

SHORT COMMUNICATION

**WRONG WAY HOME: AN INFANT SOUTHERN ELEPHANT SEAL
(*Mirounga leonina*) ARRIVAL ON SOUTHEASTERN BRAZILIAN
BEACHES**

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RESUMO

É reportada a ocorrência recente de um infante de elefante-marinho (*Mirounga leonina*) na costa do estado do Rio de Janeiro com um intervalo aproximado de um mês entre as avistagens do mesmo indivíduo. A comparação das fotografias obtidas em ambos os registros permitiu a comparação e confirmação. Em adição, se discute a presença de infantes na costa brasileira, que totalizam oito casos, mas que não apontam uma sazonalidade marcada, mas uma tendência aos registros serem reportados em junho, seguido por outubro e novembro. Como o presente registro se deu em janeiro, pico do verão, fatores climáticos de larga escala podem estar atuando para deslocar alguns indivíduos muito ao longe das suas colônias.

Palavras-chave: *Mirounga leonina*, movimentos, vagante, Atlântico Sul.

ABSTRACT

Records of southern elephant seals (*Mirounga leonina*) as vagrants along the SE Brazilian coast date back the late 50's and have been relatively common over the last decades. These large marine mammals usually call much attention when they arrive on tropical beaches worldwide and are generally treated as 'occasional visitors' and 'vagrants'. This note reports on sightings of a young elephant seal along SE Brazil in the summer and autumn of 2020. We also reviewed records in both the literature and open sources, totaling eight records of infant southern elephant seals known since the late 70's along the Brazilian coast. It was noted that the arrival of an infant in February of 2020 is coincident with a previous cyclonic activity off the SE and NE Brazilian coast. The connection of such unlikely records of pinnipeds on tropical beaches and extreme weather events associated to ocean currents should be better evaluated in the context of climatic change

Keywords: *Mirounga leonina*, erratic movements, vagrant, South Atlantic.

Records of southern elephant seals (*Mirounga leonina*) as vagrants along the SE Brazilian coast date back the late 50's (Carvalho, 1975) and have been relatively common over the last decades (Moura et al. 2010; 2011; Mayorga et al., 2016). Most of these observations comprised by subadults or adults, some of them apparently healthy, resting on beaches, and resighted during several weeks at the same spot (Magalhães et al., 2003; Mayorga et al., 2017). These large marine mammals usually call

much attention on tropical and subtropical beaches worldwide and are generally treated as 'occasional visitors' and 'vagrants' (Castello & Pinedo, 1977; Pinedo, 1990; Pinedo et al.; 1992; Simões-Lopes et al. 1995; Shaughnessy et al. 2012; Webster et al., 2016). As most of the pinniped records on the coast of south-eastern Brazil, including *M. leonina*, are largely concentrated during winter months, from June to September (Moura & Siciliano, 2007; Moura et al. 2010), the general public often 'perceives'

and associates their arrival to cold fronts and cooler temperatures. But what to say when such a pinniped record occurs in the peak of summer? In this context, the purpose of this note is to report on sightings of young elephant seals, smaller than 2,0 m long, on beaches along SE Brazil, namely at Açú, located in São João da Barra, on the northern coast of Rio de Janeiro and, subsequently, in the city of Rio de Janeiro, Brazil.

Early in the morning of 05 February 2020, a team of beach patrols found the resting pinniped on the sand of Açú, in São João da Barra, on the northern coast of the state of Rio de Janeiro. The specimen was identified based on characters described by Jefferson *et al.* (2008). The young elephant seal seemed to be in apparent good health, simply laying on the beach

and warming up after a long journey out in the sea. It was reported that it suddenly returned to the sea after the arrival of the beach patrols, probably stressed by the presence of dogs (Figure 1).

Approximately one month later, on 3 March 2020, the arrival of an infant elephant seal at 10:30 AM on the beach of Barra da Tijuca, Rio de Janeiro was reported by one the authors (C.E.S. Amorim). The specimen was a male, 1,30m long, and rested all day at the same spot (Figure 2). At night it went out back to sea. It defecated on the sand. The body had numerous barnacles attached, very probably *Conchoderma auritum*, as previously observed on specimens at Arraial do Cabo and Vila Velha, SE Brazil (Magalhães *et al.* 2003; Mayorga *et al.* 2017) and in South Africa (Best, 1971).



