

**Short Communication**

Notes on a plastic debris collar on a juvenile *Pagellus acarne*  
(Perciformes: Sparidae) from Terceira Island, Azores, NE  
Atlantic

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Running title: fish strangled by plastic ring

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**Abstract**

One juvenile axillary bream (*Pagellus acarne*) was caught by hand net during a free dive in January 2008 in Terceira Island, Azores (NE Atlantic) with a plastic collar fixed at the level of the operculum. The collar was removed and the fish survived with heavy scars and was kept alive in a NGO aquaria. The plastic ring was identified as a detachable lid part from a plastic bottle, an item commonly thrown to the seaside by vacationers, fishermen or people in recreational boats. This note discusses this particular case and the impact caused by discarded plastic debris in the oceans.

Keywords: Plastic debris; Fish entanglement; Pollution; Lesions

The world’s oceans are literally filled with many types of plastic debris that cause impacts of several degrees of gravity, sometimes being very harmful and even fatal, to many vertebrate species ranging from tiny fish to cetaceans (Dufault & Whitehead, 1994; Wilber, 1987; Laist, 1997; Derraik, 2002; Katsanevakis & Issaris, 2010). In fact, the problem of plastic debris in the world’s oceans is serious and this case report is just another insight from a truly vast and worldwide problem affecting a wide variety of marine taxa (Butterworth *et al.*, 2012).

Here we report a case of a plastic ring that became fixed around the operculum of a juvenile axillary sea bream *Pagellus acarne* (Risso, 1827) caught by a free diver in the west coast of Terceira Island, NE Atlantic.

On 9 January 2008, a juvenile *P. acarne* (115 mm TL) with a plastic ring surrounding its operculum area (Fig. 1a) was observed during a free diving in the SW coast of Terceira Island, the Azores (NE Atlantic, 38° 40’31’’N; 27°19’45’’W) and caught by hand net. The plastic debris (30 mm diameter) was identified as a detachable lid part from a plastic bottle and removed from the fish (Fig. 1b). It caused a deep cut in the anterior abdominal region of the fish (Fig. 1c) which ultimately led to its death. This type of debris are frequently discarded by many types of sea going people from professional fishermen to summer vacationers and have proven to be very harmful to many marine vertebrates including some endangered sharks (Gudger & Hoffmann, 1931; Sazima *et al.*, 2002).

Plastic debris not only cause these entanglement accidents (Katsanevakis & Issaris, 2010) but are also swallowed by a number of marine vertebrates (Ryan, 1988; Laist, 1997; Copello & Quintana, 2003), namely turtles (Barreiros & Barcelos, 2001) and cetaceans (Baird and Hooker, 2000).

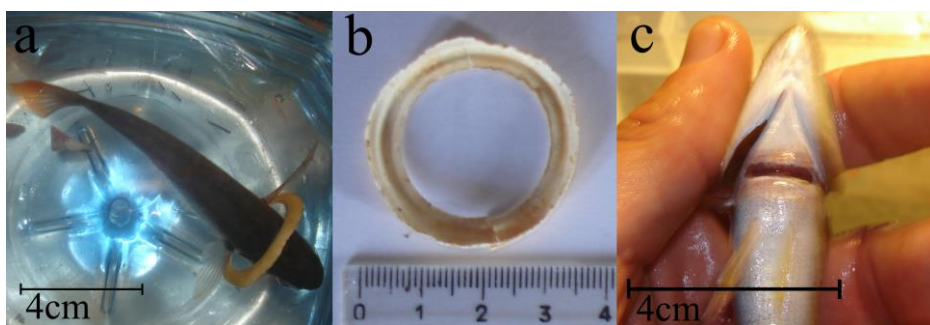


Figure 1. The specimen of *Pagellus acarne* from Terceira Island, Azores (NE Atlantic) still with the plastic ring on it a). The plastic ring after removal b) and c) the fish after death, showing a deep cut on the frontal part of its ventral region, just below the operculum. All photos by OG.

Since it is known that the majority of pollution accidents caused by plastic debris in the world's oceans are easily avoidable through education (Wilber, 1987) and an environmental "culture" well implanted in people, the vast majority of this kind of accident should not happen at all and, hopefully, will be reduced in the near future. It is surely more probable than not that incidents and/or accidents (fatal or not) with marine animals caused by plastic debris are highly underestimated (Butterworth *et al.*, 2012) both in the scientific literature and in the media, not to count with the certain vastness of problems that simply go on happening but are indeed undetected.

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