



Anais da Academia Brasileira de Ciências

ISSN: 0001-3765

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Academia Brasileira de Ciências

Brasil

Almeida-Gomes, Mauricio; Vrcibradic, Davor; Siqueira, Carla C.; Kiefer, Mara C.; Klaion, Thaís;  
Almeida-Santos, Patrícia; Nascimento, Denise; Ariani, Cristina V.; Borges-Junior, Vitor N.T.; Freitas-  
Filho, Ricardo F.; van Sluys, Monique; Rocha, Carlos F.D.  
Herpetofauna of an Atlantic rainforest area (Morro São João) in Rio de Janeiro State, Brazil  
Anais da Academia Brasileira de Ciências, vol. 80, núm. 2, junio, 2008, pp. 291-300  
Academia Brasileira de Ciências  
Rio de Janeiro, Brasil

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## Herpetofauna of an Atlantic rainforest area (Morro São João) in Rio de Janeiro State, Brazil

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*Manuscript received on April 2, 2005; accepted for publication on November 11, 2007;  
presented by ALEXANDER W.A. KELLNER*

### ABSTRACT

We studied the herpetofaunal community from the Atlantic forest of Morro São João, in Rio de Janeiro State, Brazil, and present data on species composition, richness, relative abundance and densities. We combined three sampling methods: plot sampling, visual encounter surveys and pit-fall traps. We recorded sixteen species of amphibians and nine of reptiles. The estimated densities (based on results of plot sampling) were 4.5 ind/100 m<sup>2</sup> for amphibians and 0.8 ind/100 m<sup>2</sup> for lizards, and the overall density (amphibians and lizards) was 5.3 ind/100 m<sup>2</sup>. For amphibians, *Eleutherodactylus* and *Scinax* were the most speciose genera with three species each, and *Eleutherodactylus binotatus* was the most abundant species (mean density of 3.0 frogs/100 m<sup>2</sup>). The reptile community of Morro São João was dominated by species of the families Gekkonidae and Gymnophthalmidae (Lacertilia) and Colubridae (Serpentes). The gymnophthalmid lizard *Leposoma scincoides* was the most abundant reptile species (mean density of 0.3 ind/100 m<sup>2</sup>). We compare densities obtained in our study data with those of other studied rainforest sites in various tropical regions of the world.

**Key words:** herpetofauna, Atlantic rainforest, Brazil, richness, density.

### INTRODUCTION

Within the past fifty years, several studies carried out in rainforest areas have provided data on ecological parameters of tropical herpetofaunal communities throughout the world (e.g. Brown and Alcala 1961, Lloyd et al. 1968, Scott 1976, 1982, Inger 1980a, b, Toft 1982, Fauth et al. 1989, Allmon 1991, Giaretta et al. 1997, 1999, Rocha et al. 2000, 2001, Vonesh 2001, Doan and Arriaga 2002, Doan 2003, Huang and Hou 2004). Despite the increase in the number of studies worldwide, the present knowledge of herpetofaunal communities still remains incomplete (Duellman 1999, Azevedo-Ramos

and Galatti 2002, Doan and Arriaga 2002). For the Atlantic Rainforest biome of eastern Brazil, one of the most species-rich and endangered tropical forests on Earth, data on species composition and richness of amphibians and reptiles are limited to studies on a few areas (Heyer et al. 1990, Haddad and Sazima 1992, Sazima and Haddad 1992, Machado et al. 1999, Bernarde and Machado 2000, Machado and Bernarde 2002, Marques and Sazima 2004, Pombal and Gordo 2004, Conte and Machado 2005, Conte and Rossa-Feres 2006, Dixo and Verdade 2006), all of them in southern and southeastern Brazil. Also, only five studies present data on relative densities of frogs in leaf litter communities (Giaretta et al. 1997, 1999, Rocha et al. 2000, 2001, 2007) and none

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presents density estimates for reptiles. The knowledge about the herpetofauna of forest remnants in Rio de Janeiro State, in particular, is still scarce, and more studies are necessary (Rocha et al. 2003).

