

A DENSITY ESTIMATE FOR THE SCARLET IBIS (*Eudocinus ruber*) IN THE WESTERN COAST OF MARANHÃO, BRAZIL

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The scarlet ibis, *Eudocinus ruber*, is the flagship species of the Environmental Protection Area (EPA) of Reentrâncias Maranhenses, that covers most of the western coastline of the State of Maranhão, dominated by mangrove forests. The species, typical of the mangroves of northern South America, originally ranged along the coast up to Santa Catarina island in the south. Unfortunately, today it is restricted, in Brazil, to the coastal area between the states of Amapá and Maranhão, with a disjunct population in the southeast (Sick, 1993).

The scarlet ibis was once considered as “the most common of the aquatic birds of the Amazon region” (Goeldi, 1894). However, due to its population decline and range reduction it was formerly classified as threatened by the Brazilian environmental Agency, IBAMA. In fact, the deeply indented north-central portion of the Brazilian coast, was considered the most important area for the conservation of this species (Morrison et al., 1987). Although the species has been subject of some studies (e.g., Rodrigues, 1995; Hass et al., 1999; Martínez & Rodrigues, 1999), to date there is no current data on its density. The goal of this report is to provide

a density estimate for the scarlet ibis in the western coast of Maranhão.

A small survey was conducted in five areas of mangrove forest of the Reentrâncias Maranhenses EPA in September 2000 to get an estimate of the scarlet ibis density in the area. About 42 km of shallow and narrow bays were flowed by boat at an average speed of 9.5 km/h either during the morning (0800-1100 h) or in the afternoon (1500-1730 h), to maximize sightings. For a more accurate estimate, I considered a visibility of 2.5 m on either side of the vegetation, to make sure that every animal present could be detected.

A total of 423 animals were seen during the surveys, which would give a mean number of 10.2 individuals/km, or an average density of 3.89 (± 1.79) ibis/km². Considering this estimate and an area of 2500 km of shoreline, the expected population for the scarlet ibis in the region would be ca. 24300 animals, or anywhere from 13000 to 35500, a rather robust population. Average group was 5.4 ± 8.5 (N = 111 sightings), ranging from one to 60 animals. On one occasion 265 individuals were seen flying towards a roosting colony. Scarlet ibis are known to

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move over 60-70 km between the feeding grounds and dormitories (Sick, 1993), which would allow for such observations.

An aerial census conducted in this area of the Brazilian coastline in January 1986 totaled 1948 individuals for the area between the bays of Cumã and Turiaçu. This would represent 36.4% of the grand total for the north-central coast of Brazil (5345 animals). The average numbers were 3.4 and 2.1 individuals/km, respectively (Morrison et al., 1987). This means that the results found in this report were three times larger than those reported by Morrison et al. (1987) for the Cumã-Turiaçu area. As the species has, apparently, never been persecuted in the region, and as neither have the mangrove there suffered much degradation between the two surveys, differences found could be due to the methodology (boat x helicopter). The fact that scarlet ibis hides in the mangrove would make its detection harder from the air than from a slow moving boat. In any event, the species showed a good population size during both surveys, even when compared with other equivalent sized and extremely abundant shorebirds, such as egrets (*Egretta* spp. 5 individuals/km) and whimbrel (*Numenius phaeopus*, 5.7/km - data from the aerial census of Morrison et al., 1987). In some areas, such as Toma Catinga, larger numbers of scarlet ibis (N = 139) than of egrets (N = 12) were seen. The opposite happened around fisherman villages and fishing corrals, where the egrets were exceedingly abundant.

Results found were indicative that the flagship species of the region is relatively common in the area, with a healthy popula-

tion, and without any immediate threat. Its abundance associated with its beauty make the scarlet ibis an additional resource for the sustainable use of eco-tourism in the region.

REFERENCES

- GOELDI, E. 1894. *As aves do Brasil*. Rio de Janeiro: Ed. Alves.
- HASS, A., MATOS, R. H. R. & MARCONDES-MACHADO, L. O. 1999. Ecologia reprodutiva e distribuição espacial da colônia de *Eudocinus ruber* (Ciconiiformes: Threskiornithidae) na Ilha do Cajual. *Ararajuba*, 7:41-44.
- MARTÍNEZ, C. & RODRIGUES, A. A. F. 1999. Breeding biology and status of a scarlet ibis (*Eudocinus ruber*) population in northern Brazil. *J. Field Ornithol.*, 70(4):558-566.
- MORRISON, R. I. G., ANTAS, P. T. Z. & ROSS, R. K. 1987. Migratory routes in the Amazonian coast. Pp. 159-199 in *Anais do Seminário Desenvolvimento econômico e impacto ambiental em áreas do trópico úmido brasileiro: a experiência da CVRD*. Secretaria Especial do Meio Ambiente/International Waterfowl Research Bureau/Companhia Vale do Rio Doce, Rio de Janeiro, RJ.
- RODRIGUES, A. A. F. 1995. Ocorrência da reprodução de *Eudocinus ruber* na Ilha do Caju, Maranhão, Brasil (Ciconiiformes: Threskiornithidae). *Ararajuba*, 3:67-68.
- SICK, H. 1993. *Birds in Brazil: a natural history*. Princeton, NJ: Princeton Univ. Press.

* *Distribuído em junho de 2003.*