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Updated information from the Spanish Blackspot seabream (*Pagellus bogaraveo*) fishery in the Strait of Gibraltar area

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Updated information from the Spanish Blackspot seabream (*Pagellus bogaraveo*) fishery in the Strait of Gibraltar area

Juan Gil Herrera

Abstract

This paper presents the available information of the Blackspot seabrem fishery in the Strait of Gibraltar and updates the documents presented in 2010 with the information from the last two years, 2011 and 2012. The document presents data about landings, LPUE, length frequencies and also observers on board programme information which should be useful for considerations about the Spanish fishery.

1. Introduction and fishery description

Since the earlies 1980´s a Spanish artisanal fishery targeted to the Blackspot seabream (*Pagellus bogaraveo*, namely "*voraz*") have been developing along the Strait of Gibraltar area. This fishery has already been broadly described in several papers (Gil *et al*., 2000; Gil and Sobrino, 2001, 2002 and 2004; Gil *et al*., 2003, 2005, 2006, 2007, 2008, 2009 and 2010). Blackspot seabream fishery in the Strait of Gibraltar is almost a mono-specific one with one clear target species which represents the 74% from the total landed species which constitutes a métier by itself (Silva *et al*., 2002). In 10997, the Instituto Español de Oceanografía (IEO) began this fishery monitoring. In 2006, 2008 and 2010 assessment trials (Spanish landings) were attempted within the ICES WGDEEP (ICES, 2006, 2008 and 2010). Also in 2009 Moroccan colleagues presented another assessment exercise (Morocco landings) to the Demersal Working Group of the SAC-GFCM.

In September 2010, after the revision of the existing data in both countries, an assessment workshop were carried out at Fuengirola (Málaga, Spain), because no joint assessment of this species by Spain and Morocco on this Gibraltar Strait shared stock had ever been done before. The results obtained were presented to the ICES WGDEEP and to the SAC-GFCM along 2011.

So, the main objective of this paper is to provide an updated summary of the current status of knowledge about the Spanish fishery at the second WGPG meeting.

2. Material and methods

Fishery information was gathered for the period 1983-2011 from the sale sheets: monthly landings (Kg.), monthly number of sales and the number of days in which those sales were carried out in this species main landing ports of the Cádiz province (Tarifa, Algeciras and Conil). Moreover, from the beginning of the IEO monitoring, June 1997, an *ad hoc* monthly length samplings from the different commercial sizes are carrying out in the port of Tarifato estimate the landings length distribution (Gil *et al*., 2000).

Besides, from 2005 to 2009 a scheme of observers on board "voracera" fleet has been carried out. Sampling level was 5 boats and 3 trips per month. Caught species were recorded in number (including length distribution).

A Kolmogorov-Smirnoff test was applied for the comparison between length distributions from port samplings and observers on board information.

3. Results and discussion

- Landings data: Figure 1 shows a continuous increase of the landings to a maximum in 1994. Landing Ports included are: Tarifa Algeciras and Conil. Since 1994 landings have gone decreasing, except in 1996 and 1997, till arise the lowest value of the recent years in 2002. Then, from 2003 onwards it shows an increasing trend till reached the highest value of the last years in 2009, followed by a new decrease the last two years, which confirm that there´s still no scientific reasons for guarantee the sustainability of the recent landings increase in this fishery (till 2009). Figure 2 shows a sort of fishery footprint from the information obtained with the observers on board programme. Fishing grounds are located at both sides of the Strait of Gibraltar and quite close to the main ports (Tarifa and Algeciras).

- LPUEs and CPUEs: It is important to emphasize that the effort unit chosen (number of sales) cannot be too appropriate as do not consider the missing effort. Thus, in those years when the resource is not so abundant the missing effort should increases

substantially (fishing vessels with no catches, so no sale sheet were recorded). Thus, the LPUE trend from the decline of the fishery, 1997, should be interpreted with caution because it cannot be a real image of the resource abundance (because the number of sales could be under estimated). Fishing effort increases too till 2009 and then decrease again (Figure 3).