Several methods have been used for herpetofaunal sampling, and some of the most frequently used are visual encounter surveys (VES) (e.g. Inger 1980b, Toft 1982, Vasudevan et al. 2001), plot (or quadrat) sampling (e.g. Allmon 1991, Rocha et al. 2000, 2001, Vonesh 2001, Watanabe et al. 2005) and pit-fall traps (e.g. Cechin and Martins 2000, Enge 2001, Dixo and Verdade 2006). In a few cases, more than one method is employed during a study (e.g. Doan 2003, Brasileiro et al. 2005, Loebmann and Vieira 2005, Rocha et al. 2007).

The region of Morro São João, in the northeastern portion of Rio de Janeiro State, is one representative remnant of Atlantic Rainforest in the State. The area is of special interest because it presently represents an "island" of Atlantic forest surrounded by pastures and farmlands. Nevertheless, there is no published information on the fauna of this area. In the present study, we present data on some community parameters such as species composition, richness, relative abundances and densities of the herpetofaunal community of Morro São João, and compare our results with those reported for other rainforest areas worldwide.

## MATERIALS AND METHODS

### STUDY AREA

Morro São João (22°33'S, 42°01'W), located in the municipality of Casimiro de Abreu, State of Rio de Janeiro, southeastern Brazil, is a hill of volcanic origin about 800m high and presently covered by about 640 ha of secondary Atlantic Rainforest. Mean annual temperature in the area is 22-23°C and annual rainfall (based on data for the nearby town of Barra de São João; Barbieri and Coe-Neto 1999) is 1140 mm.

### METHODOLOGY AND ANALYSES

Surveys were carried out during late May and early June 2005. Samplings were done from the base of the hill (and its surroundings) up to an altitude of 320m. In order to obtain a representative dataset of the herpetofauna for the study area we sampled during the day and at night

and used three sampling methods: large plots (see Jaeger and Inger 1994), visual encounter surveys (VES; Crump and Scott 1994) and pit-fall traps with drift fences (Corn 1994). Besides, all individuals found during casual encounters in the field (including animals found dead) were also collected.

For the Large-Plot method we established 24 quadrats of 5 × 5 m (25 m<sup>2</sup>) on the forest floor during the afternoon. We marked the corners of each plot with wooden stakes and the plot was completely enclosed by a 50 cm high soft plastic fence. The bottom of the plastic fence was buried or attached to the ground to prevent animals from escaping. After the sunset, each plot was carefully searched by a crew of five persons wearing head lamps. During searches, each crew member moved up the entire plot on hands and knees, side-by-side. All leaves, branches and stones inside the plot were overturned with the aid of hand rakes and rock crevices and spaces between tree roots were also checked. Vertical tree trunks and shrubs inside the plots were also examined for the presence of scansorial amphibians and reptiles. Each plot was searched for about half an hour.

For VES method, we carried out 120 transects of 30 minutes duration each, totaling 60 hours of sampling effort. The same number of transects (40) was surveyed during each period of the day (diurnal, crepuscular and nocturnal). During each transect, the observer moved at a slow walking pace, carefully searching the surroundings for the presence of amphibians and reptiles.

Two pit-fall trap systems were used for 15 days. Each pit-fall trap system consisted of ten 30-liter buckets (50 cm depth and 50 cm diameter) buried on the ground and set ca. 5m apart, with soft plastic drift fences about 50 cm high extended between them. Six buckets were placed in line and the other four were placed at opposite sides of the fence, perpendicularly to the main axis. Pit-falls were checked once per day (always in the morning) and all frogs and reptiles found in them were removed.

For an estimate of species composition and richness of the herpetofaunal community in the area we considered the species recorded by all three sampling methods, plus those collected during casual encounters. For estimates of density (individuals/100 m<sup>2</sup>) we considered only the data obtained by the large plot sampling. This method has been the most frequently used in tropical

forests worldwide (see Allmon 1991), which allow us to make comparisons with other forested areas for which data is available.

### RESULTS

We recorded sixteen species of amphibians (all anurans) and nine species of reptiles at Morro São João (Table I). The amphibian community of Morro São João was dominated by species of the families Hylidae and Brachycephalidae, whereas the reptile community was dominated by species in the families Gekkonidae and Gymnophthalmidae (Lacertilia) and Colubridae (Serpentes) (Table I).

