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New records of marine biodiversity in the Mediterranean Sea (April 2026)

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Abstract

This collective article presents new information about 18 species occurring in 12 Mediterranean countries from the Alboran Sea to the Levantine Sea. Five lessepsian species namely *Erugosquilla massavensis, Syrnola fasciata, Plocamopherus ocellatus, Maritigrella fuscopunctata* and *Siganus javus* have spread within 2025 to neighbouring MSFD areas. Another five are here reported as first country records [*Polyandrocarpa zorritensis* (Malta), *Gonioinfradens giardi* (Italy), *Istiblennius meleagris* (Egypt), *Epinephelus fasciatus* (Israel), *Lophocladia trichoclados* (Montenegro)]. *Cladophora patentiramea* has spread from the Levantine to the Aegean Sea, while *Pinctada radiata* has reached Granada, and Cádiz. The Atlantic fish *Enchelycore anatina* and *Synodus synodus* have expanded their distribution to Montenegro and Syria respectively. Three rare native species are reported for first time at country level, while a fourth (*Mobula birostris*) has made an appearance more than a century after its first Mediterranean record.

Introduction

Effective management and conservation of marine ecosystems require GIS information on the distribution of species, which, in the Mediterranean Sea, is often incomplete or lacking adequate detail. The *Mediterranean Marine Science* journal recognizing the importance of archiving spatio-temporal information on the distribution of species, since 2011 constitutes a platform to facilitate the collection of new distributional data through Collective Articles. Originally including both alien and native species (e.g., Eleftheriou *et al.*, 2011; Zenetos *et al.*, 2015; Kousteni *et al.*, 2019), Collective Articles were since 2021 split in two different series, one of which was devoted to alien species (series A) (e.g., Orfanidis *et al.*, 2021; Langeneck *et al.*, 2023; Christidis *et al.*, 2024; Kleitou *et al.*, 2025) and one to rare native species (series B) (e.g., Gerovasileiou *et al.*, 2020; Grech *et al.*, 2023; Toma *et al.*, 2025). Since 2026, the two collective articles have merged again into "*New records of marine biodiversity in the Mediterranean Sea*". Submissions to the Collective Article are peer-reviewed by at least one reviewer and the editor, and the contributors of records are co-authors, their names appearing in alphabetical order. The present article is divided into three sections, the first for alien species, the second for native species and a third for range expanding species. Records are presented by country and arranged from west to east. The contributing authors are cited at the beginning of the sub-section corresponding to their record.

The current issue includes 20 records (14 alien, four native, two range expanding species) from 12 countries across the Mediterranean (Table 1, Fig. 1). Most of the records were detected in 2025.

Of particular interest are lessepsian species that within 2025 extended their distribution to neighbouring MSFD areas. We refer to a) the Red Sea mantis shrimp *Erugosquilla massavensis,* a widely distributed lessepsian species across the Mediterranean (last record 2024 in the western Mediterranean: Pipitone *et al.*, 2025), that spread in the Adriatic Sea (Italy, Montenegro); b) the gastropod *Syrnola fasciata,* with a single record from the central Mediterranean (Mar Piccolo Taranto: Vitale & Trono, 2025), that reached the Adriatic Sea (Split*);* c) the sea slug *Plocamopherus ocellatus*, known only from the eastern Mediterranean that was detected in the central Mediteranean (Italian Ionian); d) the darkspotted flatworm *Maritigrella fuscopunctata* known from the Eastern (Israel) and the Central Mediterranean (Malta), that reached the western Mediterranean (La Goulette, Gulf of Tunis); e) the Java rabbitfish *Siganus javus,* known only from the eastern Mediterranean *(*Corsini-Foka & Zava, 2022), that spread to the central Mediterranean (Bengazi, Libya).

Other alien species reported here for the first time at country scale are*:* the crab *Gonioinfradens giardi* (2025, Italy), the tunicate *Polyandrocarpa zorritensis (*2023*,* Malta) and (2025, Slovenia), the lessepsian fishes *Istiblennius meleagris* (2025, Egypt) and *Epinephelus fasciatus (*2025, Israel*),* and the rhodophyte *Lophocladia trichoclados* (2025, Montenegro). The chlorophyte *Cladophora patentiramea,* known only from the Levantine Sea, has spread to the Turkish Aegean coasts increasing the number of alien species in the Aegean Sea (Zenetos *et al.*, 2025). The pearl oyster *Pinctada radiata*, one of the oldest invaders in the Mediterranean via the Suez Canal, known from the Alboran Sea (Mar Menor, Murcia: Requena *et al.*, 2022),

Fig. 1: Locations of records for the species presented in the current article. Location numbers (LN) correspond to those listed on Table 1.

Table 1. Information about species records by phylum. Basin (EMED = eastern Mediterranean (i.e., Aegean and Levantine), CMED = central Mediterranean (i.e., Central and Ionian Sea), ADRIA = Adriatic, WMED = western Mediterranean), LN=location number as in Figure 1. SC: the subsection of this article in which the species' record appears. Asterisk in species denotes rare native Mediterranean records, RA= Atlantic species expanding their range in the Mediterranean.

	SC	Basin	Country	Locality	LN
Phylum: Arthropoda					
Erugosquilla massavensis	1.3.1	ADRIA	Italy	off Termoli	7
Erugosquilla massavensis	1.4.1	ADRIA	Montenegro	Boka Kotorska Bay	10
Gonioinfradens giardi	1.3.2	CMED	Italy	Portopalo di Capo Passero	5
Latreillia elegans	2.3	EMED	Israel	off Ashdod	16
Phylum: Mollusca					
Pinctada radiata	1.1	WMED	Spain	Almería, Granada and Cádiz	1
Plocamopherus ocellatus	1.3.3	CMED	Italy	Mar Piccolo	6
Syrnola fasciata	1.5	ADRIA	Croatia	off the coast of Split	9
Phylum: Chordata/Ascidiacea					
Polyandrocarpa zorritensis	1.6	ADRIA	Slovenia	Marina Portorož	8
Polyandrocarpa zorritensis	1.2	CMED	Malta	St George's Bay	3
Phylum: Platyhelminthes					
Maritigrella fuscopunctata	1.7	WMED	Tunisia	La Goulette, Gulf of Tunis	13
Phylum: Chordata					
Enchelycore anatina	3.1	ADRIA	Montenegro	Cape Kostovica	12
Epinephelus fasciatus	1.10	EMED	Israel	near Haifa	17
Istiblennius cf. *meleagris*	1.9	EMED	Egypt	El-Arish, North Sinai	15
Mobula birostris	2.1	WMED	Spain	vicinity of Cabo Tiñoso	2
Nemichthys scolopaceus	2.2	CMED	Malta	42 NM south of Malta	4
Siganus javus	1.8	CMED	Libya	Benghazi	14
Synodus synodus	3.2	EMED	Syria	off Latakia	18
Phylum: Rhodophyta					
Lophocladia trichoclados	1.4.2	ADRIA	Montenegro	Žukovica	11
Phylum: Chlorophyta					
Cladophora patentiramea	1.11	EMED	Türkiye	Marmaris, Muğla	20
Didymosporangium repens	2.4	EMED	Türkiye	Samandağ, Hatay	19

has reached the Strait of Gibraltar (Cádiz).

Among rare species worth mentioning is the sighting of the oceanic manta ray *Mobula birostris* in the western Mediterranean basin more than a century after its first record. The record of *Latreillia elegans* from Israel is the first one in the southern Levantine Sea, and that of *Didymosporangium repens* the first one from Levantine Türkiye. The occurrence of the questionable deep-sea eel *Nemichthys scolopaceus* in the central Mediterranean (Borg *et al.*, 2023) was validating with molecular analysis of specimens from Malta.