Whilst the CPUE trend from the tuning fleet (observers on board programme) shows a totally different situation. The Figure 4 presents the CPUE (number per line) from 2005 to 2009. Values vary around 3 Blackspot seabream per ±70 hooks but the general trend seems to be slightly decreasing.

- Length frequencies:

The fishery resource suffers a decrease of the landed mean length (Figure 5) mainly from 1995 to 1998. It is necessary to point out that species probably does not have a homogeneous geographic and bathymetric distribution related to their length. This fact could explain the different landed mean length between the main landing ports, Tarifa and Algeciras. The mean length of the landings gets progressively increasing from 1999 onwards, but along the last years the trend varies increasing again from 2006 on in both landing ports. However the length median value from these years remains under the mean in every case and close to the minimum landing size in Algeciras. The mean length from both landing ports became lower from 2010. In the case of the Algeciras port the last median value are placed below the legal minimum landing size (33 cm TL).

Figure 6 presents the length distribution from the tuning fleet. Every year of comparison (2005-2009) presents significative differences between those and the length distribution estimated from the different commercial sizes samplings at Tarifa port. The differences among the sampling protocols adopted may be explained this fact: observes on board did a sort of concurrent sampling while in the fishmarket it had be done a stratified sampling (covering the 4 market categories).

4. Conclusion

There is no clear evidence of the fishery sustainability at the current levels. Control and enforcement of the management measures are desirable. From 2005 till 2009 landings increase every year, exceeding the fishing plans TAC. Landings and mean length decreasing since 2010 is reminiscent of a similar history in the middle 1990s.

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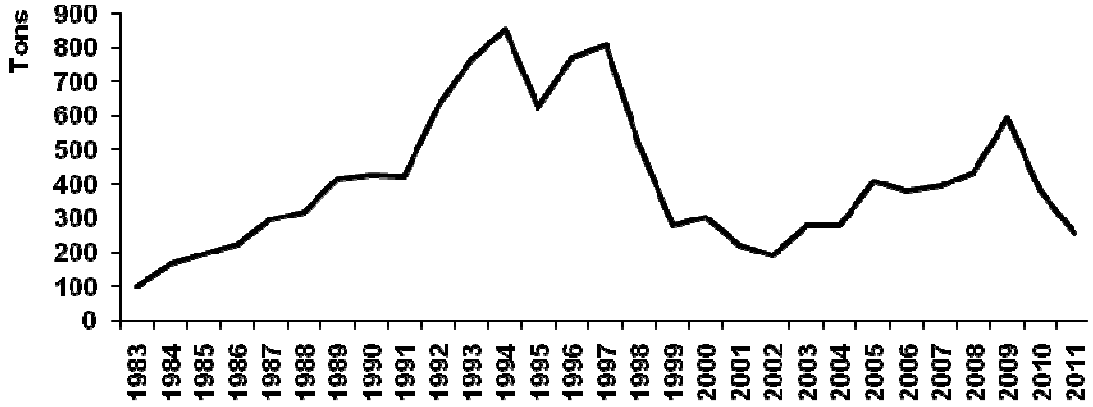

Figure 1. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Landings (1983-2011).