In the plots we recorded 26 individuals in six frog species (plus one unidentified frog that escaped before identification) and five individuals of four reptile species (Table II). The number of frogs per plot ranged from zero (9/24 or 37.5% of all plots) to four (1/24 or 4.2% of all plots) with a mean of  $1.1 \pm 1.1$  frogs per plot. In one-third of the plots ( $N = 8$ ) in which frogs were found, only one individual was recorded. The total frog density estimated from plot sampling was 4.5 individuals/100 m<sup>2</sup> (Table II). The brachycephalid *Eleutherodactylus binotatus* had the highest density ( $N = 18$ ; 3.0 ind/100 m<sup>2</sup>) and comprised about 67% of all frogs found in plots (Table II). All reptiles found in plots were lizards and the number of reptiles per plot ranged from zero (21/24 or 87.5% of all plots) to two (2/24 or 8.4%) with a mean of  $0.2 \pm 0.6$  individuals per plot. The reptile density estimated from large plot sampling was 0.8 individuals/100 m<sup>2</sup> (Table II). The lizard *Leposoma scincoides* (0.3 ind/100 m<sup>2</sup>;  $N = 2$ ) comprised 40% of all reptiles found in plots (Table II). The overall herpetofaunal density (amphibians and reptiles) was 5.3 ind/100 m<sup>2</sup>. Most species recorded in the plots were ground-dwelling animals, but two scansorial lizards (the exotic gekkonid *Hemidactylus mabouia* and the autochthonous leiosaurid *Enyalius brasiliensis*) were also found, perched on tree trunks. Two individuals of the stream-dwelling frog *Crossodactylus gaudichaudii* were found in a plot set near a rocky stream.

Thirteen frog species were found in Morro São João during transect samplings (Table I). The most abundant species recorded in transects were *Eleutherodactylus binotatus* ( $N = 26$ ; 36.6% of all individuals found during transects) and *Hypsiboas semilineatus* ( $N = 12$ ; 16.9%).

Most frogs were found during the nocturnal ( $N = 34$ , or 47.9% of individuals sampled) and crepuscular ( $N = 21$ , or 29.6%) transects, whereas the proportion of frogs found during the diurnal transects ( $N = 16$ , or 22.5%) was comparatively low (Table III). Five reptile species were recorded in the transects (Table I). The most abundant reptile species recorded during transect sampling were *Hemidactylus mabouia* ( $N = 3$ ; 37.5%) and *Enyalius brasiliensis* ( $N = 2$ ; 25%). During transect sampling, most reptiles were found during the crepuscular ( $N = 4$ , or 50% of individuals sampled) and nocturnal ( $N = 3$ , or 37.5%) periods, whereas the proportion of reptiles found during the diurnal transects ( $N = 1$ , or 12.5%) was comparatively low (Table III).

Nine frogs in three species were captured in the pit-fall traps (Table I). The most frequently captured species in the pit-falls was *Chaunus ornatus* (77.8% of all specimens captured). Only one reptile (the lizard *Placosoma cordylinum*) was captured in pit-falls.

Most animals recorded during the study were found only inside the forest, but some (the frogs *Hypsiboas semilineatus*, *Leptodactylus ocellatus* and *Scinax alter*, and the lizard *A. ameiva*) were found only on open areas around the forest or at its border and others (the frogs *Chaunus ornatus*, *Crossodactylus gaudichaudii* and *Scinax* aff. *x-signatus*, and the lizard *Hemidactylus mabouia*) were found both in forest and open habitats.

### DISCUSSION

Our results constitute the first approach to species composition and richness of the herpetofauna of Morro São João, particularly with respect to anurans. Our results were similar to those of other studies on frog community in Central and South American areas, in that species of the family Brachycephalidae (*sensu* Frost et al. 2006) were the most numerous (Scott 1976, Lieberman 1986, Fauth et al. 1989, Allmon 1991, Giaretta et al. 1997, 1999, Rocha et al. 2000, 2001, Doan and Arriaga 2002). The most abundant frog species found in the plots (representing about 70% of the anuran fauna sampled) and in transects (about 40% of the anurans sampled) was *Eleutherodactylus binotatus*, which suggests that this medium-sized frog is the dominant species in the local leaf litter community (at least at that time of the year). Some authors have remarked on the great abun-

TABLE I

Number of amphibians and reptiles of each species sampled by each sampling method in an Atlantic Rainforest of Morro São João, in southeastern Brazil. Mean values ( $\pm$  one standard deviation) of snout-vent length (SVL, in mm) and body mass (in grams), calculated from all animals collected both within and outside (Extra) of the sampling methods, are given for each species (with sample sizes in parentheses).