The Atlantic fish *Enchelycore anatina* known in the Mediterranean since 1979, widely distributed in the Mediterranean including the Adriatic Sea (Lipej *et al*., 2011), is documented in Montenegro. Finally, the Atlantic fish *Synodus synodus*, which is established in the eastern Mediterranean (Di Franco *et al.*, 2025), is here reported from Syria.

1. ALIEN SPECIES

1.1. SPAIN

Westward completion of *Pinctada radiata* (Leach, 1814) Mediterranean invasion: 151 years of expansion

Francisco SEDANO

The rayed pearl oyster *Pinctada radiata* (Leach, 1814), originally from the Indo-Pacific, is a highly invasive molluscs in the Mediterranean Sea. First recorded in Egypt (1874) as *Meleagrina* sp., it likely entered via the Suez Canal and has since spread through aquaculture and maritime transport. Historically concentrated in the eastern basin, it expanded westward, with recent records in Albania (2017), Balearic Islands (2020), Murcia (2021), and Sardinia (2023). We report new records from southern Spain, confirming its presence at the westernmost edge of the Mediterranean.

Pinctada radiata is a small to medium-sized bivalve (50–65 mm) with a thin, irregular shell marked by rayed patterns and spiny varices. It attaches to hard substrates via a byssus and inhabits rocky bottoms and artificial structures. It is a protandric hermaphrodite species with seasonal spawning, facilitating rapid colonization. In the present study, live individuals were observed under rocks in shallow coastal habitats (consistent with the species' known ecological preferences) and were identified based on external morphology, while dead specimens were examined internally, with all identifications supported by literature and expert consultation. Although previously considered part of a species complex, recent *cox1* barcoding confirms *P. radiata* as the sole representative in the Mediterranean (Grazia *et al*., 2024), validating our morphological diagnosis.

Between 2023 and 2025, we documented several individuals in Almería, Granada, and Cádiz (Fig. 2). In Bahía del Castillo (Almería), dead shells were found at 36.69876° N, 2.85782° W (Feb. 2023), 36.69981° N, 2.83958° W (Mar. 2023), and 36.69930° N, 2.85686° W (Jan. 2025). Additional records from this area appear on www.inaturalist.org. While these were dead specimens, recent reports confirm live individuals and juveniles in Almería (Junta de Andalucía, 2024). Further west, live specimens were photographed under rocks in Almuñécar (Granada) at 36.74124° N, 3.66487° W (Nov. 2024) and 36.72961° N, 3.68681° W (Aug. 2025). The westernmost record was obtained in La Cala de San Diego (Cádiz) at 36.31058° N, 5.25542° W (Aug. 2025), near the Strait of Gibraltar.

The presence of *Pinctada radiata* in Almería, Granada, and Cádiz marks a key step in its westward expansion. Following its first record in Egypt (1874), it has established in Albania (2017), Balearic Islands (2020), Murcia (2021), Sardinia (2023), and Almería (2024) (Gerovasileiou *et al*., 2017; Fortic *et al*., 2023; Junta de Andalucía, 2024), now reaching the Strait of Gibraltar after 151 years. The presence of live and dead individuals, plus rising juvenile counts, suggests active colonization and potentially self-sustaining populations in southern Spain.

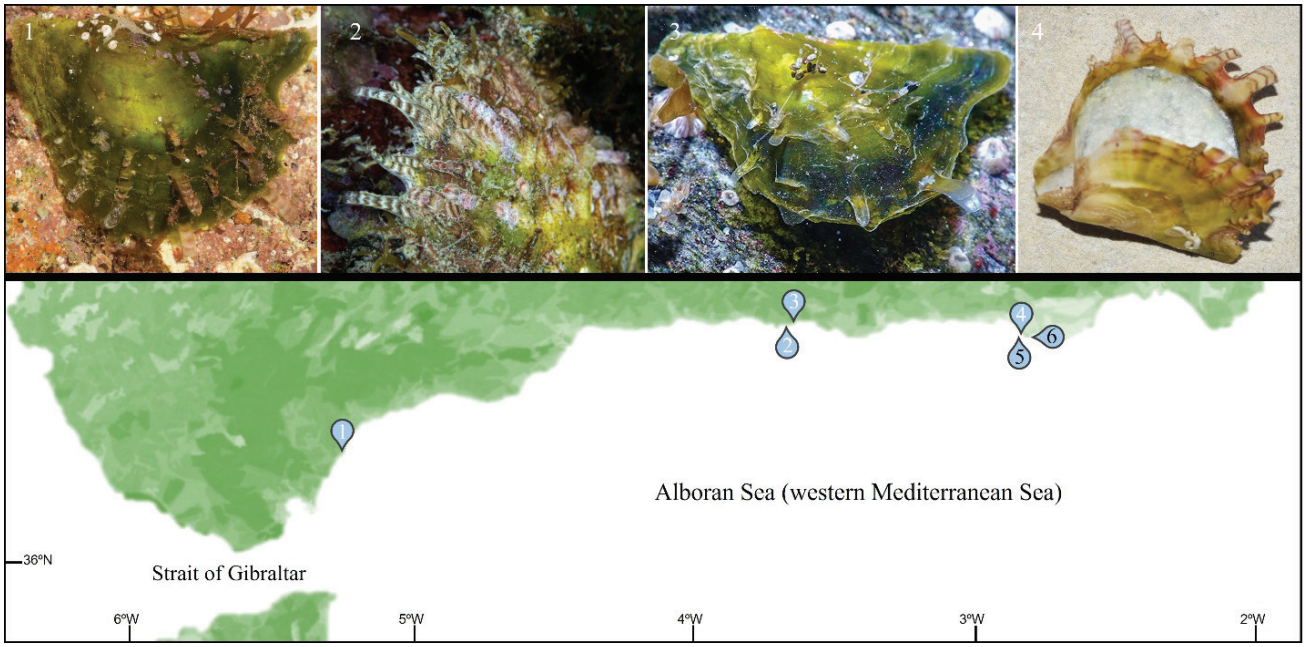

Fig. 2: Location of the six specimens recorded in this study. White numbers 1-4 correspond to the photographs included in this figure. 1 and 3 were juveniles photographed under rocks, 2 was an adult under a rock while 4, 5 and 6 were adults found on the shore. Photo credit: 1, Jesús Sánchez (Lechu); 2, Francisco Sedano; 3, Luis Sánchez-Tocino and 4, Paco (Faluke).

1.2. MALTA

The first records of the ascidian *Polyandrocarpa zorritensis* (Van Name, 1931) from Malta

