

See discussions, stats, and author profiles for this publication at: <https://www.researchgate.net/publication/362143899>

# First record of the non-indigenous sohal surgeonfish *Acanthurus sohal* (Forsskål, 1775) (Chordata: Acanthuridae) from the Lebanese waters, eastern Mediterranean Sea

Article · January 2022

CITATION

1

READS

104

3 authors:



**Ali Badreddine**

Marine Protected Area of Tyre Coast Nature Reserve- TCNR

31 PUBLICATIONS 134 CITATIONS

[SEE PROFILE](#)



**Ghazi Bitar**

Lebanese University

69 PUBLICATIONS 1,530 CITATIONS

[SEE PROFILE](#)



**Ricardo Aguilar**

Oceana

104 PUBLICATIONS 1,560 CITATIONS

[SEE PROFILE](#)

Some of the authors of this publication are also working on these related projects:



Protecting the North Sea [View project](#)



Tropical Signals CIESM [View project](#)

**SHORT COMMUNICATION**

**First record of the non-indigenous sohal surgeonfish  
*Acanthurus sohal* (Forsskål, 1775) (Chordata:  
Acanthuridae) from the Lebanese waters, eastern  
Mediterranean Sea**

**Ali Badreddine<sup>1\*</sup>, Ghazi Bitar<sup>2</sup>, Ricardo Aguilar<sup>2</sup>**

**ORCID IDs:** A.B. 0000-0003-4576-7400; G.B. 0000-0003-0270-5613;  
R.A. 0000-0001-6615-8626

<sup>1</sup> Tyre Coast Nature Reserve, Department of Biology, Tyre-South LEBANON

<sup>2</sup> Faculty of Sciences, Lebanese University, Hadath, Beirut, LEBANON

<sup>3</sup> OCEANA, Gran Via 59, 9, 28013, Madrid, SPAIN

**\*Corresponding author:** ali.badreddine@hotmail.com

---

**Abstract**

The non-indigenous sohal surgeonfish *Acanthurus sohal* is reported for the first time from the Lebanese waters. On 29 April 2021, a fisherman captured one individual of the species at 5 m depth in Tyre, south Lebanon. This record constitutes the first one in the Lebanese waters and the third in the Mediterranean Sea.

**Keywords:** *Acanthurus sohal*, non-indigenous fishes, Lebanese waters, eastern Mediterranean Sea

**Received:** 04.05.2021, **Accepted:** 03.02.2022

---

The sohal surgeonfish *Acanthurus sohal* (Forsskål, 1775) is a bony fish belonging to Acanthuridae. *Acanthurus sohal* is a native species of the Indian Ocean, coming from the Red Sea and the Persian Gulf (Vine 1974; Randall 1995; Rezaei and Savari 2004).

In the Mediterranean Sea, *A. sohal* was detected for the first time from Kalymnos Island in the Dodecanese on 13 August 2017 (Giovos *et al.* 2018). Later, another specimen from Gaza, the southern Levantine Sea, was recorded on 26 November 2018 (Bariche *et al.* 2019). This note constitutes the first record of the non-indigenous sohal surgeonfish *Acanthurus sohal* from the Lebanese waters.

A specimen of *A. sohal* was caught by spearfishing, on 29 April 2021, at a depth of 5 m off Tyre (33°16'19.01"N; 35°11'27.52"E, Figure 1). Photo and video of the captured specimen were sent by the fisherman (BK) and the professional diver (HN) to one of the authors (AB).

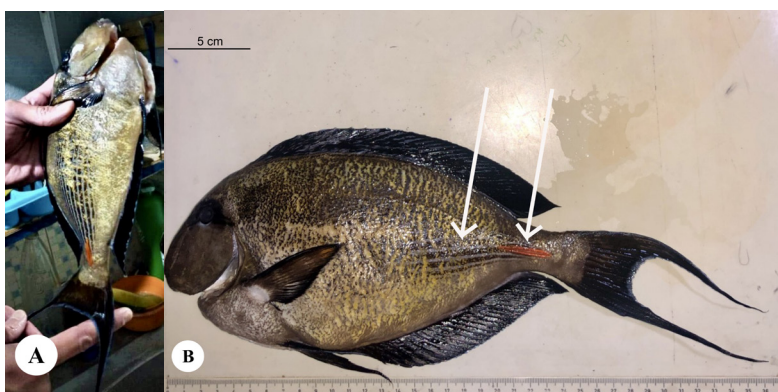


**Figure 1.** Location where *Acanthurus sohal* was captured in Tyre, southern Lebanon

The captured specimen was 365 mm in total length and 0.4 kg in total weight. It was characterized by a tight body, pale grey colour, rounded head, eyes high on the head, and relatively high dorsal and anal fins. It was also distinguished by the presence of thin black stripes covering 2/3 of the body and the characteristic orange sharp mobile spines of Acanthuridae on the caudal peduncle (Figure 2). As a result, the collected specimen from the Lebanese waters was typically similar to the one reported by Giovos *et al.* (2018).