Species	Plots	Transects	Pit-falls	Extra	Mean SVL (mm) (N)	Mean body mass (g) (N)
<b>Amphibia: Anura</b>						
<b>Brachycephalidae</b>						
<i>Eleutherodactylus binotatus</i>	18	26	1	8	30.5 $\pm$ 13.0(48)	4.1 $\pm$ 5.2(48)
<i>Eleutherodactylus guentheri</i>	2	1	—	—	25.9 $\pm$ 7.1(3)	2.0 $\pm$ 1.7(3)
<i>Eleutherodactylus octavioi</i>	—	2	—	—	20.7 $\pm$ 9.4(2)	0.9 $\pm$ 1.0(2)
<i>Euparkerella cochranæ</i>	1	—	—	—	17.6 (1)	0.5 (1)
<b>Bufo</b>						
<i>Chaunus ornatus</i>	1	1	7	4	56.6 $\pm$ 16.4(13)	19.1 $\pm$ 13.0(13)
<b>Cycloramphidae</b>						
<i>Zachæus parvulus</i>	2	—	—	3	25.0 $\pm$ 4.6(5)	2.4 $\pm$ 1.1(5)
<b>Hylidae</b>						
<i>Dendropsophus elegans</i>	—	1	—	—	25.0 (1)	1.1 (1)
<i>Hypsiboas semilineatus</i>	—	12	—	4	40.1 $\pm$ 6.3(14)	3.6 $\pm$ 1.3(14)
<i>Scinax alter</i>	—	—	—	1	19.3 (1)	0.45 (1)
<i>Scinax fuscovarius</i>	—	2	—	—	33.1 (1)	2.3 (1)
<i>Scinax</i> aff. <i>x-signatus</i>	—	2	—	3	35.4 $\pm$ 5.3(5)	2.3 $\pm$ 1.0(5)
<b>Hylodidae</b>						
<i>Crossodactylus gaudichaudii</i>	2	10	—	2	25.6 $\pm$ 6.1(10)	2.0 $\pm$ 1.3(9)
<i>Hylodes charadranæ</i>	—	5	—	1	36.5 $\pm$ 1.0(3)	3.8 $\pm$ 0.4(3)
<b>Leptodactylidae</b>						
<i>Leptodactylus mystacinus</i>	—	1	—	—	45.5 (1)	9.3 (1)
<i>Leptodactylus ocellatus</i>	—	7	—	9	58.3 $\pm$ 18.0(13)	25.4 $\pm$ 24.1(13)
<b>Leiuperidae</b>						
<i>Physalaemus signifer</i>	—	1	1	—	27.1 $\pm$ 0.8(2)	1.6 $\pm$ 0.7(2)
<b>Total</b>	<b>26</b>	<b>71</b>	<b>9</b>	<b>35</b>		
<b>Reptilia: Squamata</b>						
<b>Lacertilia</b>						
<b>Gekkonidae</b>						
<i>Gymnodactylus darwinii</i>	1	1	—	1	46.1 $\pm$ 11.5(3)	2.7 $\pm$ 1.8(3)
<i>Hemidactylus mabouia</i>	1	3	—	1	42.3 $\pm$ 15.7(5)	2.2 $\pm$ 2.1(5)
<b>Gymnophthalmidae</b>						
<i>Leposoma scincoides</i>	2	—	—	—	45.9 $\pm$ 1.8(2)	2.0 $\pm$ 0.1(2)
<i>Placosoma cordylinum</i>	—	—	1	—	44.2 (1)	2.1 (1)
<b>Leiosauridae</b>						
<i>Enyalius brasiliensis</i>	1	2	—	1	85.7 $\pm$ 12.6(4)	16.3 $\pm$ 7.1(4)
<b>Teiidae</b>						
<i>Ameiva ameiva</i> *	—	—	—	1	—	—
<b>Serpentes</b>						
<b>Colubridae</b>						
<i>Dipsas alternans</i>	—	1	—	—	506.0(1)	13.8 (1)
<i>Leptodeira annulata</i>	—	1	—	—	517.0 (1)	24.3 (1)
<i>Liophis miliaris</i> **	—	—	—	3	387.3 $\pm$ 229.1(3)	64.2 $\pm$ 53.6(3)
<b>Total</b>	<b>5</b>	<b>8</b>	<b>1</b>	<b>7</b>		

\* sighted but not collected. \*\* all found dead on the road.

