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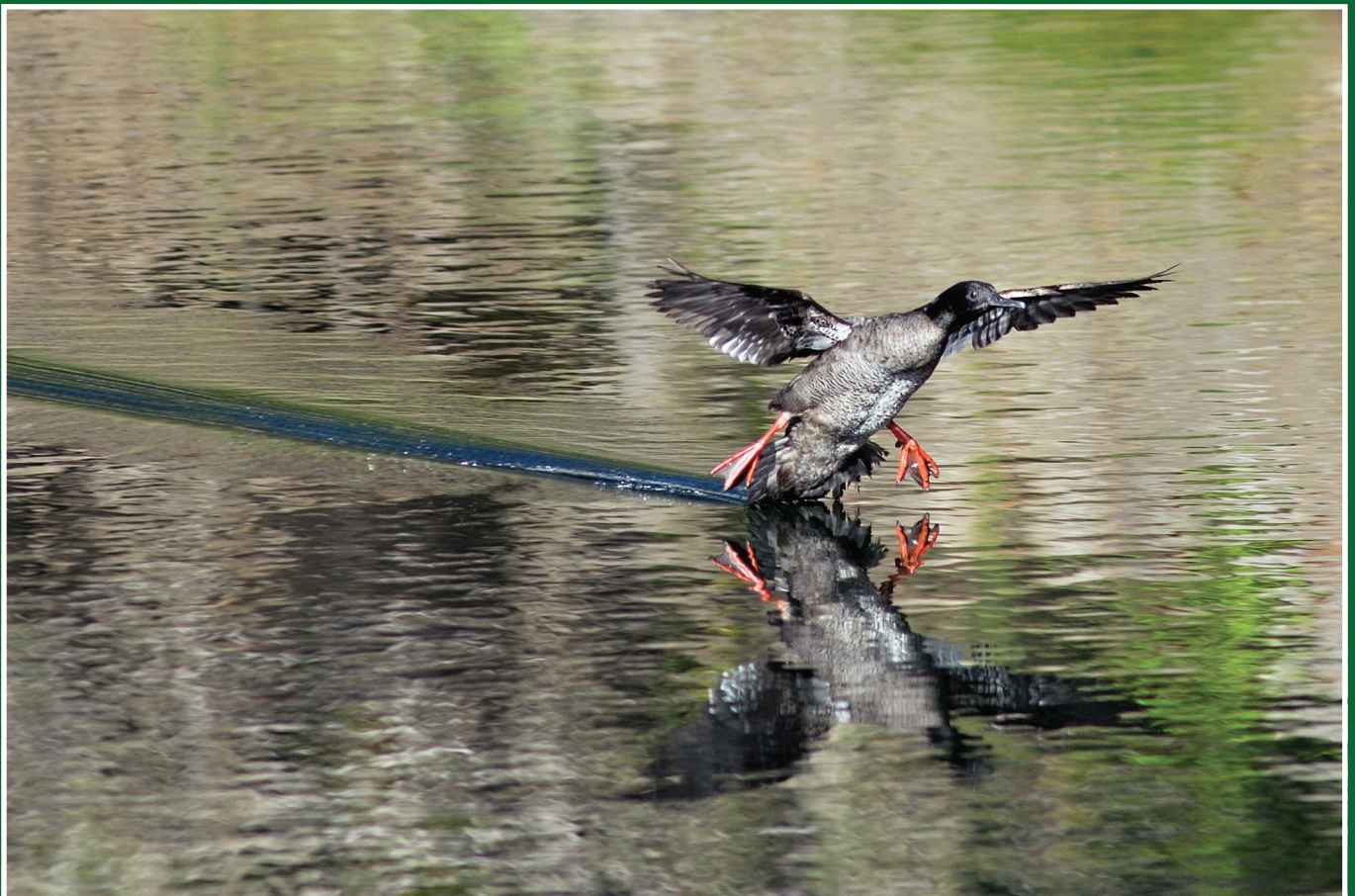
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Occurrence and Breeding Record of the American Oystercatcher (*Haematopus palliatus palliatus*, Temminick 1820) in Sergipe, Northeastern Brazil

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RESUMO: Ocorrência e reprodução do piru-piru (*Haematopus p. palliatus*) em Sergipe, nordeste do Brasil. Reportamos aqui o primeiro registro do piru-piru para a região do rio Vaza-Barris, no sul de Sergipe. Esta ave foi registrada entre outubro de 2008 e setembro de 2009. A ocorrência e a reprodução desta espécie era esperada para a região. A população parece ser pequena e esta espécie pode ser um importante bioindicador. Mais estudos sobre as aves da região e medidas para a sua conservação são recomendadas.