This record of *A. sohal* constitutes the second record of this species in the Mediterranean Sea: the first was from the southern Levantine basin (Giovos *et al.* 2018; Bariche *et al.* 2019). Another species of the same genus (i.e. *A. monroviae* Steindachner, 1876) was also recorded from the Lebanese water (Bariche and Mavruk 2020). However, no certainties occur regarding the arrival pathway of *A. sohal* in the Lebanese waters and the Mediterranean Sea (Zenetos and Galadini 2020). Therefore, this record supports the hypothesis that such species can potentially be introduced into the area via the Suez Canal: based on the fact that *A. sohal* is found in the Red Sea and the Lebanese coast lies along the natural pathway of Indo-Pacific taxa spreading into the Mediterranean Sea via the Suez Canal. Whatever is true, further records being necessary to

understand and evaluate the current status of this species in the Mediterranean Sea.



**Figure 2.** The specimen of *Acanthurus sohal* captured by the fisherman. **A.** The whole specimen, **B.** *A. sohal* with thin black stripes and orange sharp mobile spines on the body

Furthermore, *A. sohal* is an aggressive herbivore (Vine 1974). Therefore, further investigations are required to elucidate the effect of this new non-indigenous species on local communities as an intruder and as a competitor for other herbivorous fishes such as the indigenous *Sarpa salpa* (Linnaeus, 1758), and *Sparisoma cretense* (Linnaeus, 1758), and the non-indigenous *Siganus luridus* (Rüppell, 1829), and *S. rivulatus* Forsskål & Niebuhr, 1775.

Finally, the rule of citizen science is important as one of the most contributive and effective tools to detect new marine species, especially non-indigenous ones, along the Lebanese coast (Badreddine and Bitar 2019, 2020). In this context, there is a necessity to improve and develop these tools along the Lebanese coast.

### Acknowledgements

The authors wish to thank the fisherman Bilal Kourani, and the professional diver Hussein Nouredine from Marine Diving Academy- Tyre for providing us with photos and video of the species.

### References

Badreddine, A., Bitar, G. (2019) First record of *Heteropriacanthus cruentatus* (Lacepède, 1801) (Chordata: Priacanthidae) in the Mediterranean Sea from the Lebanese waters. *Journal of the Black Sea/Mediterranean Environment* 25(2): 178-181.

Badreddine, A., Bitar, G. (2020) *Cotylorhiza erythraea* Stiasny, 1920 (Scyphozoa: Rhizostomeae: Cepheidae): a new lessepsian jellyfish in the Lebanese waters, the eastern Mediterranean Sea. *Journal of the Black Sea/Mediterranean Environment* 26(3): 321-328.

Bariche, M., Mavruk, S. (2020) New records of four rare non-indigenous fishes in the Mediterranean from Lebanon. In: Ragkousis, M., Abdelali, N., Azzurro, E., Badreddine, A., Bariche, M., Bitar, G., Crocetta, F., Denitto, F., Digenis, M., El Zrelli, R., Ergenler, A., Fortič, A., Gerovasileiou, V., Grimes, S., Katsanevakis, S., Koçak, C., Licchelli, C., Loudaros, E., Mastrototaro, F., Mavrič, B. *et al.* New Alien Mediterranean Biodiversity Records (October 2020). *Mediterranean Marine Science* 21(3): 646-647.

Bariche, M., Sayar, N., Balistreri, P. (2019) Records of two non-indigenous fish species *Synanceia verrucosa* Bloch and Schneider, 1801 and *Acanthurus sohal* (Forsskål, 1775) from the Gaza strip (eastern Mediterranean Sea). *BioInvasions Records* 8(3): 699-705.

Giovas, I., Bernardi, G., Romanidis-Kyriakidis, G., Marmara, D., Kleitou, P. (2018) First records of the fish *Abudefduf sexfasciatus* (Lacepède, 1801) and *Acanthurus sohal* (Forsskål, 1775) in the Mediterranean Sea. *BioInvasions Records* 7(2): 205-210.

Randall, J.E. (1995) *Coastal Fishes of Oman*. University of Hawai'i Press, USA.

Rezai, H., Savari, A. (2004) Observation on reef fishes in the coastal waters off some Iranian Islands in the Persian Gulf. *Zoology in the Middle East* 31(1): 67-76.

Vine, P.J. (1974) Effects of algal grazing and aggressive behaviour of the fishes *Pomacentrus lividus* and *Acanthurus sohal* on coral-reef ecology. *Marine Biology* 24(2): 131-136.

Zenetos, A., Galanidi, M. (2020) Mediterranean non-indigenous species at the start of the 2020s: recent changes. *Marine Biodiversity Records* 13(1): 1-17.