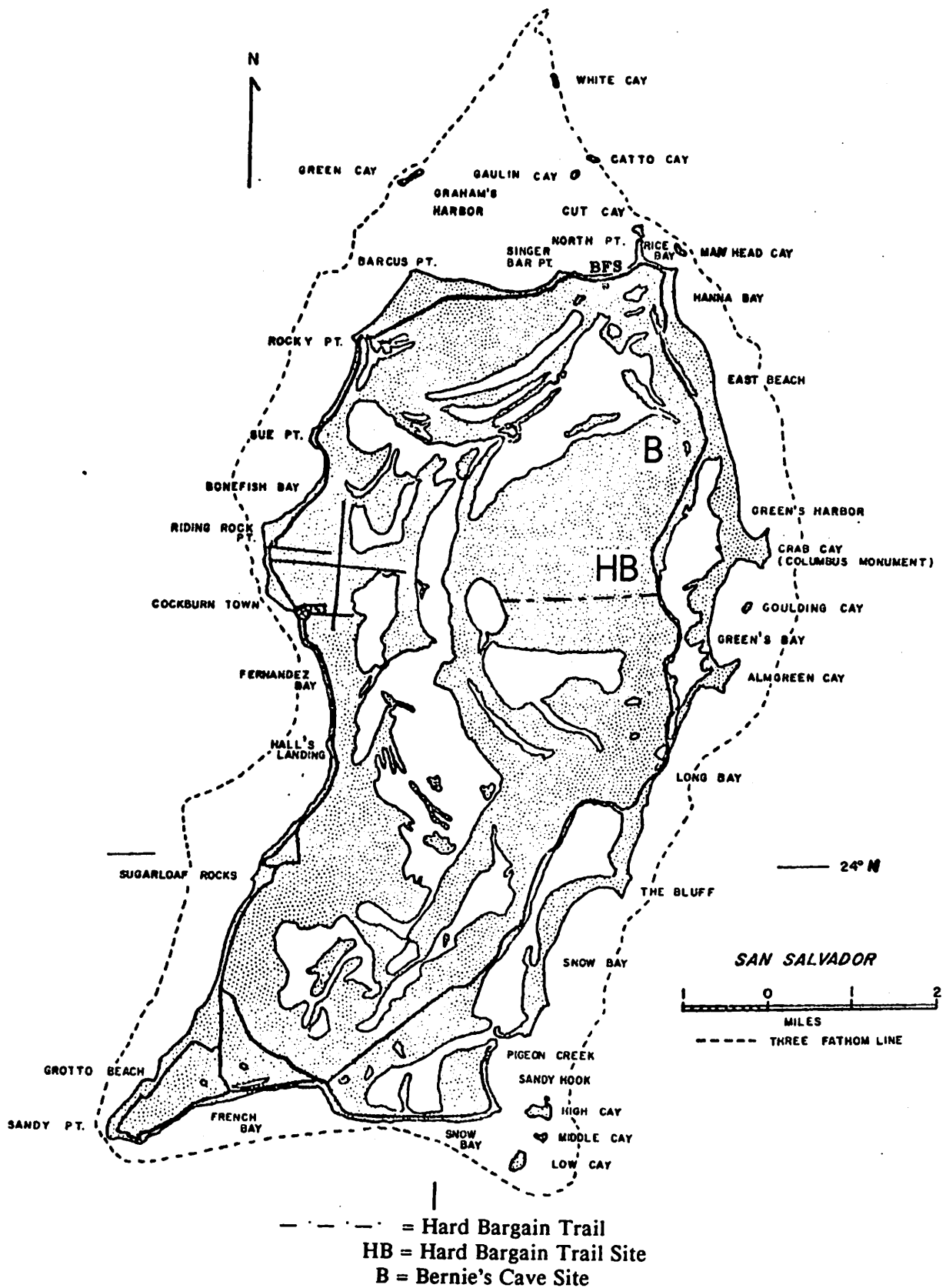


Figure 1. Locations where *Rattus* were caught in 1995.



Figure 2. *Rattus* sp. caught along Hard Bargain Trail, 20 March 1995.



Figure 3. *Rattus* sp. caught along Hard Bargain Trail, 20 March 1995.

rats are good tree climbers. The habitat along the Hard Bargain Trail is that of a karst habitat with numerous sinkholes and small caves. The rats construct burrows in the soft earth along the sides of sinkholes and may be using the small caves. The rat at Bernie's Cave was caught several meters inside the cave. The rats are making use of the karst habitat for living space and do not appear to be associated with human habitations. All animals were released at the site of capture.

Since we did not collect specimens of these rats a definite species designation cannot be made. However, the measurements of the tail and body would indicate that they are *Rattus rattus*, the black rat, which typically have a tail longer than the head and body (Hall, 1981). The rats on San Salvador are wild, rather than a human commensal, but this is not unusual for the black rat (Schwarz and Schwarz, 1967). In their monograph of the *Rattus rattus* group, Schwarz and Schwarz (1967) assigned the black rat found in the West Indies to *Rattus rattus frugivorus*. They describe this subspecies as tawny to black on the upper side and the belly as lemon colored or creamy. The rats we caught on San Salvador seem to be lighter in color than described for this subspecies. The length of the head and body for males of this subspecies is 180-185mm and the ratio of the head and body to the tail at 80-85 (Schwarz and Schwarz, 1967). The measurements for the three males we caught for head and body is 140-160mm and the ratio to tail length is 74-80. It would appear that the rats on San Salvador are smaller than described for the West Indies by Schwarz and Schwarz (1967). A final taxonomic assignment cannot be made until specimens have been collected. Isolation on San Salvador of this rodent may have resulted in some evolutionary changes of the species.

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