PALAVRAS-CHAVE: piru-piru; reprodução, Sergipe, Brasil.

KEY-WORDS: American Oystercatcher, breeding, Sergipe, Brazil.

The American Oystercatcher (*Haematopus palliatus*) is a New World charadriiform specialized for the predation of bivalve mollusks, which it pries open by rupturing the abductor muscle with its robust beak (Bachmann and Martínez 1998). It is one of the members of the order most closely associated with coastal environments, and is dependent on beach habitats for both foraging and breeding (Sick 1997; Warnock *et al.* 2002). The species is found throughout most of the New World, until the south of Canada. Five subspecies are recognized, and the geographic range of the nominal form, *Haematopus palliatus palliatus*, ranging from eastern North America to northern and eastern South America, including the whole coast of Brazil (Vooren and Brusque 1999; Schulte *et al.* 2007; Clay *et al.* 2009). Other subspecies have more restricted ranges, mainly on the western seaboard of the Americas.

Despite the ample nature of this distribution, the vast majority of the information available on the species is derived from studies of *H. p. palliatus* in North America (Mawhinney and Benedict 1999; Davis *et al.* 2001; Brown *et al.* 2005; Schulte *et al.* 2007; Clay *et al.* 2009), where it is most threatened by coastal development (Lauro and Burger 1989; Ens *et al.* 1992; Conor and Simons 2006; Sabine III *et al.* 2008). Few data are available on South American populations, although studies of the feeding ecology of *H. p. durnfordi* and *H. p. pitanay* have been conducted in Argentina and Chile, respectively

(Bachmann and Martínez 1998; Pacheco and Castilla 2000; Daleo *et al.* 2005).

Given the records available from a wide range of sites (Azevedo-Jr. *et al.* 2004; Cabral *et al.* 2006; Branco 2007; Rodrigues 2007), *H. p. palliatus* probably occurs along the whole of the coast of Brazil, although it appears to be most abundant in the extreme south of the country, in Rio Grande do Sul (Costa and Sander 2008). However, there are considerable lacunas in the record, and few data on ecological or reproductive parameters. In fact, the only record of breeding is a report from southern São Paulo (Barbieri and Delchiaro 2009). In this study, observations on the occurrence and breeding of *H. p. palliatus* at a new site in northeastern Brazil are presented and discussed.

MATERIALS AND METHODS

The state of Sergipe lies on the right bank of the lower São Francisco River, in northeastern Brazil, and has a 168 km-long coastline characterized by low-lying quaternary sediments forming dune fields, coastal lakes and complex estuaries lined with mangroves (Nascimento 2001; Oliveira and Souza 2005). The tropical climate is influenced primarily by the intertropical convergence zone, with a marked dry season during the austral summer.

TABLE 1: Maximum number of oystercatchers (*H. p. palliatus*) observed at one time each month in the Vaza-Barris estuary, Sergipe, Brazil.

	Month											
	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept
Maximum number of individuals observed	0	2	3	1	1	2	2	2	1	2	2	4

The state's shorebird populations have been monitored regularly since 2003, starting with the Aracaju shoreline (Figure 1: transect 2), and more recently (since 2008) in the central and southern portions of the state (transects 1 and 3). Transects were surveyed based on the procedure for open areas recommended by Bibby *et al.* (1998), in which the observer moves along the transect and identifies and quantifies the number of individuals of all species encountered. In the present study, transects 1 and 2 were surveyed once or twice each month between October, 2008, and September, 2009, using a motorcycle, which was driven along the upper tide line at a constant speed of approximately 40 km/h. Additional "ad libitum" observations were conducted following the active search procedure. Surveys were conducted primarily in morning (06:00-09:00 h) and afternoon (14:00-18:00 h) sessions. Species were identified with the help of binoculars (8 × 40 and 15 × 60) and a digital camera.

RESULTS AND DISCUSSION

During the study period, American oystercatchers, *H. p. palliatus* (Figure 2), were observed in the Vaza-Barris estuary in all months except October (Table 1). Single birds were observed foraging on sandy substrates, whereas groups of up to four individuals were seen foraging in the mangrove, in the proximity of other shorebirds, such as the migratory *Numenius phaeopus*, *Tringa semipalmata* and *Pluvialis squatarola*. At high tide, the oystercatchers rested in the dunes, together with mixed groups of migratory shorebirds.