Figure 1. Young elephant seal reported at Açú, a beach located in São João da Barra, on the northern coast of the state of Rio de Janeiro, Brazil. Photos are stills taken from a video made by the beach patrolling team (Photos by I.A. Ribeiro and R.F. Buffa).



Figure 2. Young elephant seal reported at Barra da Tijuca, a beach located in the city of Rio de Janeiro, in the state of Rio de Janeiro, Brazil. Photographs by R. A. Hauser-Davis.

Both sightings seem to concern the same individual, as an identical, almost horizontal, flesh wound located slightly above the right flipper was observed in both animals, even though they were sighted one month apart (Figure 3).

Considering these quite unusual sightings and to obtain a better understanding of data available on infant southern elephant seals wandering along the coast of Brazil, we also reviewed records in both the literature and open sources. A total of eight records of infant southern elephant seals are known since the late 70's, when beach monitoring for marine mammals began in southern Brazil, and subsequently in the 80's along the south-eastern coast (Table 1; Figure 4).

In general, the low number of records may be due to a variety of reasons, and we can only speculate that the chance of survival of newborns and infants during such a long journey after weaning in their Patagonian calving grounds (Falabella & Campagna, 1999) is quite small. For straggler pinnipeds, diseases (Bastida et al. 1999; Amorim et al. 2014) and predation by large sharks have been previously reported (Rosas et al. 1992), while other threats, such as fisheries interactions (Machado et al. 2015) and human aggression, both on land and sea (Drehmer et al. 1998; Oliveira et al. 2001; Siciliano et al., 2016) are also noteworthy, which greatly reduce the chances of surviving vagrancy periods.

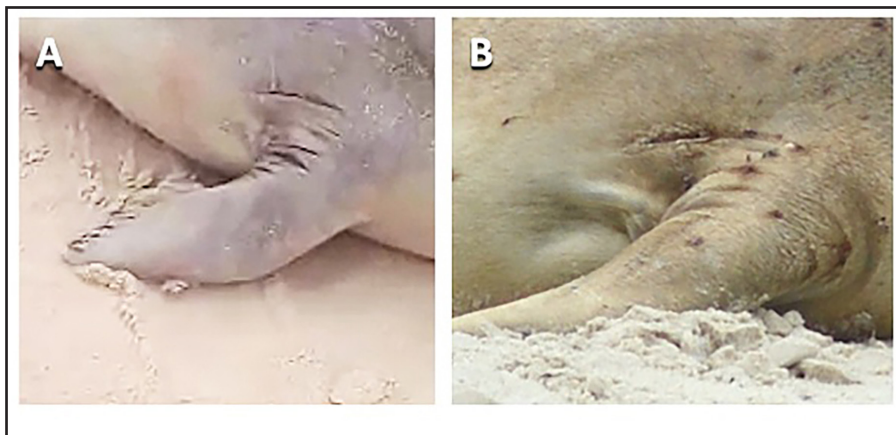


Figure 3. Almost horizontal, flesh wound located slightly above the right flipper in (A) the Açú specimen and (B) the Barra da Tijuca specimen. (A) is a still taken from a video made by the beach patrol team, (B) by R. A. Hauser-Davis.

Table 1. Records concerning sightings of infant southern elephant seals in Brazil.

Nº	Locality of occurrence	Date	Sex	BL (cm)	Source
1	Praia do Cassino, Rio Grande, RS	15 June 1981	M	190	Pinedo, 1990
2	São José do Norte, RS	17 October 1985	?	150	Pinedo, 1990
3	São Francisco do Sul, SC	03 June 1994	?	150	Caseca-Santos and Soto, 1998
4	Praia do Cassino, Rio Grande, RS	December 2000	F	190	Silva, 2004
5	Praia do Segundo Distrito Naval, Barra, Salvador, BA	11 February 2002	M	137	Bastos et al. 2006
6	Praia dos Padres, Aracruz, ES	05 November 2013	M	156	Portal G1 and Portal 27
7	Praia do Açú, São João da Barra, RJ	05 February 2020	?	~160	Present record
8	Praia da Barra da Tijuca, RJ	03 March 2020	M	130	Present record

