



## Short communication

# First record of bigeye thresher shark (*Alopias superciliosus* Lowe, 1841) and new record of thresher shark [*Alopias vulpinus* (Bonnaterre, 1788)] (Chondrichthyes, Alopiidae) from Argentina

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### Introduction

The family Alopiidae comprises three species which are found in all temperate and tropical oceans around the world, all within the genus *Alopias*. The possible existence of an unrecognized fourth species, apparently found in the eastern Pacific off Baja California, was revealed by allozyme analysis (Eitner, 1995). The thresher shark *Alopias vulpinus* is a cosmopolitan species in temperate oceans which penetrates into tropical waters (Compagno, 1984) but also has a noted tolerance for cold waters (Castro, 1983; Moreno et al., 1989) between the surface and a 366 m depth (Compagno, 1984). Found in coastal and oceanic waters, it is most abundant in waters up to 40 or 50 miles offshore (Strasburg, 1958; Gubanov, 1972; Moreno et al., 1989; Bedford, 1992). The bigeye thresher shark *Alopias superciliosus* has a circumglobal distribution in tropical and temperate seas and ranges between surface waters and 730 m depth, as well as the thresher shark *Alopias pelagicus* in the Indo-Pacific.

In Argentina, the only species cited was *A. vulpinus* by Lahille (1921), from Mar del Plata. Its presence is rare and there are only nominal cites (Menni et al., 1984; Menni and Lucifora, 2007; PAN, 2009); in Northern Patagonia (San Matías Gulf) *A. vulpinus* was reported orally by local fishermen but with no collection material provided (Perier et al., 2011).

This is the first report of the presence of *A. superciliosus* in Argentina, with a new location for *A. vulpinus*, and registering their meridional distribution in the Southwestern Atlantic (SWA) with collected material.

### Materials and methods

The *A. superciliosus* specimen reported in this paper was collected at Costa Esmeralda, Pinamar (36°53'56.04"S – 56°41'20.04"W) (Fig. 1), on 12 March 2013 at 09.30 h. *Alopias vulpinus* was collected at Mina de Hierro, Bahía San Blas (40°34'2.18"S – 62°12'8.20"W), Marine Protected Area, Northern Patagonia, Argentina (Fig. 2), on 12 January 2015 at 19.00 h, fished by Santiago Scarcelli. The anglers captured both specimens at the coast over a sandy bottom.

Sea surface temperature (SST) and chlorophyll were obtained from Aqua-MODIS satellite data. Salinity was calculated using the chlorophyll data according to Piola et al. (2008).

### Results

The *Alopias superciliosus* (Lowe, 1841) specimen was a 175 cm TL male and fished during the first daily high tide (21.30 h, height 1.7 m, sunrise: 06.44 h, sunset: 19.10 h, moon: new moon, www.oceanwatch.pifsc.noaa.gov).

The *Alopias vulpinus* (Bonnaterre, 1788) was a mature 313 cm TL male captured at 7.30 h near the second daily high tide (21.40 h, height 2.24 m, wind East, sunrise: 05.53 h, sunset: 20.41 h, moon: waning gibbous, www.oceanwatch.pifsc.noaa.gov).

### Discussion

Both specimens might have arrived within the same mass of water since they were fished during the summer in shallow warm ( $21 \pm 0.5^\circ\text{C}$ ) coastal waters carrying a salinity of 32 ( $\pm 1$ ) ppm. The *A. superciliosus* was identified as a juvenile, due to length at birth range (131–140 cm) and the total length (TL) at first maturity of 261 cm (Camacho Veloz, 2012). The TL at first maturity could be larger for other authors, 142 cm TL (Romero Caicedo, 2005) and 158 cm TL (Liu et al., 1999) and the TL could reach 600 cm. The length at birth of *A. vulpinus* is similar to *A. superciliosus*, 141 cm TL (Hixon, 1977), and the TL at first maturity ranges between 260 and 280 cm TL (Gubanov, 1972), similar to the TL of our specimen.

