

First Record of the Emperor Angelfish *Pomacanthus Imperator* (Bloch, 1787) from the Lebanese Water (Eastern Mediterranean)

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Short Communication

Pomacanthus imperator, known as the emperor angelfish, belongs to the family Pomacanthidae, which inhabits tropical and subtropical waters worldwide [1, 2]. *P. imperator* occurs in many localities of the Indian and Pacific oceans [3].

In the Mediterranean Sea, *P. imperator* was reported from its southern Levantine Sea for the first time in 2010 [4]. Subsequently, it has been reported again from the same area [5], and from the Syrian [6, 7], Turkish [8], and Egyptian [9] waters. However, until today, only the non-indigenous lessepsian *Pomacanthus maculosus* was reported from the Lebanese waters [10]. Therefore, this note constitutes the first record of the non-indigenous *P. imperator* in Lebanese waters.

On 22th August 2022, a specimen of *P. imperator* was caught by spearfishing at a depth of 40 m off a sandy bottom in Sarafand (33°27'59.89"N; 35°16'43.25"E, Figure 1). Photo of the captured specimen were sent by the fisherman (HY) to one of the authors (AB). Subsequently, the specimen was collected for analysis and identification following the morpho-chromatic and meristic characteristics reported by [4]. The specimen of *P. imperator* is currently and preserved in the Institute of the Marine Protected Area of Tyre Coast Nature Reserve (TCNR), with code LEBSPI1 (Figure 1).

The specimen photographed and collected from the Lebanese waters is similar to the ones described from other countries of the Levantine Sea [1, 4, 6-8].

P. imperator is an eye-catching species and can be easily identified. It is characterized by its oval body, distinguished by its body color: covered with bright yellow horizontal stripes, and ended by an orange tail fin. In addition, a particular bold blue-black mask covers the eyes, and a similarly-colored vertical band extends from the pectoral fin two-thirds of the way up the body (Figure 2). The collected specimen showed a total length of 184 mm. D: XVI + 20; A: III + 19; P: I + 5 (Table 1).

Recently, the number of new marine species records, especially non-indigenous ones, has been increasing along the Lebanese coast [11, 12]. This is because scientific campaigns linked with citizen science support detecting non-indigenous species and recording such rare

species. Accordingly, with this new record, the number of NIS fish in the Lebanese waters reaches a number of 98 species [10-12].

The introduction of *P. imperator* in the Mediterranean Sea still needs to be clarified (Stern et al., 2019). However, whatever the vector of introduction (e.g., aquarium release/ or Suez Canal), *P. imperator* started to be established in the Levantine Sea with eight records confirmed and published. In this context, this new invader's ecology and distribution status should be followed up, knowing its omnivorous diet, feeding on small invertebrates and plants.

From a monitoring, protection, and conservation point of view, there is an urgent need to establish an updated checklist of the NIS along the Lebanese coast. Indeed, ensuring long-term monitoring (focusing on citizen science) of NIS is recommended to evaluate and anticipate the impacts on the local communities.

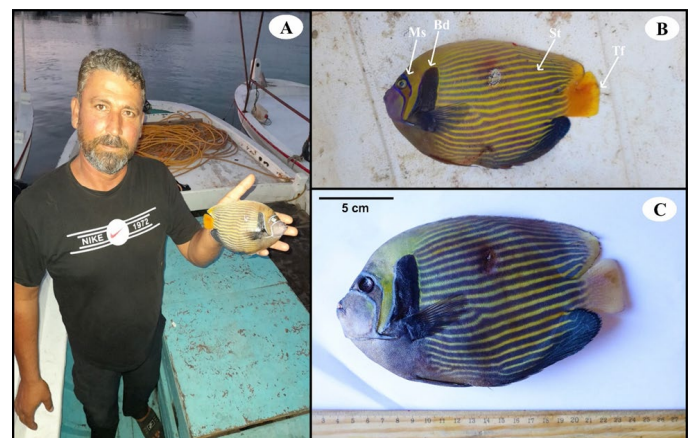


Figure 2: (A) The specimen of *P. imperator* collected by the Lebanese fisherman (HY). (B) The fresh specimen of *P. imperator* characterized by its yellow Stripes (St) covered the body, the orange Tail Fin (TF), the bold-blue Mask (Ms) covering the eye, and the characteristically colored vertical Band between the eye and the pectoral fin. (C) *P. imperator* in the laboratory after being free zed for three months.



Figure 1: (A) Records (red circle) of *Pomacanthus imperator* in the Mediterranean Sea. (B) Location (red star) where *Pomacanthus imperator* was captured in Sarafand waters, south Lebanon.

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Table 1: Meristic and morphometric characters of *Pomacanthus imperator* collected along the Mediterranean coast of Lebanon.

Morphometric Measurements (in mm)	
Specimen 1	
Total length	184
Standard length	166
Head length	56
Pre-anal length	90
Maximum height	115
Eye diameter	9
Meristics	
Dorsal fin spines	12
Dorsal fin rays	20
Pectoral fin rays	18
Anal fin spines	3
Anal fin rays	19
Caudal fin rays	17
Pelvic fins	6

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