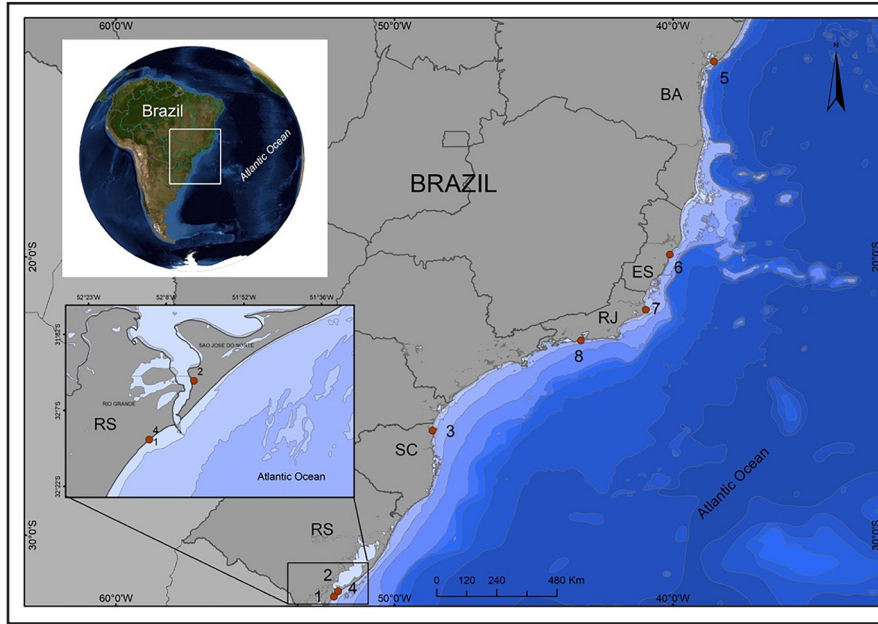


Figure 4. Map indicating records of young elephant seals, smaller than 2,0 m long, on beaches along the Brazilian coast. Occurrences #7 and #8 point out the records along SE Brazil that are treated in detail in this note.

Regarding the period of its arrival, the present observation occurred during the peak of summer, coincident with a Salvador (Bahia) record. Other reported observations of infant elephant seals in Brazil were in June ($n = 2$), October ($n = 1$), November ($n = 1$) and December ($n = 1$). This agrees to a certain extent with the review provided by Moura *et al.* (2010), which indicates June (24% out of 45 records) as the month comprising the highest number of specimens of elephant seals observed along the Brazilian coast, followed by August (20%), July (17,8%) and November (11,1%). However, the arrival in February of 2020 is coincident with a previous cyclonic activity off the SE and NE Brazilian coast (Brazilian Marine Meteorological Service, 2020a, b), in the form of a subtropical storm named Kurumí (“boy”, in the indigenous Tupi-Guarani language) where strong rainfall associated with rough seas and intense wave undulations prevailed, playing a role in many Brazilian floods and mudslides.

The connection of such unlikely records of pinnipeds on tropical beaches and extreme weather events associated to ocean currents should be better evaluated in the context of climatic change, as several studies have linked climate alterations to higher sea surface temperature, decreased ice cover and altered ocean circulation, salinity, rainfall patterns, and climate patterns, among many others (Learmonth *et al.*, 2006; Silber *et al.*, 2017), modifying oceanic

currents worldwide (NASA, 2020; Caesar *et al.*, 2018; Thornalley *et al.*, 2018). For example, an increase in kinetic energy since the 1990s has been observed in about 76% of oceans at 2,000 m in depth, and, overall, ocean current speeds have risen by about 5% per decade since the early 1990s (Voosen, 2020). These, and other climate change effects, have led to significant changes in marine mammal geographical distributions, including pinnipeds (Kelly, 2001; Learmonth *et al.*, 2006). Whether such records of infant elephant seals are erratic movements triggered by large scale ocean circulation or a matter of casualty, these accounts deserve reporting for a future assessment.

Note added in proof: Following the record of the infant elephant seal in Barra da Tijuca, Rio de Janeiro, on 3 March 2020, this individual was resighted, resting on beaches bordering the east coast of the state, in this way: on 12 April 2020 in Ponta Negra (Maricá), on 5 May 2020 in Praia Grande (Arraial do Cabo) and on 21 May 2020 in Praia de Geribá, Armação dos Búzios. All these records were verified *in loco* by at least one of the authors.

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