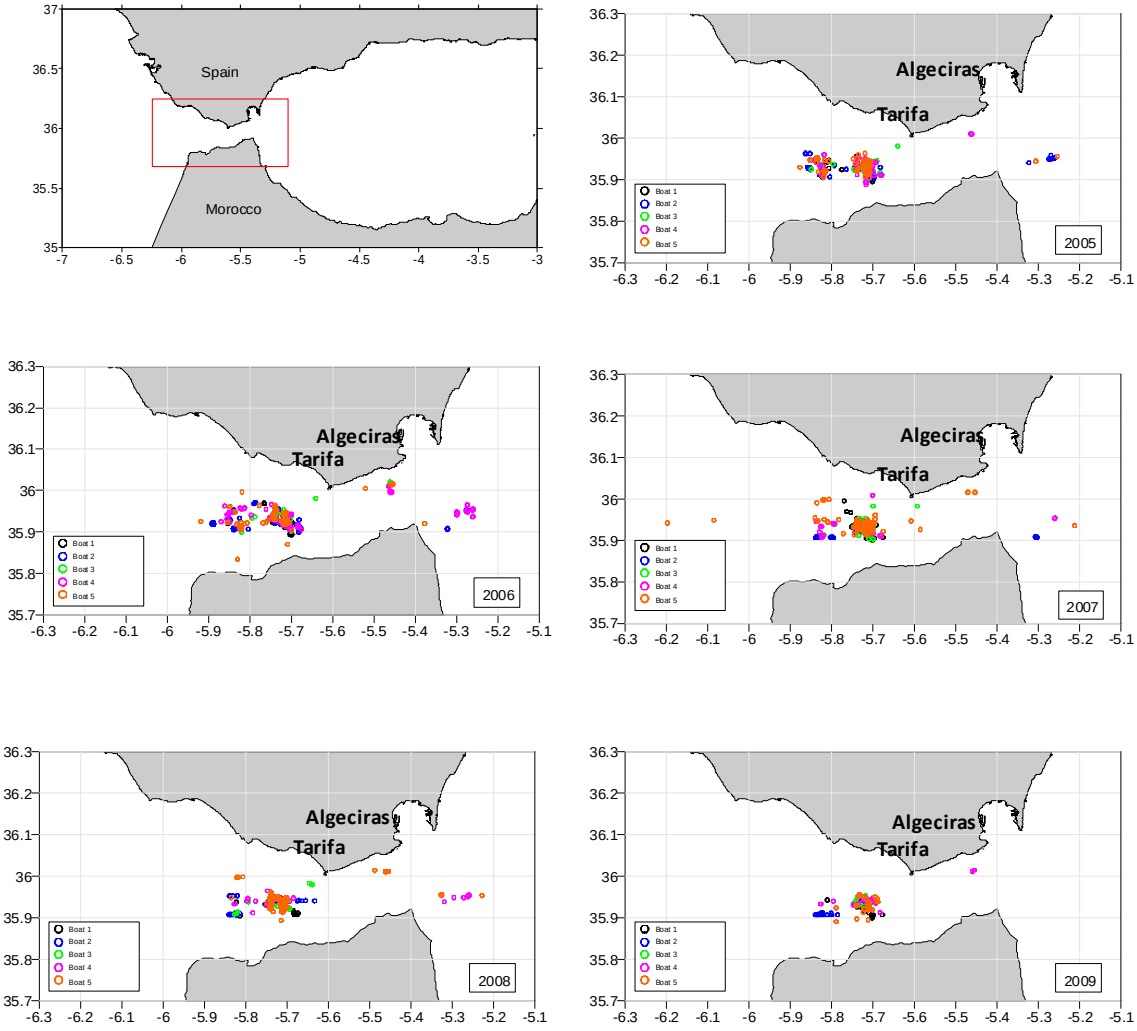

Figure 2. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Yearly soaking positions footprints from observers on board programme (2005-2009).

