

## On the occurrence of the silverstripe blaasop *Lagocephalus sceleratus* (Gmelin, 1789) along the Libyan coast

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### Abstract

Five individuals of *Lagocephalus sceleratus* were caught by trammel and gill nets off Ain Al Ghazala, Libya (approximately 32°09'N – 23°15'E) between 15 and 25 m depth in September 2010. Our findings represent the first record of this toxic species from Libya and provide further evidence of its occurrence along North African coasts.

**Key words:** invasive species; fish; Mediterranean Sea; Tetraodontidae

### Introduction

The silverstripe blaasop *Lagocephalus sceleratus* (Gmelin, 1789) is a reef-associated pufferfish (Tetraodontidae) distributed in the tropical Indo-West Pacific Ocean (Smith and Heemstra 1986), which recently entered the Mediterranean through the Suez Canal (Filiz and Er 2004; Akyol et al. 2005). Soon after its first detection in 2003, the species underwent a population explosion in many localities of the Levant Basin such as Israel, Turkey and Crete (reviewed by Kasapidis et al. 2007). This species is highly invasive and has been listed among the 100 “worst invasives” in the Mediterranean Sea (Streftaris and Zenetos 2006). Moreover, its tetrodotoxin (TTX) content represents a high potential risk for humans, with fatal cases recently reported (Eisenman et al. 2008; Bentur et al. 2008).

### Materials and methods

Five individuals of *Lagocephalus sceleratus* were obtained in September 2010, from trammel and gill net landings along the coast of Ain Al-Ghazala and Bombah Bay (Libya) (Figure 1).

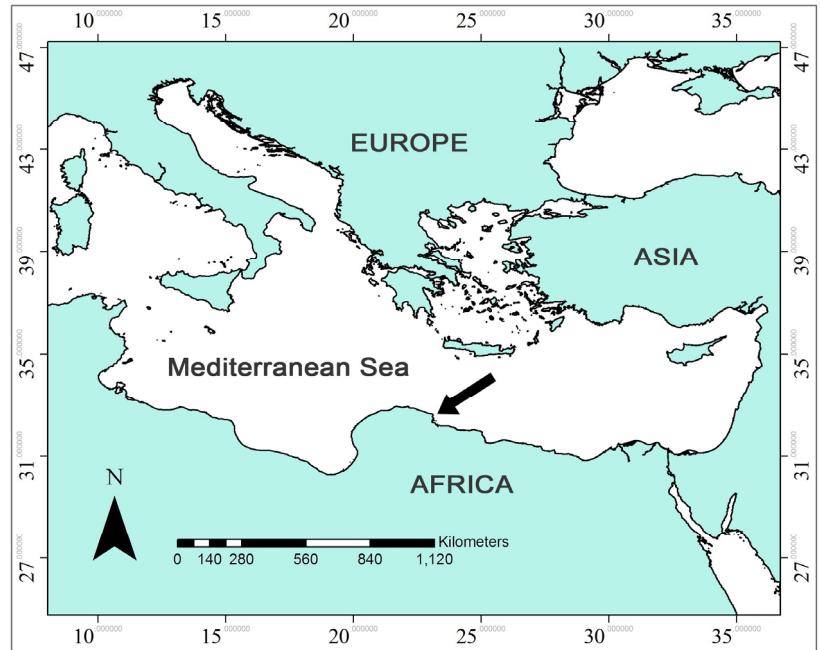
Other individuals were observed being boxed up with the rest of the catch to be transported to local fish markets.

Field constraints did not allow preservation of the five individuals landed. The morphological analysis of a single individual was performed *in situ*, the others being identified successively, on the basis of high resolution photographs.

### Morphological description

Morphological and meristic characters of *Lagocephalus sceleratus* were recorded on a single individual according to Bauchot (1987): Total length, 27.86 cm; Standard length (SL), 24.01 cm; Head length (HL), 26.78% (of SL); Body depth, 19.1% (of SL); Pre-orbital distance, 46.03% (of HL); Eye diameter, 23.64% (of HL); Dorsal fin rays, n.d.; Anal fin rays, 10; Pectoral fin rays, 18; Pelvic fin rays, absent. Our description matched the morphological analyses in previous Mediterranean records of these species (see Akyol et al. 2005; Bilecenoğlu et al. 2006). The regular distribution of spots of equal size along the dorsal area, the absence of spiny rays in the dorsal and anal fins, and the presence of small spinules on the belly and on the dorsal surface extending to the origin of the dorsal fin distinguished *L. sceleratus* unambiguously from

**Figure 1.** Study location. The black arrow shows the locations of Ain Al-Ghazala and Ulbah Island, Libya.



**Figure 2.** *Lagocephalus sceleratus* recorded at Ain Al-Ghazala, Bombah Bay (Libya) on September 2010. Photograph taken by Fabio Badalamenti, CNR-IAMC.



the other Mediterranean Tetraodontids (Akyol et al. 2005; Golani et al. 2011). The photographs also allowed clear recognition of other important taxonomic characters such as the absence of body scales; two quite distinct lateral lines; gill opening of a single slit in front of the pectoral fins; pectoral fins with a wide base and a round posterior edge; top of the pectoral fin base below the lower margin of the eye; a distinct wide silver band on the lower part of the flanks and a silver blotch in front of the eyes; dark pectoral fin base and white belly.

## Discussion

The discovery of the toxic *Lagocephalus sceleratus* in Libya deserves special interest. The species was thought to be absent from the entire African Mediterranean coast (Shakman and Kinzelbach 2007; Golani 2011), although its presence was suspected by Golani (2010). Only very recently, Halim and Rizkalla (2011) provided concrete evidence of the occurrence of *L. sceleratus* in Mediterranean Egypt and a single individual was collected by bottom

trawling in Eastern Tunisia in December 2010 (Jribi and Bradai 2012). According to Halim and Rizkalla (2011), the species was first caught in 2008 off Alexandria, becoming abundant soon afterwards, especially along the coasts of the Sinai and off the Nile Delta.

Our observation provides further evidence of the occurrence of *L. sceleratus* along the North African coast and the existence of a well-established population in Eastern Libya coastal waters. We observed five silverstripe blaasop in just two days spent in the small Ain Al Ghazala fishing harbour, and interviews with local fishermen confirmed that this species is a common catch in their nets.

The observation of *L. sceleratus* mixed in with commercial species for transport to local fish markets highlights the lack of awareness of the toxicity of this species for humans. Golani (2010) suggested that, as an attractive and large-sized fish, the silverstripe blaasop is often caught by amateur fishermen who unwittingly consume its flesh and inner organs, leading to hospitalization.

The dramatic spread of the species along the Mediterranean coast reinforces the need for a public information campaign, especially in North African countries, to raise awareness of the dangers to human health (Azzurro 2010). Such a campaign should include the dangers associated to other alien species such as the stonefish *Synanceia verrucosa* Bloch and Schneider, 1801 and to the consume of Tetraodontidae (e.g., *Lagocephalus spadiceus* (Richardson, 1845), *L. suezensis* Clark and Gohar, 1953, *Sphoeroides pachygaster* (Müller and Troschel, 1848), *Torquigener flavimaculosus* Hardy and Randall, 1983 and *Tylerius spinosissimus* (Regan, 1908)) (Bentur et al. 2008; Bilecenoğlu 2012).

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