

ISSN 0103-5657

Revista Brasileira de Ornitologia

www.ararajuba.org.br/sbo/ararajuba/revbrasorn

Volume 18
Número 2
Junho 2010



Publicada pela
Sociedade Brasileira de Ornitologia
São Paulo - SP

Inselbergs as habitat to the Critically Endangered Grey-breasted Parakeet (*Pyrrhura griseipectus*), an endemic species from northeastern Brazil

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Recebido em: 14/04/2010. Aceito em: 19/06/2010.

RESUMO: Inselbergues como habitat do periquito cara-suja (*Pyrrhura griseipectus*), uma espécie Criticamente em Perigo de extinção e endêmica do nordeste brasileiro. *Pyrrhura griseipectus* é uma espécie Criticamente em Perigo de extinção e endêmica do nordeste brasileiro. Coletas em brejos de altitude apoiavam a idéia que este era seu habitat exclusivo, contudo, a espécie foi redescoberta no árido município de Quixadá habitando a vegetação que circunda inselbergues, além de adentrar em cavidades na rocha onde provavelmente se reproduz. Esta população forma bandos maiores do que os encontrados na serra de Baturité, o único outro lugar com registros recentes, e que dista 70 km do ponto redescoberto. É possível que ninhos inacessíveis em Quixadá tenham evitado a extinção local da espécie, que também pode ocorrer em ambientes similares não investigados.

PALAVRAS-CHAVE: *Pyrrhura griseipectus*, inselbergue, extinção, habitat.

KEY-WORDS: *Pyrrhura griseipectus*, inselberg, extinction, habitat.

The Grey-breasted Parakeet *Pyrrhura griseipectus* is a Critically Endangered species (BirdLife International 2009) endemic from northeast Brazil. It remained absent from national and international “red lists” for a long time due to systematic issues of the *Pyrrhura leucotis-picta* complex until it was recognized as a valid species (Olmos *et al.* 2005, Ribas *et al.* 2006). The limited information about habitat use has also been undermining the development of effective conservation strategies. Thus, the objective of this article is to present a new habitat previously unknown for the species, discussing the implications of this discovery.

The species was originally described based on three trade skins, two of which were deposited at the Torino Museum, Italy (Table 1) and one at the Berlin Museum, Germany (Salvadori 1900), remaining without a type locality until the publication of specimens collected in 1913 at Serra de Baturité, state of Ceará (Hellmayr 1929). This mountain range is a moist forest enclave – which grades into semi-deciduous forest at its lower slopes, then into xeric Caatinga in the surrounding lowlands – known in the Brazilian literature as “brejos de altitude” (*sensu* Andrade-Lima 1960). This mountain range was proposed as the type locality of the species (Pinto 1938), where at least 22 specimens were collected (Table 1). Other documented evidences for the species originated from similar habitats: two specimens (Table 1) from Ipu (Ceará), in Serra da

Ibiapaba (Snethlage 1926, Olmos *et al.* 2005) and three specimens from Serra Negra Biological Reserve (Table 1), Pernambuco state (Coelho 1978, 1987; Yamashita and Coelho, 1985). However, six specimens (Table 1) were collected by Emil Kaempfer on December 12th 1926 in Quixadá municipality, in the central portion of the state of Ceará, a region practically devoid of moist forests, except for the moist vegetation that covered the upper parts of the Estevão mountains in the past (Teixeira 1992, Sousa 1967, Joseph 2000, Olmos *et al.* 2005). The rest of the municipality is characterized by semi-arid vegetation surrounding inselbergs, which is a term coined by the German geologist Wilhelm Bornhardt (1864-1946) to designate Precambrian gneiss and granite mountains, usually monolithic, that rise abruptly in the landscape (Bornhardt 1900).

Thus, the existing evidence suggested that the Grey-breasted Parakeet was dependent on montane moist forests, until March 31st 2010, when WG, CA and AAC found a wild population of the species living on the dry forests surrounding the inselbergs at Ouro Preto farm, Quixadá municipality, Ceará State (05°03'S, 39°04'W), located about 70 km from the nearest known population in the Baturité mountains. These were documented with photos (Figure 1), video footage, and recordings (XC 46273, 46273). The area is inserted in the Monoliths of Quixadá Natural Monument, a 24,000 ha State Protected Area created in 2002 to protect this unique inselberg landscape.

TABLE 1: Localities mentioned in the text and the respective collected specimens, examined personally by the authors or through photographs sent by museum curators (MT – Museo di Torino/Turin, Italy; FMNH – Field Museum of Natural History/Chicago, USA; USNM – United States Natural Museum/Washington, USA; MZUSP – Museu de Zoologia da Universidade de São Paulo/São Paulo, Brazil; MNRJ – Museu Nacional do Rio de Janeiro/Rio de Janeiro, Brazil; UFPE – Coleção Ornitológica da Universidade Federal de Pernambuco/Recife, Brazil; AMNH – American Museum of Natural History/New York, USA).