Adriana VELLA, Yacopo BALDACCHINO and Noel VELLA

Here we report the first records of the non-native colonial ascidian *Polyandrocarpa zorritensis* (Van Name, 1931) in Maltese waters, through colonies growing on artificial substrata in a local harbour. This species was first recorded in the Mediterranean Sea in 1974 (Brunetti, 1979) and now forms part of the fouling species communities in the region (Stabili *et al.*, 2015). Fouling is thought to have facilitated its introduction to several harbours across the Mediterranean (Brunetti, 1979; Brunetti & Mastrototaro, 2004; López-Legentil *et al.*, 2015; Stabili *et al.*, 2015; Salonna *et al.*, 2021). During this study, three colonies of *P. zorritensis* were identified at St George's Bay (35.8296° N, 14.5308° E) at Birzebbuga within Marsaxlokk Harbour, a port characterised by high levels of maritime traffic. The first two colonies were noted on 19 June 2023, one colony was attached to a rope holding a floating buoy (Fig. 3) and another colony on a nearby floating plastic buoy. A third colony was identified on 20/06/2023, growing on another rope in the same area. Molecular taxonomy was used to confirm species identity, given that multiple species of the genus have been introduced in various regions worldwide (Evans *et al.*, 2017). A specimen from each colony was collected and DNA barcoded following López-Legentil *et al.* (2015). The three specimens produced the same 658 bp DNA barcode (GenBank accession numbers PX474829 – PX474831 respectively). A blastn search on NCBI (https://www.ncbi.nlm.nih.gov/) marked our specimens as a 100% match to a number of *P. zorritensis* records, including specimens from Florida, USA [e.g., MW285113, MW285120], North Carolina [MF034539 (Evans *et al.*, 2017), Tarragona, Spain [KF309643 (López-Legentil *et al.*, 2015)] and Taranto Gulf, Italy [MT873560 (Salonna *et al.*, 2021)]. BOLD search (https://boldsystems.org/) placed the specimen within BOLD: ACQ1331 which belongs to the species. This study genetically confirms the first records and the possible establishment of *P. zorritensis* in Malta, while contributing to the genetic data currently available for this species in the Mediterranean Sea. This research highlights the utility of DNA barcoding in early detection of alien species, while the genetic data generated may help future studies shed more light on population expansion routes of this ascidian in the region, given that maritime networks between harbours can act as introduction gateways for these species (López-Legentil *et al.*, 2015).

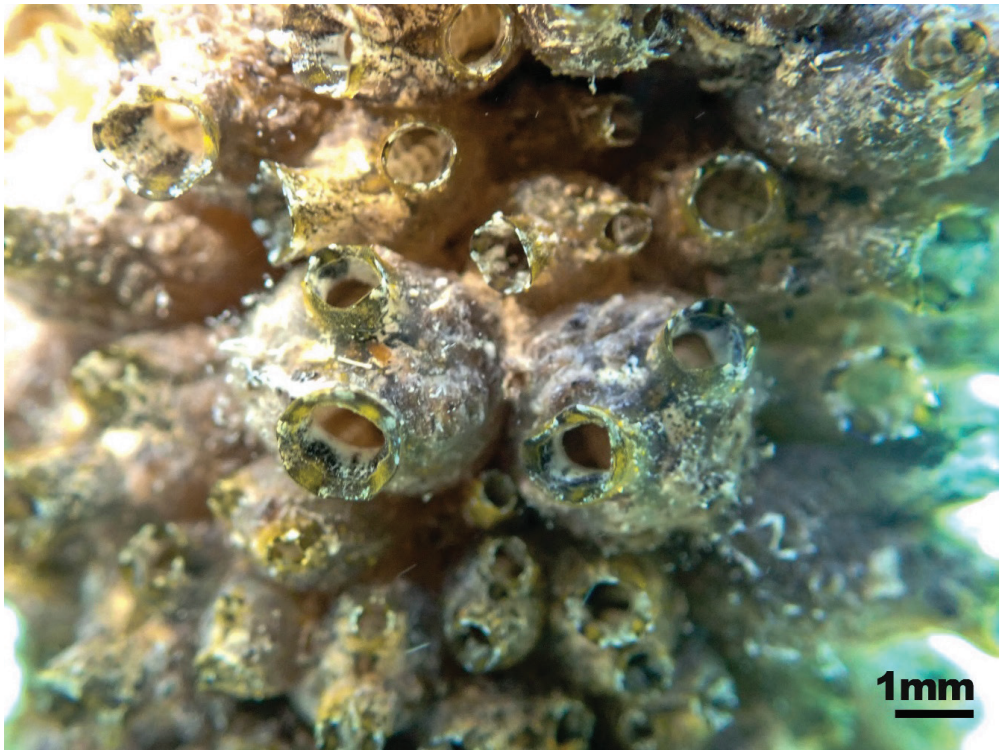

Fig. 3: An image of the first record of a *Polyandrocarpa zorritensis* colony identified during this study from Birzebbuga, Marsaxlokk Harbour, Malta, on 19 June 2023. Photo credit: Yacopo Baldacchino.

1.3. ITALY

1.3.1. *Erugosquilla massavensis* reaches the Adriatic Sea

Andrea TRAVAGLINI, Valentina TANDUO and Fabio CROCETTA

The Massawan mantis shrimp *Erugosquilla massavensis* (Kossmann, 1880) (Stomatopoda: Squillidae) is a malacostracan crustacean native to the Red Sea that entered the Mediterranean Sea approximately a century ago (Galil *et al.*, 2002). This species is characterized by large and T-shaped eyes, with a bilobed cornea, a smooth dorsal carapace, and a subtriangular rostral plate, lacking the median crest and unarmed anteriorly, the dactyli of raptorial claws sinuous externally, with six teeth, an abdomen with eight crests on the anterior five somites and six crests on the sixth somite. The telson has two rows of tubercles flanking the median crest, the outer margin has two submedian, two intermediate and two lateral teeth, and one pair of prelateral lobes, with a space between teeth denticulate. The species is also characterized by a light greyish-brown body colour, reddish rostral plate margins and abdominal crests and margins, telson with tubercles and spines shaded blue with whitish tips, uropods dark blue and basal prolongation of uropod bright orange. All these characters make it extremely different from the other mantis shrimps recorded in the Mediterranean Sea (Galil *et al.*, 2002; Ounifi-Ben Amor & Mourad Ben Amor, 2021).

During the analysis of the fish catch from trawling vessels fishing off Termoli (~42.1685° N, 15.1472° E, central Adriatic Sea), held on 18 July 2025 at 15–20 m depth on sandy-muddy bottoms, a single mantis shrimp (total length of about 10 cm) exhibiting the diagnostic features described above was noticed in a polystyrene box (Fig. 4), mixed up with a hundred specimens of the common and native Mediterranean spot-tail mantis shrimp *Squilla mantis* (Linnaeus, 1758). The specimen was soon fixed in 99.9% ethanol and subsequently subjected to DNA barcoding of a partial sequence of the COX1 gene, using the primers: dgLCO-1490 5'-GGTCAACAAATCATAAAGAYATYGG-3'; HCOout 5'-CCAGGTAAAATTAAAATATAAACTTC-3', following the general methods described in Tanduo *et al.* (2021), with an annealing temperature of 45 °C for the polymerase chain reaction. BLASTn queries of the 701 base pairs obtained yielded a 99.67–99.84% similarity with the two sequences available so far for the species (MH447072–3), both originating from specimens sampled in Egypt. All the other taxa showed a lower similarity (≤89.08%). Therefore, DNA barcoding definitely confirmed the identification as *E. massavensis*. The sequence was deposited in GenBank with the accession number PX446561, while the specimen was archived in the collection of the Laboratory of Benthos-Napoli (Stazione Zoologica Anton Dohrn, Naples) with the code SZN-B-4241CR244A. *Erugosquilla massavensis* is one of the most successful invaders of the Mediterranean Sea, which soon after its entrance has become widely established in the eastern Mediterranean Sea reaching high population densities (Galil *et al.*, 2002). Over the past two decades, it has also progressively spread throughout the basin, initially colonizing the central Mediterranean Sea (Ionian coasts of Italy, Malta, and Tunisia) with scattered specimens and then becoming a new fishery resource within just a few years (Gianguzza *et al.*, 2019; Stern *et al.*, 2019; Ounifi-Ben Amor & Mourad Ben Amor, 2021). The very recent record (summer 2024) of a single specimen from the Gulf of Castellammare (Pipitone *et al.*, 2025), together with the present record of a single specimen from Termoli, altogether testify the further colonization of new sub-basins of the Mediterranean Sea, namely the Tyrrhenian Sea (western Mediterranean Sea) and the Adriatic Sea. If species' habits are confirmed, the occurrence of well-established populations is expected soon also from these newly invaded areas.