In September, a nest with two eggs (Figure 3) was identified on the right bank of the mouth of the Vaza-Barris. The nest appeared to be typical of the species in both structure – a simple shallow depression in the sand (Lauro and Burger 1989; Ens *et al.* 1992; Barbieri and Delchiaro 2009) – and the number of eggs, although nests with as many as four eggs have been observed (Noll *et al.* 1984; Lauro and Burger 1989).

It was not possible to monitor the nest continuously, but on the occasion of the second visit, 10 days after the first, only one egg was found in the nest. This egg was 54.8 mm long and 37.7 mm in maximum width. As no eggshell or nestling was found in the nest, it seems likely that the egg was lost as a result of heavy rain or strong waves during a high tide, rather than predation. No sign of the nest was found during subsequent visits. *Haematopus palliatus* is a relatively long-lived species, but tends to have a relatively low and irregular reproductive output (Noll *et al.* 1984; Evans 1991), which may contribute to its vulnerability to anthropogenic impacts (Clay *et al.* 2009).

While the species was presumed to occur in Sergipe due to its potential distribution throughout the Brazilian coastal zone (Sick 1997; Sousa 2009), the evidence indicates that the species is patchily distributed within the region in both time and space. In fact, while there is no evidence of the occurrence of the species within the study area between 2003 and the end of 2008 (Barbieri 2007; Almeida and Barbieri 2008; Barbieri and Hvenegaard 2008; Hvenegaard and Barbieri 2010; Almeida and Ferrari in press), more recent observations have confirmed the species on the beach at Atalaia Nova (transect 3), and in the mangroves of the mouth of the São Francisco River in the eastern extreme of the state (Almeida 2010). The evidence suggests the establishment of a breeding population within the past two years, which supports the idea that the area offers relatively good conditions for this type

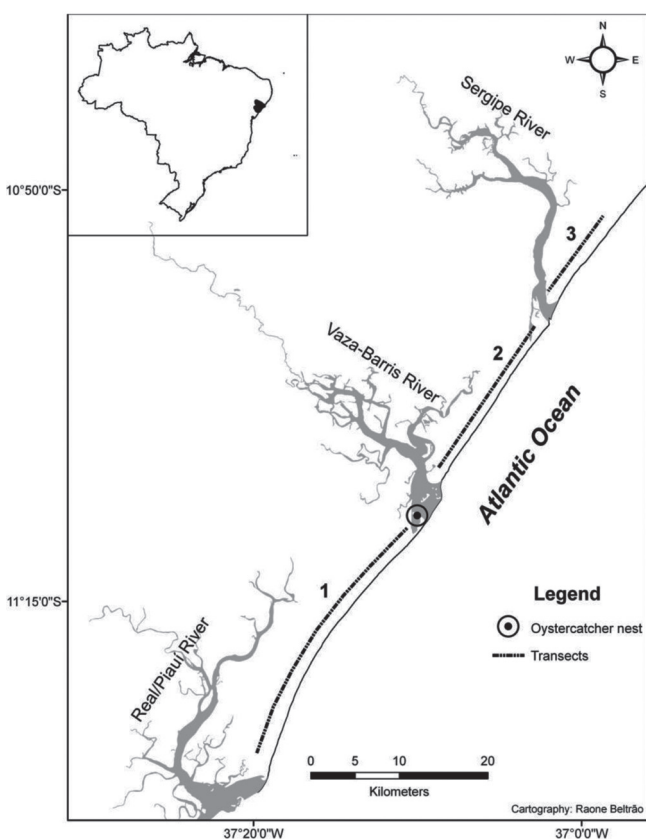
**FIGURE 1:** Distribution of the three transects surveyed during the present study on the coast of Sergipe, Brazil, and the location of the *H. p. palliatus* nest encountered in September, 2009.



FIGURE 2: American oystercatchers (*H. p. palliatus*) on sandy beach (left) and mangrove mudflats (right) in the Vaza-Barris estuary, Sergipe, Brazil.



FIGURE 3: Nest of *Haematopus palliatus palliatus* observed on the right bank of the mouth of the Vaza-Barris River at 11°10'03.54"S, 37°10'20.98"W (see Figure 1).

of shorebird, which appears to be patchily distributed in the Brazilian Northeast.

CONCLUSIONS

This study provides the first data on the occurrence of the American Oystercatcher, *Haematopus palliatus palliatus*, in the Brazilian state of Sergipe. Not only was a small population identified, which did not appear to have been present in previous years, but evidence of breeding was recorded. This suggests that the region may be an important area for this shorebird.

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