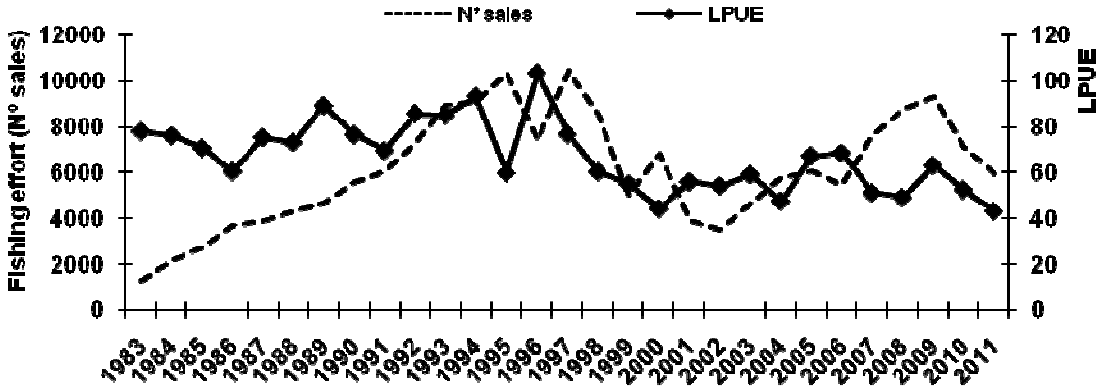

Figure 3. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Evolution of the chosen effort unit and estimated LPUE (1983-2011).

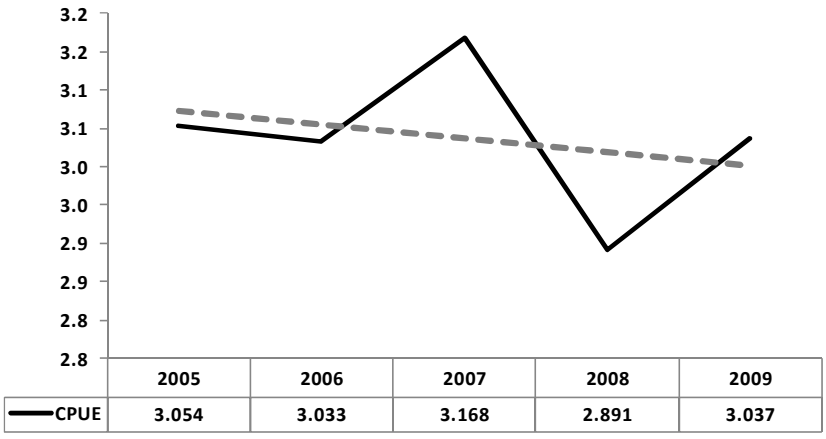

Figure 4. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Evolution of the CPUE from the observers on board programme (2005-2009).