Fig. 4: The Massawan mantis shrimp *Erugosquilla massavensis* caught off Termoli (Adriatic Sea, Italy). Photo credit: Andrea Travaglini.

1.3.2. Westward expansion of *Gonioinfradens giardi* (Brachyura: Portunidae): First record from Italian waters

Francesco TIRALONGO and Paola LEOTTA

Gonioinfradens giardi (Nobili, 1905) is one of the 15 portunid crabs introduced into the Mediterranean Sea (Galil *et al.*, 2024). It has displayed clear invasive traits since its early stages of establishment (Corsini-Foka *et al*., 2015). Native to the Red Sea and the Arabian Sea, in the Mediterranean it was first recorded as *Gonioinfradens paucidentatus* (A. Milne Edwards, 1861) in 2010 from Rhodes Island, Greece (Corsini-Foka *et al*., 2010). For years, *G. giardi* was considered a junior synonym of *G. paucidentatus*, until the taxonomic revision by Galil *et al.* (2018) reinstated *G. giardi* as a valid species and proposed that Mediterranean specimens should be assigned to it. To date, the species has been reported from the Aegean, the Ionian and the Levantine seas (Galil *et al*., 2018; Orfanidis *et al*., 2021).

The specimen (Female, CW = 36 mm, CL = 27 mm) here reported was collected in Portopalo di Capo Passero (36.69089° N, 15.14572° E) on 13 November 2025 using a trammel net at 13 m depth. It was carefully examined and subsequently preserved in alcohol in the zoological collection of the Ente Fauna Marina Mediterranea (code #EFMM131125). The four prominent anterolateral teeth, clearly visible on the carapace, represent a key diagnostic feature of the genus *Gonioinfradens* (Fig. 5) (Corsini-Foka *et al*., 2010; Galil *et al*., 2018). The coloration of the specimen closely matches that described for Israeli material by Galil *et al*. (2018), with deep reddish chelipeds bearing darkened tips, reddish pereiopods with pale bands near the joints, and light-banded, dark-tipped anterolateral spines. Based on the combination of morphological traits and comparison with known portunid species of the Mediterranean Sea, the specimen can be confidently attributed to *G. giardi*.

This finding represents the first record of *G. giardi* in Italian waters, confirming the ongoing expansion of the species, and marks its westernmost occurrence in the Mediterranean region. The presence of *G. giardi* in Italian waters suggests that the species may already be more widespread along the Central Mediterranean coasts than currently documented, but overlooked due to its superficial resemblance to other portunids. Its westward expansion is likely facilitated by rising sea temperatures and the species' strong ecological plasticity. Continued monitoring, particularly in shallow coastal habitats, will be essential to track its future spread and assess potential ecological impacts.

Fig. 5: The specimen of *Gonioinfradens giardi* collected in Portopalo di Capo Passero on 13 November 2025, immediately after being retrieved from the trammel net. Photo credit: Alfonso Barone.

1.3.3. *Plocamopherus ocellatus* (Mollusca: Polyceridae) reaches Italy

Fabio CROCETTA and Maurizio COSTA

Plocamopherus ocellatus Rüppell & Leuckart, 1828 is a large and conspicuous polycerid heterobranch characterised by an elongated body, brick brown in colour with distinct yellow spots of different sizes and shapes. It has a foot extending far beyond the posterior end of the notum, rhinophores lamellated, a prominent oral veil edged with about 15–20 branched appendages, a mantle edge with small and ramified papillae along each side of the body, and a gill placed in the middle of the dorsum and composed of five tripinnate branchial leaves (Zenetos *et al.*, 2004). Native to the Indo-Pacific (originally described from the Red Sea and subsequently recorded also in the Persian Gulf), since 1977 the species has also invaded the Mediterranean Sea, where it is now widespread in its easternmost parts since the Aegean coasts of Greece and Türkiye (Crocetta *et al.*, 2013; Ragkousis *et al.*, 2020; Hoeksema & Yonow, 2021; Bilecenoğlu & Yokeş, 2022).

During recent recreational scuba dives conducted by "La Gran Loggia dei Lumacai", new records of this species were obtained and communicated to one of the authors (F.C.). In particular, on 29 November 2025 at Mar Piccolo (40.47964° N, 17.26906° E; Taranto, Italy), a total of 4 specimens (6–8 cm in total length) of *P. ocellatus* were initially noticed by a group of divers (Matteo Celli, Maurizio Costa, Andrea Fabbri, Francesca Fabbri, Francesco Gulli, Francesca Mazzoni, and Walter Mignani) at 4–6 meters depth, crawling on a vertical wall covered by branching bryozoans (Fig. 6), which are widely known as part of its diet (Crocetta *et al.*, 2013; Hoeksema & Yon-

ow, 2021). The day after, the same divers also noticed a larger specimen (about 10 cm in total length) walking on the nearby sandy substrate. Finally, a subsequent dive carried out on 18 January 2026 in the same site but by other divers (Maurizio Costa, Giacomo Giovannini, Filippo Ioni, and Fabio Rinaldi) revealed the occurrence of 11 specimens, two of which were sampled and deposited in the Darwin Dohrn Museum of the Stazione Zoologica Anton Dohrn of Naples with the code numbers SZNMOL0060 (70% alcohol) and SZNMOL0061 (99.9% alcohol). Diagnostic characters of the specimens matched the external description of the species, and the total absence of similar species within the native Mediterranean biota generally facilitated species identification.

The aforementioned sightings represent the first records of this species in Italy and mark a notable westward expansion across the entire Mediterranean Sea. Although there are no certainties regarding the possible pathway of arrival in the area, shipping or natural dispersal from nearby populations are the most probable scenarios. In fact, the Gulf of Taranto hosts one of the major Italian harbours and is already known as a hotspot for the introduction and secondary spread of alien species. However, there is also a strong possibility that *P. ocellatus* is already present, but yet undiscovered, in other localities between the known distributional sites and the one recorded here. Further fieldwork may shed light on this question, as well as on its establishment status in the area.

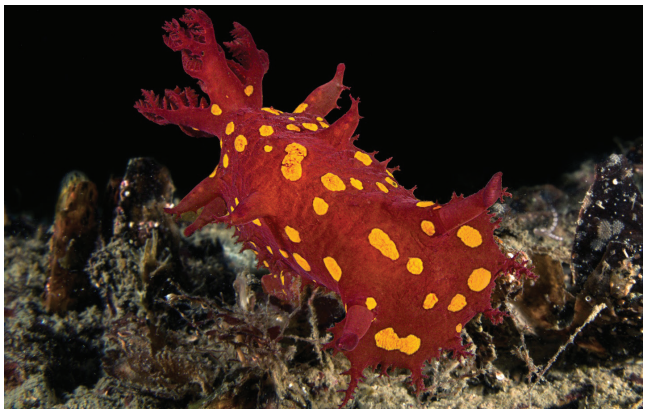

Fig. 6: *Plocamopherus ocellatus* from Mar Piccolo (Taranto, Italy). Photo credit: Matteo Celli (Italy).

1.4. MONTENEGRO

1.4.1. First record of the red sea mantis shrimp *Erugosquilla massavensis* Kossmann, 1880) in Montenegro waters (south-eastern Adriatic)

Olivera MARKOVIĆ and Aleksandar JOKSIMOVIĆ

The Red Sea mantis shrimp *Erugosquilla massavensis* (Kossmann, 1880) originating in the Red Sea and Persian Gulf is a Lessepsian immigrant into the Mediterranean. Nowadays this alien species is abundant in the eastern Levantine (Egypt: Abdelsalam *et al.*, 2024; Israel: Ragkousis *et al.*, 2023; Türkiye: Türeli *et al.*, 2017). The last records of this species in Mediterranean are from the Italian Ionian coasts in 2019 (Katsanevakis *et al.*, 2020) and the Italian coast of Tyrrhenian Sea in 2024 (Pipitone *et al.*, 2025).