TABLE II

**Total number of individuals sampled and estimated density (individuals/100 m<sup>2</sup>, in parentheses) of each amphibian and reptile species found in the Atlantic rainforest of Morro São João, in southeastern Brazil, using 5 × 5 plot sampling method.**

Species	No. individuals (density)
<b>Amphibia: Anura</b>	
<i>Chaunus ornatus</i>	1 (0.2 ind/100 m <sup>2</sup> )
<i>Crossodactylus gaudichaudii</i>	2 (0.2 ind/100 m <sup>2</sup> )
<i>Eleutherodactylus binotatus</i>	18 (3.0 ind/100 m <sup>2</sup> )
<i>Eleutherodactylus guentheri</i>	2 (0.3 ind/100 m <sup>2</sup> )
<i>Euparkerella cochranæ</i>	1 (0.2 ind/100 m <sup>2</sup> )
<i>Zachæus parvulus</i>	2 (0.2 ind/100 m <sup>2</sup> )
<b>Total*</b>	<b>27 (4.5 ind/100 m<sup>2</sup>)</b>
<b>Reptilia: Squamata</b>	
<i>Enyalius brasiliensis</i>	1 (0.2 ind/100 m <sup>2</sup> )
<i>Gymnodactylus darwini</i>	1 (0.2 ind/100 m <sup>2</sup> )
<i>Hemidactylus mabouia</i>	1 (0.2 ind/100 m <sup>2</sup> )
<i>Leposoma scincoides</i>	2 (0.3 ind/100 m <sup>2</sup> )
<b>Total</b>	<b>5 (0.8 ind/100 m<sup>2</sup>)</b>
<b>Herpetofaunal density</b>	<b>32 (5.3 ind/100 m<sup>2</sup>)</b>

\*Includes one unidentified frog that was not captured.

dance of eleutherodactylines (now in the family Brachycephalidae; see Frost et al. 2006) in amphibian leaf litter communities from New World tropical forests (e.g. Heyer and Berven 1973, Scott 1976). Those frogs have water-independent reproduction and may be more widely distributed within the forest than species with water-dependent reproduction, which tend to stay not too distant from water bodies (Scott 1976, Lynch and Duellman 1997, Menin 2005).

The data of the present study indicated a similar or higher frog density value compared to other South American sites in Amazonian (e.g. Allmon 1991, Gascon 1996) and Atlantic rainforests (Giaretta et al. 1997, 1999, Rocha et al. 2000, 2001) but lower than that of another Atlantic forest area also in Rio de Janeiro State (8.4 ind/100 m<sup>2</sup>; Rocha et al. 2007) and that of an area in Amazonian Peru (15.5 ind/100 m<sup>2</sup>; Toft 1980). In comparison to other tropical areas worldwide where frog densities data are available, the values of present study

are, generally, lower than those of Central American (e.g. Heatwole and Sexton 1966, Scott 1976, Lieberman 1986) but equal or higher than that of Asian sites (Inger and Colwell 1977, Inger 1980a, Vasudevan et al. 2001).

The lack of studies providing density data for reptiles or for the overall herpetofaunal community from other Atlantic Rainforest areas prevents comparisons with our results for Morro de São João. In their study of leaf-litter anurofauna of an Atlantic forest area in São Paulo State, Giaretta et al. (1999) calculated density values only for frogs, but mentioned that two reptiles (one lizard and one snake) were also found in plots. As the total area sampled in their study was 6400 m<sup>2</sup>, the local reptile density can thus be estimated at 0.03/100 m<sup>2</sup> and the lizard density at 0.015/100 m<sup>2</sup>, which is considerably lower than the value reported in the present study (0.8/100 m<sup>2</sup>). In general, the reptile density values from Asian sites are similar to those of the present study (Inger and Colwell 1977, Inger 1980a). However,

TABLE III

**Number of frogs and reptiles of each species sampled during diurnal, crepuscular and nocturnal transects in the Atlantic rainforest of Morro São João, in southeastern Brazil.**