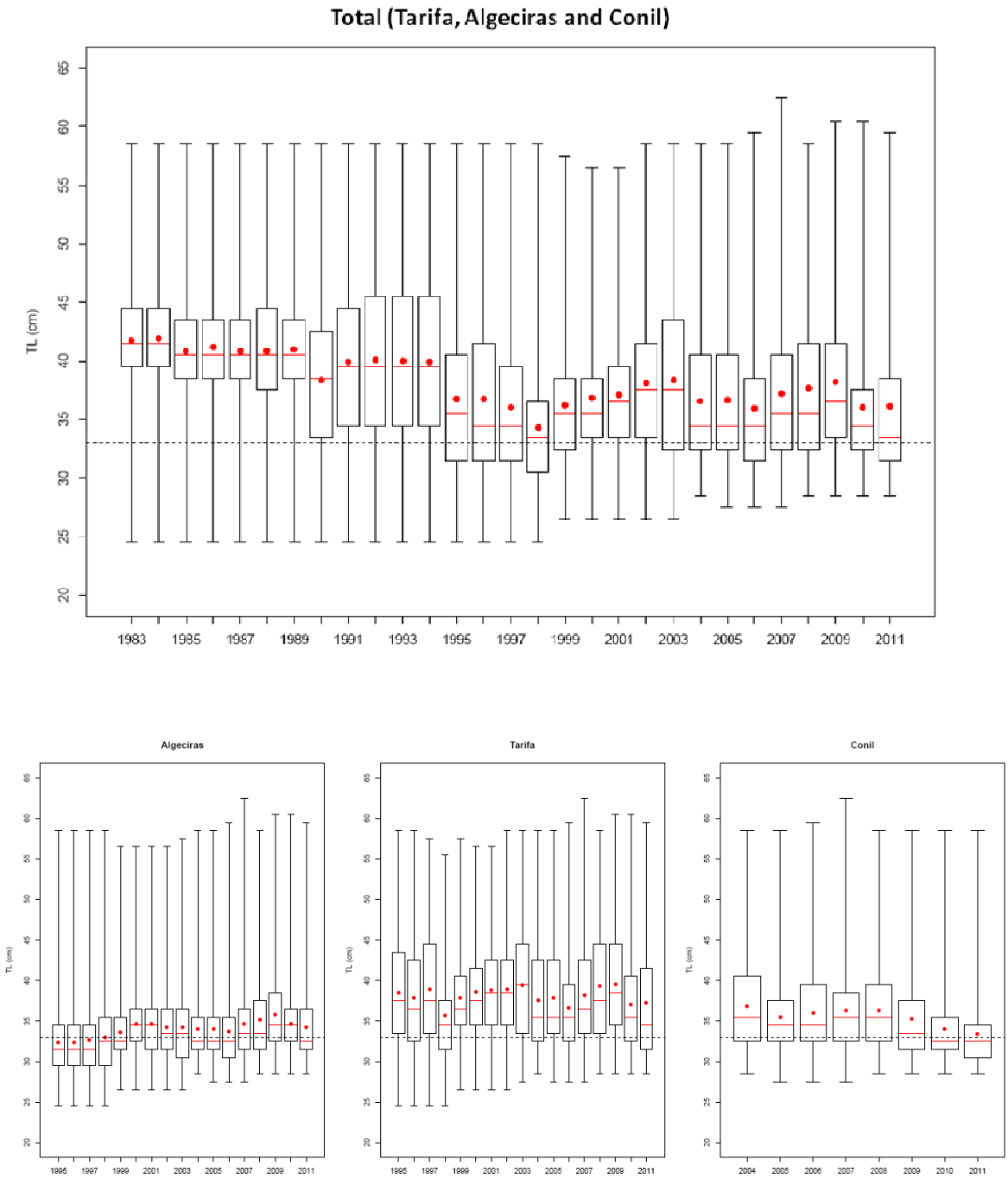

Figure 5. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Evolution of the landings length distribution descriptive statistics.

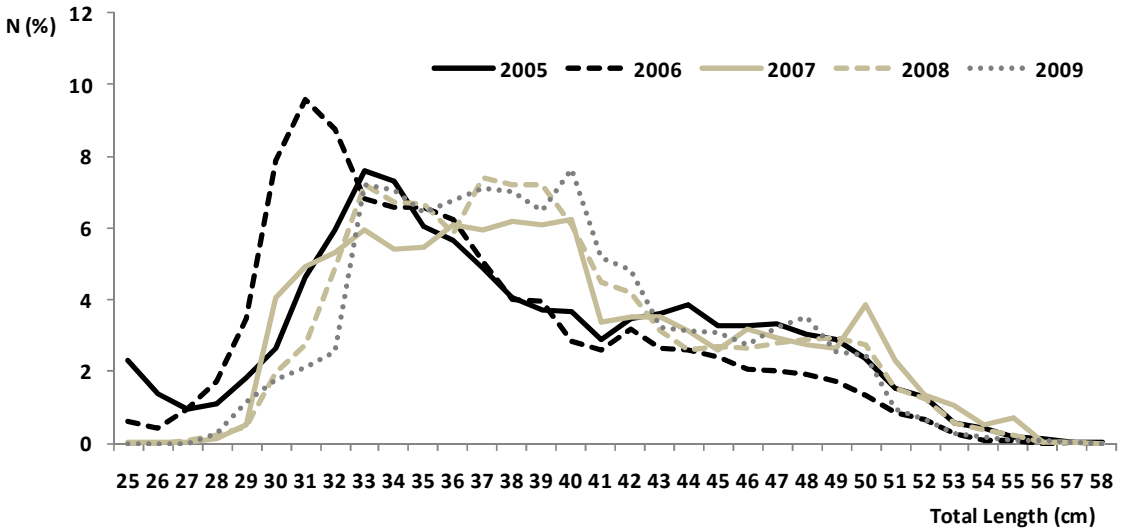

Figure 6. Blackspot seabream Spanish fishery of the Strait of Gibraltar: Observers on board programme catches length distribution (2005-2009).