So far, in Montenegro waters, mantis shrimps, is presented only with one species: the Mediterranean spot-tail mantis shrimp, *Squilla mantis* (Linnaeus, 1758). *Erugosquilla massavensis* was recently found in Boka Kotorska Bay. According to the fisherman who provide us with the material, he caught this species even in the late summer, in September, but he mistakenly thought it was *S. mantis*. Three adult male specimens of *E. massavensis* were collected by traditional trammel net called popunica with a 56 mm mesh size at 22 m of depth on sandy-muddy bottom in Tivat bay which is the part of the Boka Kotorska Bay (42.4147° N and 18.68917° E), on 22 November 2025. The specimen was brought to the Laboratory of Ichthyology and Marine Fishery in Institute of Marine Biology and

Fig. 7: Mediterranean spot-tail mantis shrimp, *Squilla mantis* and Red Sea mantis shrimp, *Erugosquilla massavensis* from Boka Kotorska Bay (left); Dorsal view of telson of *E. massavensis* and *S. mantis.* (right). Photo credit: Olivera Marković.

photographed. *Squilla mantis* and *E. massavensis*, are quite easy to distinguish, even in preserved material because *S. mantis* has two dark spots on dorsal side on telson (Fig. 7). Another distinguish characteristic is having bilobed lateral process of fifth thoracic somite (Holthius, 1987). The specimens were measured and weighed (total length, carapace length, wet weight). Sex was determined and identified by the presence of a pair of copulatory organs arising from the base of the third pair of periopods corresponding to the 8th thoracic segment in the male and by the presence of the genital plate on the 6th thoracic segment sternite in the female (Wortham-Neal, 2002).

This is the first record of *E. massavensis* in Boka Kotorska Bay in Montenegro waters as well as in Adriatic Sea. *E. massavensis* shares the same habitat and depths as the native species *S. mantis*. Further fieldwork is necessary to evaluate the current status of this alien species in the Adriatic Sea and maybe potential impact on population of native *S. mantis*.

1.4.2. *Lophocladia lallemandi* (Montagne) F.Schmitz, or rather *L. trichoclados* (C. Agardh) F.Schmitz, in the south Adriatic

Vesna MAČIĆ and Nikola ĐORĐEVIĆ

The genus Lophocladia currently comprises seven species and is distributed in warm and temperate waters. This red filamentous algae, which can reach up to 10 cm in length, includes *L. lallemandi* (Montagne) F. Schmitz. It was originally described from the Red Sea as *Dasya lallemandii* Montagne (1849). In the Mediterranean, it was first recorded in Greece in 1908 and subsequently reported from various regions, mostly in the southern and eastern Mediterranean. It was long been considered as introduced from the Red Sea but not invasive until the 1990s, when massive populations began developing on the Balearic Islands, covering different bottom types. Since then, it has been recorded in many other locations and is now considered invasive in the Mediterranean (Verlaque *et al.*, 2015). However, the taxonomic identification of *Lophocladia* species based solely on morphological characteristics remains uncertain in the absence of fertile specimens, making molecular analysis particularly valuable for reliable species identification. Golo *et al.* (2023) could not confirm the presence of *L. lallemandi* in the Mediterranean; their findings indicate the presence of only one species in the Mediterranean Sea–*L. trichoclados* (C. Agardh) F. Schmitz. The disjunct distribution pattern suggests either multiple introductions of different strains with varying invasive potentials or that climate change may have induced the massive blooms observed in the Balearic Islands and other locations (Cebrian & Ballesteros, 2010; Golo *et al.*, 2023).

This red alga was recently recorded in the South Adriatic along the coast of Montenegro (location Žukovica, 42.32684° N, 18.71052° E, on 25 August 2025) during the monitoring of *Posidonia* meadows in the MPA Platamuni. The thallus of the alga was collected from the rhizomes and lower parts of *Posidonia* leaves (Fig. 8A). It

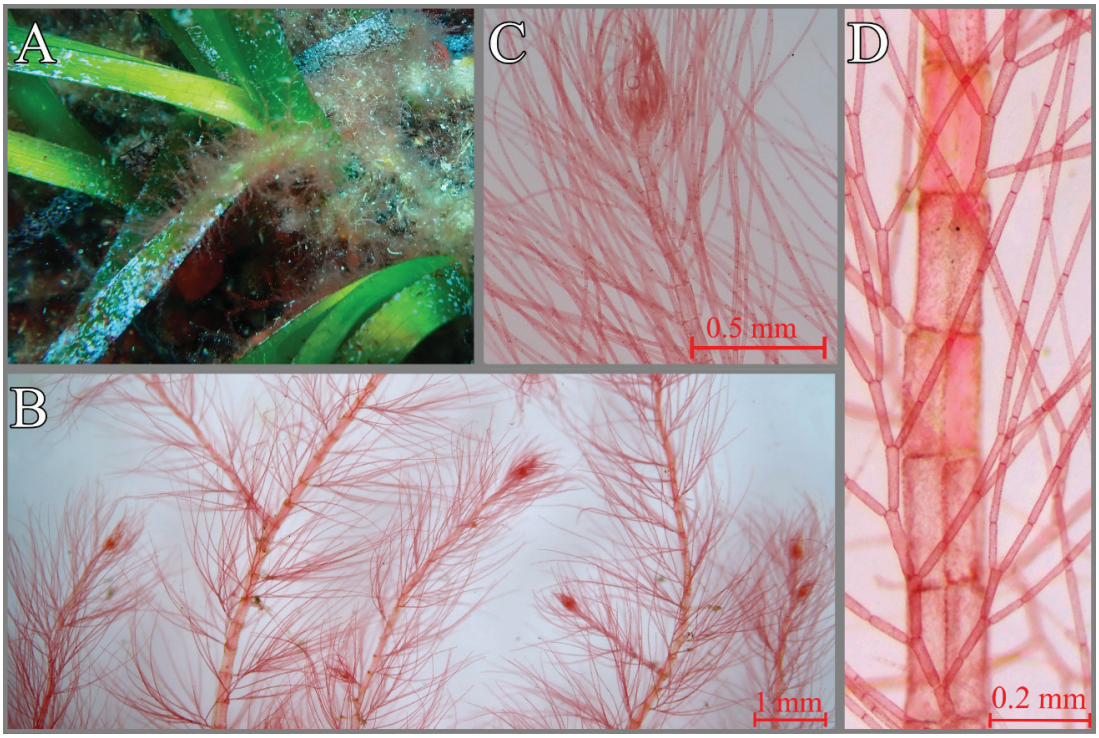

Fig. 8: *Lophocladia trichoclados*: (A) specimen on a *Posidonia* leaf; (B) branching of the thallus; (C) branch apex; (D) exogenous branching. Photo credit: V. Mačić.

was noticed and collected due to its flaccid appearance, which differs from the also red but highly invasive *Womersleyella setacea* (Hollenberg) R.E. Norris. The alga possesses numerous cylindrical axes with pseudo-dichotomous branching; each axis consists of a central cell surrounded by four periaxial cells, with very limited cortication, mainly present on the lower main axes (Fig. 8B-C). Branching is predominantly exogenous (Fig. 8D). Owing to its small size and the well-known invasiveness of *W. setacea* in the Adriatic Sea (Mačić, 2008), this species could be easily overlooked. Furthermore, the absence of fertile specimens and the potential for confusion with other species likely explain why it had not been reported from this area previously, although it may have been present since at least 2023. Further monitoring is needed to assess its distribution and potential impact on native assemblages.