Information for both species for the SWA is still insufficient (Fowler et al., 2005). In the *A. vulpinus*, some information on juvenile distribution and reproduction is known (Gadig et al., 2001; Mancini and Amorim, 2006); however, for *A. superciliosus* only the biological and fishery aspects have been recorded (Amorim et al., 1998; Mancini, 2005). Both species have low fecundity, generally two embryos for *A. superciliosus* and four for *A. vulpinus* (Compagno, 2001)

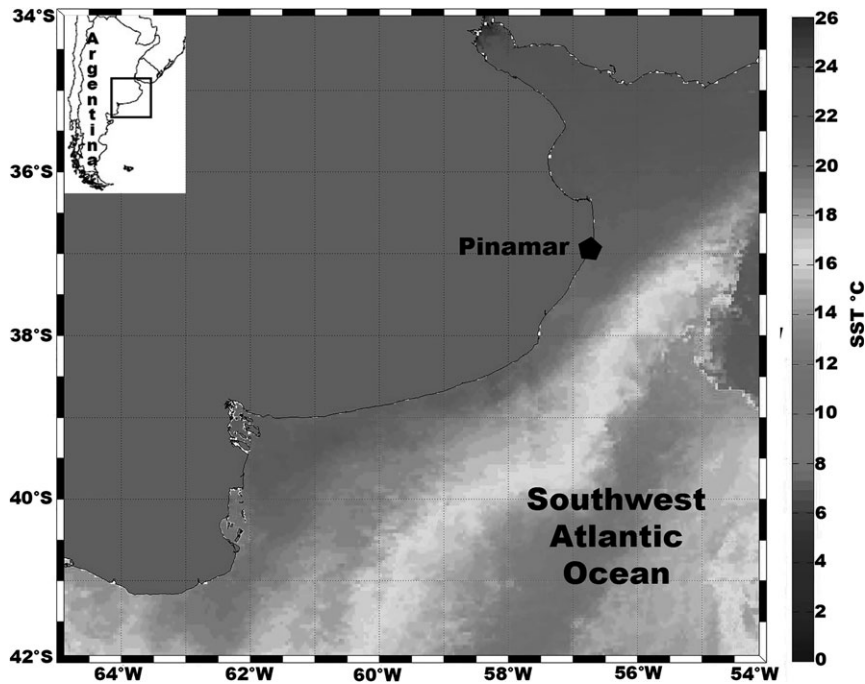


Fig. 1. *Alopias superciliosus*. Capture site and mean sea surface temperatures, 6–13 March 2013

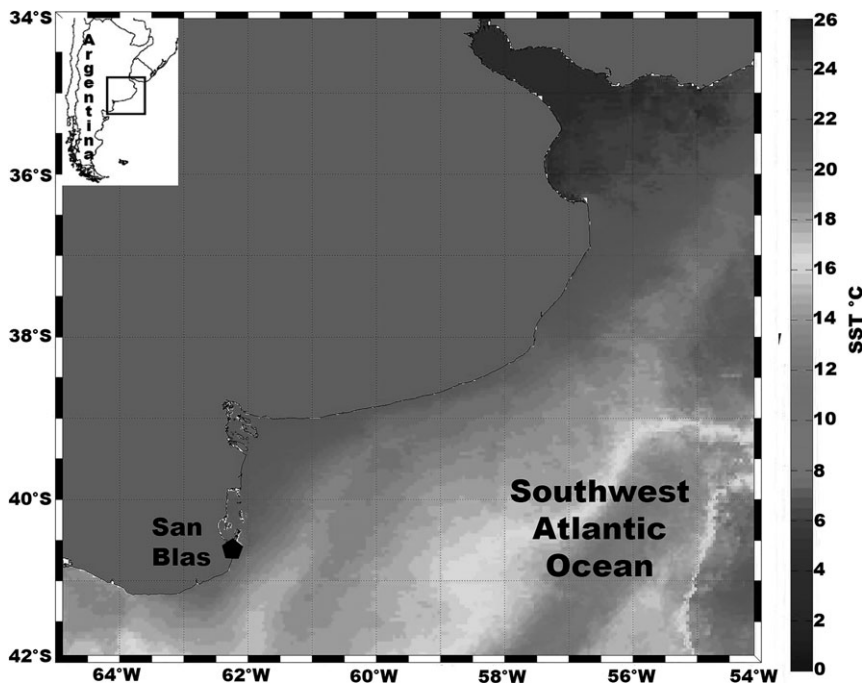


Fig. 2. *Alopias vulpinus*. Capture site and mean sea surface temperatures, 9–16 January 2015

within 9 months of gestation in both species (Cailliet et al., 1983; Camacho Veloz, 2012).

Both species are fished incidentally by the pelagic longline fleet in the SWA. Generally the carcass is discarded and only the fins retained. *A. superciliosus* represented 90% of the total genus captured on the Brazilian coast (Amorim et al., 1998), with the same trend in the SWA (Berrondo et al., 2007).

Both species are listed as ‘Vulnerable’ globally due to their declining populations, low abundance and occurrence in highly-fished areas (IUCN, 2014). Their low fecundity and long gestation periods show that an urgent evaluation of their conservation status for the SWA populations is needed, particularly for *A. vulpinus* as a result of its low capture value and a narrow distribution range in this region.

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