

SHORT COMMUNICATION

First record of Adriatic sole *Pegusa impar* (Osteichthyes: Soleidae) from the Syrian coast (Eastern Mediterranean Sea)

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Abstract

The present paper reports the first record of Adriatic sole *Pegusa impar* (Bennett, 1831) from the Syrian coast. This record confirms the occurrence of the species in the Levant Basin but does not suggest that a viable population is successfully established in this region. Its rarity in the area is probably due to misidentifications with other congeneric species.

Keywords: Morphometric measurements, meristic counts, distribution, Levant Basin, eastern Mediterranean

Received: 08.04.2018, **Accepted:** 24.05.2018

Adriatic sole *Pegusa impar* (Bennet 1831) is an Atlanto-Mediterranean species found in shallow coastal waters, on gravel and sandy-muddy bottoms at depths of 30-100m (Louisy 2002). *P. impar* is distributed in the eastern tropical Atlantic from the Strait of Gibraltar to the coast of Senegal which constitutes its southernmost extension range in the area (Quéro *et al.* 1986). The species is reported throughout the Mediterranean Sea, commonly caught in some areas such as the coast of Sicily (Cannizzaro and Vitale 2014), the Adriatic Sea, the Aegean Sea (Lipej and Dulcic 2010) and the Levant Basin (Golani *et al.* 2006). The species is unknown off the Lebanese coast (Mouneimne 1979). Routine monitoring in the Syrian waters which has been carried out for several decades allowed us to collect a specimen of *P. impar*, which is described in the present paper with some comments about its distribution in the area.

On 4 April 2015, a specimen of *P. impar* (Bennett, 1831), was captured by commercial trawl net, on sandy bottom, at a depth of 50 m, in the Syrian coast. The capture site was located 6 km off Jablah City at 35°40'E, 35°24'N (Figure 1). All measurements were made to the nearest 0.1 millimeter, using a digital caliper (Table 1). The fresh specimen was 162.4 mm in total length (TL) and weighed 57.9g. It was preserved in 10% buffered formalin and deposited in the Ichthyological Collection of the Marine Sciences Laboratory, Agriculture Faculty at Tishreen University, Syria, with the catalogue number M.S.L. 2309 (Figure 2).

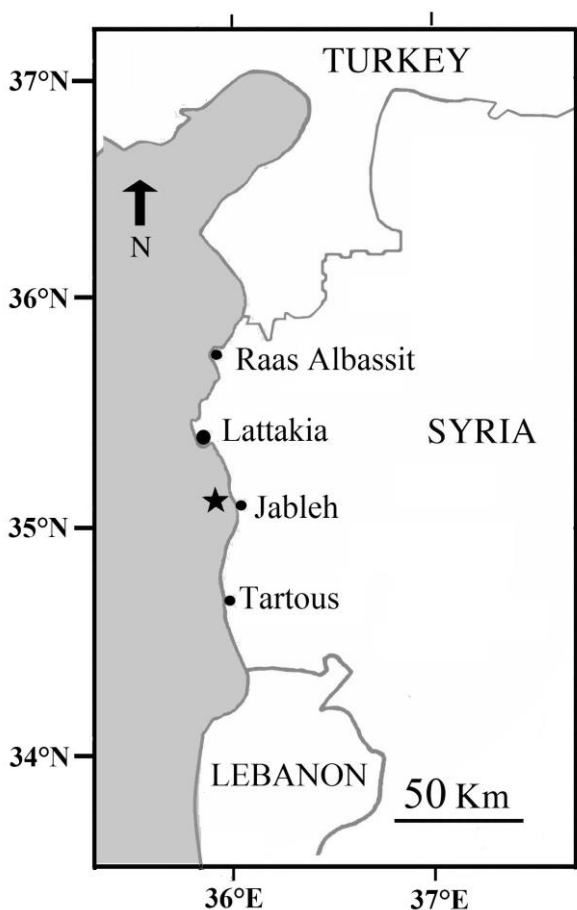


Figure 1. The capture site of the specimen of *Pegusa impar* (ref. M.S.L. 2309) off Jableh (black star) in the eastern Mediterranean



Figure 2. The specimen of *Pegusa impar* (ref. M.S.L. 2309), with scale bar = 20 mm, reported in this study

The specimen was identified as *Pegusa impar* following a combination of specific traits: body oval, both eyes on the right side, dorsal fin beginning on upper profile of head at level of inter-ocular space, pectoral fins on eyed side and blind side almost equally developed, caudal fin joined to last dorsal and anal fin rays by a very low membrane; supra-temporal branch of lateral line forming a smoothly rounded curve; anterior nostril on blind side enlarged, rosette shaped close to posterior nostril. Eyed side brownish grey, but with blue spots only on fresh specimens, pectoral fin on eyed side exhibiting a central dark spot with a white border surrounding it; blind side beige. Quéro *et al.* (1986) and Golani *et al.* (2006) counted 40-43 anal fin rays, probably underestimated due to the fact that Tortonese (1975) and Bauchot and Pras (1980) numbered 52-63 and 56 anal fin rays, respectively, counts closer to ours that is 63 (see Table 1). Except this count, all our other observations were in total accordance with those reported above.