1.5. CROATIA

First record of *Syrnola fasciata* Jickeli, 1882 (Gastropoda, Heterobranchia, Pyramidellidae) from the Adriatic Sea

Pero UGARKOVIĆ and Rino STANIĆ

The pyramidellid gastropod *Syrnola fasciata* Jickeli, 1882 is of Indo-Pacific origin and is considered to have entered the Mediterranean Sea through the Suez Canal, following the typical Lessepsian pathway. (Zenetos *et al.*, 2004). The species was first recorded in the Mediterranean along the Israeli coast in the late 1950s, followed by subsequent findings in Lebanon, Türkiye, and Cyprus (Öztürk & Bitlis Bakır, 2013). In Greek waters, both live specimens and empty shells have been reported from the Saronikos Gulf and the Dodecanese area (Crocetta *et al.*, 2017). The species was reported for the first time from Italian waters in the Ionian Sea, where several shells were collected in the Mar Piccolo of Taranto, Apulia (Vitale & Trono, 2025).

The present record is based on a single live specimen (shell height 3.4 mm) collected on 18 December 2025 from a sediment sample obtained on a soft bottom consisting of a mixture of mud and detritus, using a small rectangular dredge at a depth of 25 m, off the coast of Split, in the central eastern Adriatic Sea (43.50722° N, 16.38944° E) (Fig. 9).

The examined specimen from the Adriatic Sea corresponds closely to the diagnostic shell characters of *S. fasciata* as described by Giannuzzi-Savelli *et al.* (2014). The shell is slender and subconical, with moderately convex whorls separated by a shallow but distinct suture. The colour is whitish-yellowish, with a narrow brown band near the abapical suture and a broader, less distinct band on the central part of the whorls. The umbilical chink is narrow but deep, and a well-developed columellar fold is present. The inner lip bears clearly visible denticles, and the protoconch corresponds to type C.

Until now, *S. fasciata* had not been recorded from the Adriatic Sea. The present finding therefore represents the first Adriatic record of the species and extends its known Mediterranean distribution northwards. Considering the small size of pyramidellids and the limited research effort devoted to this group along the eastern Adriatic coast, targeted surveys are needed to assess its abundance and distribution, as well as those of other small-sized gastropods in the Adriatic.

Fig. 9: Specimen of *Syrnola fasciata* Jickeli, 1882, collected on 18 December 2025 on soft bottom at a depth of 25 m, off the coast of Split, central eastern Adriatic Sea. Upper panels show the shell in apertural and lateral views; lower panel shows the live specimen with extended soft parts. Photo credit: R. Stanić.

1.6. SLOVENIA

First record of the alien ascidian *Polyandrocarpa zorritensis* (Van Name, 1931) in Slovenian territorial waters

Neža LEBAN and Domen TRKOV

We report the first record of the alien ascidian *Polyandrocarpa zorritensis* (Van Name, 1931) in Slovenian territorial waters, representing the northernmost occurrence of this species in the Mediterranean Sea. Originally described from Peru, *P. zorritensis* was first detected in the northern Mediterranean in 1974 (Brunetti, 1978–1979) and has since spread eastwards (Lezzi *et al.*, 2018) into the Adriatic, with the most recent observation from the port of Ravenna, Italy (Lezzi & Mazziotti, 2024). Its dispersal is attributed to tolerance of short-distance transport and asexual reproduction through vascular budding (Brunetti & Mastrototaro, 2004; Tobias-Santos *et al*., 2024).

Colonies were first recorded in Slovenian territorial waters in August 2025 during a monitoring campaign of alien species in the Slovenian Sea. They were observed as fouling communities on small boats in the lower part of the St. Jernej Channel (45.49951° N,13.58785° E; 45.49696° N,13.59853° E; salinity was 36–37‰), which supplies seawater to the Sečovlje Salt Pans. In September 2025, additional colonies were discovered beneath floating houses (Fig. 10) in Marina Portorož (45.50287° N, 13.59442° E; salinity was 36.5‰) and in the nearby Fazan Canal (45.50684° N, 13.59765° E; salinity was 34.3‰), growing on oyster shells. In all locations, freshwater inflows, particularly after heavy rainfall, created temporary semi-brackish conditions. Colonies were restricted to shaded surfaces of floating structures, such as the inner sides of boat hulls, undersides of floating houses, and tree-shaded canal walls. Samples were scraped from substrates, identified and then anesthetized with menthol crystals, and preserved in 7% buffered formalin.

Identification followed Brunetti and Brunetti and Mastrototaro (1978–1979, 2004): colonies were cushion-like, consisting of cylindrical yellow-green zooids connected by stolons, each with an apical oral siphon and a slightly eccentric cloacal siphon. Siphons were four-lobed, bearing two dark bands separated by yellowish pigment. Orange globular bodies were also observed at the base of some zooids, corresponding to vascular evaginations where new zooids develop.

Surveys of other Slovenian ports, marinas, and brackish habitats (Piran, Izola, Strunjan Salt Pans, Koper) revealed no other colonies found. We therefore consider the marina and docks of the St. Jernej Channel to represent the most likely point of introduction. Given the association between asexual reproduction and reduced salinity (Tobias-Santos *et al.*, 2024), further colonization of brackish and semi-brackish habitats along the Gulf of Trieste may be expected, potentially driven by maritime traffic.