Species	Diurnal	Crepuscular	Nocturnal
<b>Amphibia: Anura</b>			
<i>Chaunus ornatus</i>	—	1	—
<i>Crossodactylus gaudichaudii</i>	7	2	1
<i>Dendropsophus elegans</i>	—	—	1
<i>Eleutherodactylus binotatus</i>	2	13	11
<i>Eleutherodactylus guentheri</i>	—	1	—
<i>Eleutherodactylus octavioi</i>	—	2	—
<i>Hylodes charadranaetes</i>	5	—	—
<i>Hypsiboas semilineatus</i>	—	—	12
<i>Leptodactylus mystacinus</i>	—	1	—
<i>Leptodactylus ocellatus</i>	—	—	7
<i>Physalaemus signifer</i>	—	1	—
<i>Scinax</i> aff. <i>x-signatus</i>	—	—	2
<i>Scinax fuscovarius</i>	2	—	—
<b>Total</b>	<b>16</b>	<b>21</b>	<b>34</b>
<b>Reptilia: Squamata</b>			
<i>Enyalius brasiliensis</i>	—	1	1
<i>Gymnodactylus darwinii</i>	1	—	—
<i>Hemidactylus mabouia</i>	—	2	1
<i>Dipsas alternans</i>	—	1	—
<i>Leptodeira annulata</i>	—	—	1
<b>Total</b>	<b>1</b>	<b>4</b>	<b>3</b>

the values reported for Central American sites tend to be much higher (Heatwole and Sexton, 1966, Scott 1976). In Asian rainforests, the overall density values for amphibians and reptiles combined are generally lower or equal to that reported in our study (Inger and Colwell 1977, Inger 1980a), although in the Philippines these values may range from 5.1 to 15.0 ind/100 m<sup>2</sup> according to the type of habitat (Brown and Alcalá 1961). Values for African areas can be higher (Scott 1982) or lower (Vonesh 2001) than those of the present study. Again, the overall herpetofaunal density values reported for Central American forests are consistently higher than that found by us (e.g. Heatwole and Sexton 1966, Scott 1976), although Fauth et al. (1989) found densities similar to that of our study.

Based on the pooled data from all three methods (as well as from casual findings), it is apparent that the

four most abundant species in the local frog community are *E. binotatus*, *H. semilineatus*, *C. ornatus* and *L. ocellatus*. Of these, only *E. binotatus* was well represented in both transects and plot sampling. Pit-fall traps sampled a lower number of individuals and species than the other two methods, but was more efficient for sampling one particular species, the bufonid *C. ornatus*. In a study at another Atlantic rainforest area in Rio de Janeiro State, pit-falls also seemed more efficient than the other methods for sampling bufonids (Rocha et al. 2007). Some authors (e.g. Toft 1981, Strüssmann et al. 1984) suggested that bufonids may be more active and move for comparatively greater distances along the forest floor than other sympatric frog species, and this may increase their probability of falling in pit-fall traps. On the other hand, only one lizard was caught in pit-falls during our study. Most studies on forest floor herpeto-

faunas from tropical areas worldwide have shown that the densities of reptiles tend to be comparatively low compared to amphibians (e.g. Heatwole and Sexton 1966, Scott 1976, Inger 1980a, Fauth et al. 1989), and our results concur with this trend. Additionally, Cechin and Martins (2000) suggested that bucket size is a factor that can influence the samplings, as small buckets (i.e. volume under 100 liters) may fail to sample some large-sized animals such as adults of many snake species. Thus, bucket size used in our study could also partially explain the results observed for reptiles (no snakes were captured in the pit-falls, for example). Overall, however, pit-falls proved the least efficient of the three sampling methods used in our study, which supports the opinion of Cechin and Martins (2000) that this method is not advantageous for short-term studies (under 20 days).

The data obtained from transects suggest that most amphibians at Morro São João (about 77%) are found during crepuscular and nocturnal periods. However, *C. gaudichaudii* and *H. charadranaetes*, two species with diurnal activity, were sampled mainly during the diurnal period. The four specimens of the diurnal lizard *E. brasiliensis* were all collected during the crepuscular/nocturnal period, but they were all inactive when found. At another studied Atlantic forest area, 66% of the leaf-litter frogs sampled were collected during the nocturnal period (Rocha et al. 2000). In another herpetofaunal study in which samplings were done during diurnal and nocturnal periods (using the VES method) in an Amazonian forest site, 80% of the reptiles and amphibians were recorded at night (Doan 2003).