P. impar could be distinguished from its Mediterranean congeneric species such as sand sole *P. lascaris* (Risso, 1810) and snouted sole *P. nasuta* (Pallas, 1811) by the dark spot on the eyed pectoral fin. *P. lascaris* exhibits a pectoral fin on eyed side with a distinct black patch at its distal end surrounded by both yellow and white areas, body light coloured, while in *P. nasuta* the dark spot is located on mid-pectoral margin, without narrow light margin, body generally dark (Quéro *et al.* 1986; Chanet *et al.* 2011). Additionally, using molecular tools, Borsa and Quignard (2001) confirmed that *P. impar*, *P. lascaris* and *P. nasuta* are close but different species. Consequently, all these characteristics allow to include *P. impar* among the bony fishes recorded to date in the Syrian marine waters (see Saad 2005; Ali *et al.* 2017).

Table 1. Morphometric measurements in mm and as percentages of total length (%TL) and meristic counts of the specimen of *Pegusa impar* (ref. 2309 MSL)

Morphometrical characteristic	Measurement (mm)	TL%
Total length	162.4	100.0
Standard length	137.3	84.5
Body depth	52.4	32.3
Head length	27.4	16.9
Interorbital space	3.7	2.3
Upper eye diameter	4.0	2.5
Lower eye diameter	3.8	2.3
Pre upperorbital length	8.6	5.3
Pre lowerorbital length	10.1	6.2
Dorsal fin length	140.2	86.3
Dorsal fin base	137.5	84.7
Pectoral fin length	13.8	8.5
Pectoral fin base	3.2	2.0
Pelvic fin length	7.8	4.8
Pelvic fin base	3.1	1.9
Anal fin length	115.9	71.4
Anal fin base	110.1	67.8
Pre-pectoral length	28.7	17.7
Pre-pelvic length	17.6	10.8
Pre-anal length	25.9	15.9
Count		
Dorsal fin soft rays		78
Pelvic fin soft rays (eyed, blind Side)		5, 5
Anal fin soft rays		63
Pectoral fin soft rays (eyed, blind Side)		9
Lateral line scales on blind side		117
Total weight (g)		57.9

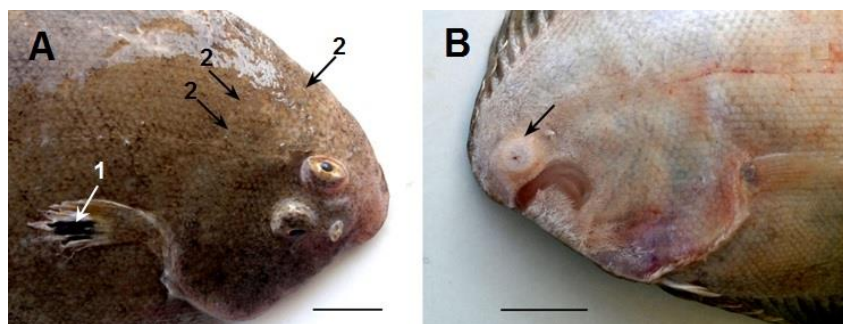


Figure 3. Head of *Pegusa impar* (ref. M.S.L. 2309), with scale bar = 10 mm.

- A. Eyed side showing the pectoral fin with black spot and white border (1) and the supra-temporal branch of lateral line forming a smoothly rounded curve (2)
 B. Blind side showing anterior nostril enlarged and rosette shaped (black arrow)

The present status of *P. impar* off the Syrian coast could not be assessed based on the capture of a single specimen. The occurrence of a viable population in the area needs to be supported by further data to be taken into consideration. Additionally, misidentifications by non-specialists of *P. impar* with other soleid species cannot be totally ruled out, because they are morphologically very related (Quéro *et al.* 1986; Louisy, 2002; Vachon *et al.* 2008; Chanet *et al.* 2011), and therefore included in a same fishery production category due to their high commercial value.

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