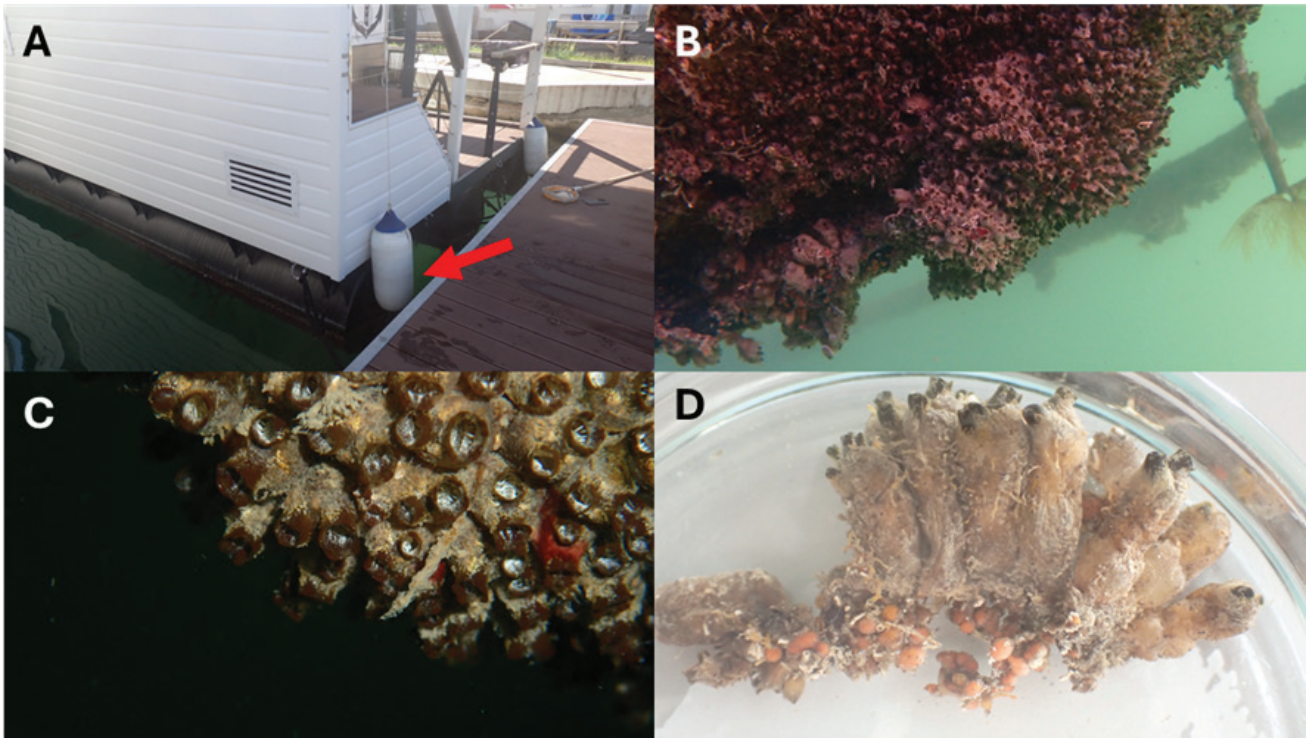

Fig. 10*:* Colonies of *Polyandrocarpa zorritensis* (Van Name, 1931) observed: A) on shaded surfaces (red arrow), such as beneath floating houses; B-C) On floating structures, colonies formed dense aggregations, in some cases completely covering larger areas. D) Scraped zooids connected by stolons, with vascular evaginations (orange globular bodies) present at the bases of zooids. Photo credit: N. Leban, D. Trkov.

1.7. TUNISIA

First record in Tunisia of the Indo-Pacific polyclad turbellarian *Maritigrella fuscopunctata*

Aya TRABELSI and Mouna ANTIT

Initially described from Australian coasts, the polyclad turbellarian *Pseudoceros fuscopunctatus* Prudhoe, 1978 was later reassigned to the genus *Maritigrella* (Euryleptidae, Cotylea) by Newman & Cannon (2000). The body is oval, elongated with ruffled margins, well-developed marginal tentacles and a bell shaped anterior pharynx. A posterior ventral sucker, cerebral eyes arranged in two elongated clusters, and marginal eyes further distinguish this species. Its dorsal surface is characterized by a cream white background with transverse rows of black spots surrounded by greyish halos, orange margins, and large orange brown spots forming a crenelated honeycomb like network along the midline. Newman & Cannon (2003) treated taxonomy and biology of the species in its native range.

Native to the Indo-Pacific (Australia, Maldives, Indonesia), *Maritigrella fuscopunctata* is an alien species in the Mediterranean that has arrived either via the Suez Canal (Lessepsian immigrant) or with vessels (hull fouling/ballast water). It was first genetically confirmed in Malta (2015) via COI/18S/28S barcoding, predating on the colonial ascidian *Ecteinascidia turbinata* (Vella *et al.*, 2016). Crocetta *et al.* (2015) mentioned earlier records from Lebanon. However, the first published Mediterranean record was backdated (2013) by Velasquez *et al.* (2018).

Monthly monitoring at La Goulette, Gulf of Tunis (36.8192° N, 10.3100° E), is carried out to assess the influence of climatic effects on local marine fauna. Habitats comprise shallow (1-2 m) rocky substrates covered by algal mats, forming a complex environment rich in benthic fauna.

Two individuals (30 mm and 48 mm) were observed on July 23 2025: one swam freely (escape response) at 1.30 m among algal interstices, the second was cryptic in foliage. One specimen was collected alive in seawater, transported to the Faculty of Tunis El Manar (FST) laboratory, examined and photographed (Fig. 11), then fixed in 95% ethanol (for future DNA analysis). Its appearance initially suggested a small opisthobranch, but the absence of external gills and its flattened body confirmed it as a polyclad turbellarian. Morphology it matched *Maritigrella fuscopunctata*: undulating oval body, marginal eyes, dorsal surface whitish with orange spots on the edge, black spots with a grey halo next to the edge, and the axial region with small pale orange spots in a honeycomb pattern, ventral surface with the same marginal pattern but only sparse black spots in the median region, all this consistent with the barcoded specimens from Malta described by Vella *et al.* (2016) (Fig. 11). The consistency of morphology of our specimens with molecularly validated Maltese populations (Vella *et al.*, 2016) confirms our identification.

This first Tunisian record extends the Mediterranean range of *Maritigrella fuscopunctata* north-west of Malta and is the first record in the western Mediterranean (Galanidi *et al.*, 2023). It occurrence could be attributed to a new introduction event either via the Suez Canal or with vessels, but it more likely arrived through secondary spreading (pathway unaided) from Malta. Monitoring for interactions with native species is recommended.

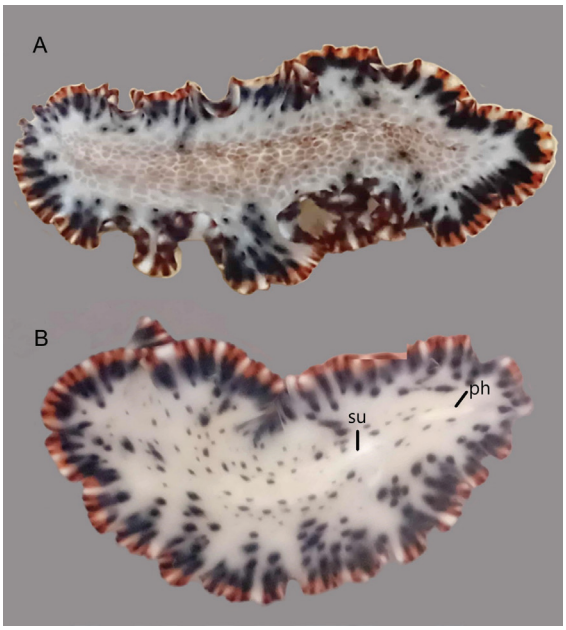

Fig. 11: *Maritigrella fuscopunctata*. (A) Dorsal view, in vivo. (B) Ventral view of the live specimen showing the pharynx (ph) and sucker (su). Photo credit: Mouna Antit.

1.8. LIBYA

First Record of the Streaked Spinefoot *Siganus javus* (siganidae) in Libyan Waters Through Citizen Science

Amani FITORI and Jamila RIZGALLA

The Streaked spinefoot, *Siganus javus* (Linnaeus, 1766), is classified as an alien fish species in the Mediterranean (Corsini-Foka & Zava, 2022). It is native to the Indo-Pacific region and has a wide distribution, also being present in the Red Sea (Froese & Pauly, 2025). In the Mediterranean Sea, it has been reported twice: from the port of Lattakia (Syria) (Ibrahim *et al.*, 2010), and from Alexandria (Egypt), based on a citizen science record (Corsini-Foka & Zava, 2022). The introduction of the Streaked spinefoot into the Mediterranean Sea has been attributed either to Lessepsian migration through the Suez Canal or to shipping transfer, as both records were near shipping ports (Ibrahim *et al.*, 2010; Corsini-Foka & Zava, 2022). In the context of assessing marine biodiversity in Libyan waters, social media platforms were periodically monitored for posts. On 25 October 2025, a recreational fisherman Ali Labrasha caught a fish approximately 23–25 cm in total length at a depth of 8 meters in Benghazi, Libya, (32.13489° N, 20.06244° E) using angling with a flour and bread-based bait. The fish was unfamiliar to him, so he posted two images on a social media platform called "Sartma", seeking identification (Fig. 12). One of the authors replied to the post providing identification. The fisherman was additionally contacted via Facebook Messenger for additional images and information (Fig. 12). Permission was sought and obtained to use the images and information of the catch. Reportedly, the fish was no longer available as it had been consumed.