In a comparison of two of the methods used in the present work (VES and quadrat sampling), Doan (2003) found that, both in the diurnal and nocturnal surveys, more individuals and species of amphibians and reptiles were recorded with the VES method than with quadrat (= plot) sampling. Besides, the two methodologies showed great difference in terms of records of terrestrial and arboreal amphibians, with the former tending to be better represented with quadrat sampling and the latter with VES. Similarly, in the present study we also recorded more amphibian and reptile individuals and species with VES than with plot sampling, and most leaf-litter species were sampled by the plot method, whereas treefrogs (Hylidae) were sampled only by VES. Even

considering the differences in sampling effort and environmental conditions between Doan's (2003) study and ours, both studies suggest that the VES and plot methods are complementary and thus both methods should be used simultaneously in herpetofaunal inventories.

It is noteworthy that we recorded the presence of the exotic lizard *Hemidactylus mabouia* in natural areas inside the forest at Morro São João. This species has been introduced in the Americas from Africa via human enterprises and has become established throughout much of the Brazilian territory, though it is usually found associated with human dwellings and anthropically disturbed habitats in general (Carranza and Arnold 2006). The occurrence of *H. mabouia* inside the forest sharing the habitat with native lizards indicates that this species is not only exotic but is also an invader species in the area of Morro São João.

In conclusion, our results for Morro São João are similar to those of other previous studies (considering the differences in sampling effort) in that they indicate that frogs of the family Brachycephalidae tend to be the most abundant amphibians inhabiting the forest floor leaf litter of New World tropical forests, that densities of South American forest floor amphibians and reptiles tend to be higher or similar to those of the Asian tropics but lower than those of Central America, and that sampling during the crepuscular/nocturnal period may yield the highest values of herpetofaunal richness and abundance in Neotropical rainforests.

#### ACKNOWLEDGMENTS

The Center for Biodiversity Conservation (CCB) of the Conservation International do Brasil and the Conselho Nacional de Desenvolvimento Científico e Tecnológico (CNPq) provided financial support. The latter also provided research grants to C.F.D. Rocha (Procs. No. 307 653/2003-0 and 477981/2003-8) and M. Van Sluys (Proc. No. 301401/04-7), and a Post-Doctorate fellowship to M.C. Kiefer (Proc. No. 150353/03-0). Graduate fellowships were granted to M.A. Gomes, V.N.T. Borges-Junior, C.C. Siqueira and D. Nascimento from CNPq, from the Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) and from the Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro (FAPERJ). The latter also provided additional funding for the study



(Proc. No. E-26/100.471/2007) through a grant to C.F.D. Rocha for the “Cientistas do Nosso Estado” program. We also thank C.A.G. Cruz, J.P. Pombal Jr., C. Canedo, B.V.S. Pimenta, E. Izecksohn and M.C.S. Cardoso for helping with the identification of the frog species.

#### RESUMO

Estudamos a comunidade herpetofaunística da Mata Atlântica do Morro São João, Estado do Rio de Janeiro, Brasil, e apresentamos dados da composição, riqueza, abundância relativa e densidade das espécies. Combinamos três metodologias de amostragem: parcelas, encontros visuais e armadilhas de queda. Registramos 16 espécies de anfíbios e 9 espécies de répteis. As densidades estimadas (baseadas nos resultados da amostragem através de parcelas) foram 4.5 ind/100 m<sup>2</sup> para anfíbios, 0.8 ind/100 m<sup>2</sup> para lagartos, e a densidade total (anfíbios e répteis) foi 5.3 ind/100 m<sup>2</sup>. Para anfíbios, *Eleutherodactylus* e *Scinax* foram os gêneros com maior número de espécies, com três espécies cada, e *Eleutherodactylus binotatus* foi a espécie mais abundante (densidade média de 3.0 anuros/100 m<sup>2</sup>). A comunidade de répteis do Morro São João foi dominada por espécies da família Gekkonidae e Gymnophthalmidae (Lacertilia) e Colubridae (Serpentes). O lagarto gimnophthalmídeo *Leposoma scincoides* foi a espécie de réptil mais abundante (densidade média de 0.3 ind/100 m<sup>2</sup>). Comparamos os dados de densidade obtidos no nosso estudo com os de outros estudos em florestas de várias regiões tropicais do mundo.

**Palavras-chave:** herpetofauna, Mata Atlântica, Brasil, riqueza, densidade.

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