Museum/Record#	Collector(s)	Origin	Year
MT #10583-4	Mario Giacinto Peracca	Unknown	1888
FMNH #45318-24	Robert Becker	Serra de Baturité	1913
USNM # 370348-9	Gentil Dutra	Ceará [Serra de Baturité]	1941
MZUSP #33046-8, 41509-17	Gentil Dutra, Camargo A. C. Andrade e Emílio Dente	Serra de Baturité	1941 1958
MNRJ #3639-40, 45100	Oscar Martins, Roberto Otoch	Ipu and Serra de Baturité	1910 1987
UFPE #451, 565, 571	A. Galileu de M. Coelho	REBIO Serra Negra	1974 1975
AMNH #241753-8	Emil Kaempfer	Quixadá	1926

A group of thirty parakeets was observed clinging to the vertical cliffs of the inselbergs and penetrating rock cavities, where it is possible that they are nesting, since local people have reported to have found fallen chicks under such holes. The species is locally known as “periquito-pé-de-serra” (foothill parakeet); indicating where it is most commonly seen, as the authors could confirm.

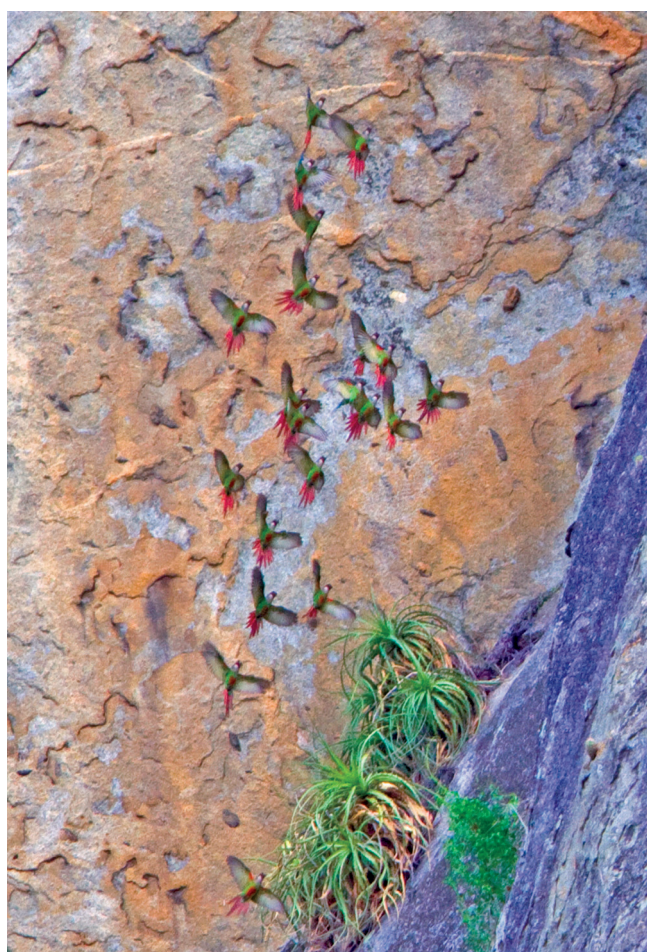


FIGURE 1: Flock of Grey-breasted Parakeets with inselberg in the background; Quixadá, state of Ceará, Brazil. (photo by Ciro Albano).

The Ouro Preto farm extends for 712 ha and the owners have expressed the desire to create a Private Reserve to protect the valleys between inselbergs used by the Grey-breasted Parakeets. The inselberg where the parakeets were observed (named Serra dos Macacos) goes up to 620m above sea level while the surrounding lowlands are situated at 220m. The use of this kind of dry habitat by the Grey-breasted Parakeet increases the chances of locating other populations of the species, which is presently estimated to have an overall population of 250 individuals (BirdLife International 2009).

A research team from the NGO Aquasis, including the authors, has recently searched for the Grey-breasted Parakeet in seventeen mountain ranges in four states in northeastern Brazil between 2007 and 2008, without finding any direct material evidence of its presence outside the Baturité Mountains (Aquasis, unpublished report). Based on interviews with local residents, we concluded that the species was absent in thirteen areas – being totally ignored in four areas and with some indications of its presence in nine of these areas but reported as being extinct between sixty to twenty years ago. In three areas, i.e. Serra do Estevão (Quixadá, Ceará), Serra da Ibiapaba (Ipu, Ceará) and Serra Negra (Pernambuco), there were unconfirmed reports of recent sightings.

The reproduction of this species has so far only been recorded in tree cavities (Rocha 1911, Teixeira 1991), which was confirmed by the observations made by the Aquasis team in the Baturité Mountains. Trees are much more accessible to pet traders than rock cavities in inselbergs, which could have been the major reason that allowed this population (and maybe others) to survive in the Quixadá area, where the flock observed was larger than any other seen in the Baturité Mountains so far.

The new findings presented here, which demonstrate that the Grey-breasted Parakeet is more versatile in terms of habitat requirements than previously thought, may stimulate researchers to conduct more extensive surveys in different types of habitats, and provides new hope for the conservation and recovery of this highly endangered species.

ACKNOWLEDGMENTS

We would like to thank the Loro Parque Fundación for the continuous support on the conservation process of the species. Aquasis is the Species Guardian for the Grey-breasted Parakeet, supported by BirdLife International's Preventing Extinctions Programme, together with SAVE Brasil. The Fundação O Boticário de Proteção à Natureza has sponsored the initial field research; SENAC has been giving logistic support in the Baturité Mountains; and SESC Ceará has been one of our main supporters. We are also very grateful to Mr. Raimundo Dantas Cavalcante, from Fazenda Ouro Preto, who has contacted the authors after seeing the species picture in a local newspaper.

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