The fish was identified as *S. javus* (Fig. 12), based on the external morphology described by Woodland (2001) and Corsini-Foka & Zava (2022). The dorsal profile of the head was slightly concave above the orbit, with a short and blunt snout and a preopercular angle (Fig. 12B). The coloration ranged from bronze on the back and sides to paler below, with silvery blush undulating lines on the mid-and lower sides that gradually vanished on the ventral side. The spines and rays of the dorsal, anal, and pelvic fins had a light golden shade, with the cheeks also having a light golden hue (Fig. 12A-B). The dorsal fin had 13 spines (not visible from the pictures) in addition to 10 soft rays. The anal fin has 7 spines and 9 soft rays. The caudal fin was slightly emarginated. The fish had a lighter golden colour than the ones described by Woodland (2001) and Corsini-Foka & Zava (2022), which was possibly due to the specimen being kept dry and the lighting conditions.

Siganus javus is the fourth species of the Siganidae family reported in Libyan waters. It joins *Siganus argenteus* (Quoy & Gaimard, 1825), *Siganus luridus* Rüppell, 1829, and *Siganus rivulatus* Forsskål & Niebuhr, 1775. Other Siganidae reported in the Mediterranean Sea include *Siganus virgatus* (Valenciennes, 1835) and *Siganus fuscescens* (Houttuyn, 1782) (Corsini-Foka & Zava, 2022).

This record represents the third one of *S. javus* in the Mediterranean Sea. It could be an independent introduction event to the area, or a potential undetected east-to-west expansion of its range four years after reaching Egyptian shores and be hitherto undetected due to the lack of field surveys and monitoring programs along the Libyan coastline. This record further highlights the importance of citizen science in documenting alien species spread in Libyan waters (Rizgalla *et al.*, 2019). Continuous monitoring programs are necessary to enhance our understanding and evaluation of alien species spread in Libyan waters, especially considering the relentless invasive pressure the Mediterranean Sea is facing.

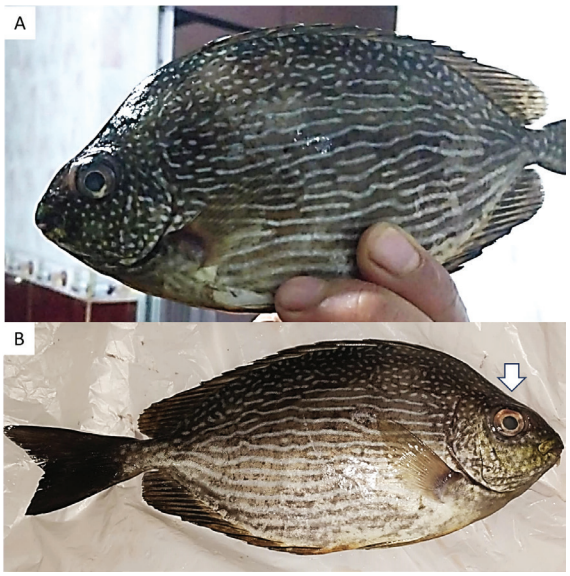

Fig. 12: (A–B) The individual of *Siganus javus* caught off the coast of Benghazi. Photo credit: Ali Labrasha.

1.9. EGYPT

First record of the peacock rockskipper, *Istiblennius* cf. *meleagris*, from the Egyptian Mediterranean Waters

Ahmed Mohamed AL-BEAK and Fares Nasser ABD EL-GWAAD

On 18 November 2025, one specimen of the peacock rockskipper, *Istiblennius* cf. *meleagris* (Fig. 13), was collected from rock cracks of the artificial wave barrier at a depth of 0.5 m at the El-Arish coastline, North Sinai (31.15749° N , 33.85505° E), Egyptian Mediterranean Sea.

The peacock rockskipper belongs to the family Blenniidae, which is commonly found in marine environments, where it primarily inhabits rocky substrates in the subtidal, intertidal, and supratidal zones in tropical and warm-temperate regions (Tiralongo & Bitar, 2024). In the Mediterranean Sea, the first record of this species was from Hadera power plant in 2016 by Rothman *et al.* (2020). Following its introduction, presumably via vessels (Rothman *et al.*, 2020), this Australian species rapidly spread to the southern Levantine coast (Syria, Lebanon), where, in the absence of molecular analyses, it was reported as *Istiblennius* cf. *meleagris.* (Langeneck *et al.*, 2023; Badreddine & Tiralongo, 2022; Tiralongo & Bitar, 2024).

The current specimen of *Istiblennius* cf. *meleagris* has a scaleless, elongated, stained body with 8.8 cm T.L. and 25 g T.W., 31 dorsal fin rays, 21 anal fin rays, 14 pectoral fin rays, 14 segmented caudal fin rays, 3 cirri —antenna— like cutaneous outgrowths on the head, the orbital cirrus is tree-like with medial and lateral branches, and a continuous canal anterodorsally with simple pores on the lateral line.

The color pattern is dusky, with dark spots posterior to the eyes (which become paler over time as the specimen dies), and the jaws have a dark area posterior to the corner. The body is elongated with indications of 6 dark, irregular, paired, and broken bands. The bands contrast more strongly with the body ground color in dark dorsal extensions of bands positioned on the dorsal body contour, entering the dorsal fin basally. The small, pale spots on the body are arranged in matched rows. Spinous- and segmented-ray portions of dorsal fin faintly to darkly dusky, often bearing dark, slender, oblique stripes or dark spots.

While the current morphological and meristic evidence is compelling, we identified our specimen as *Istiblennius* cf. *meleagris* and strongly recommend performing DNA barcoding analysis in the future by the mitochondrial cytochrome c oxidase subunit I (COI) gene. This analysis would serve two critical functions: first, to definitively resolve the cf. *meleagris* uncertainty and confirm the true taxonomic status of the Levantine population; and second, to trace the exact lineage of the Mediterranean population back to its Indo-Pacific source, providing insight into the introduction event and confirming whether the invasive population is conspecific with the nominal *I. meleagris* species.

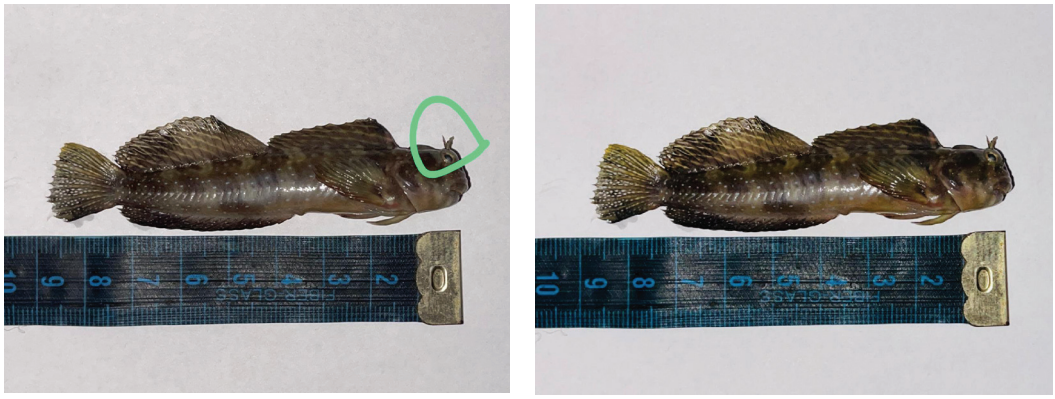

Fig. 13: The peacock rockskipper, *Istiblennius meleagris*, El-Arish, North Sinai, Egyptian Waters. Photo credit: Fares Nasser.

1.10. ISRAEL

A new record of the Blacktip grouper from the Mediterranean, indicating population establishment

Daniel GOLANI

The opening of the Suez Canal in 1869 resulted in a massive influx migration of organisms from the Red Sea into the Mediterranean, termed Lessepsian migration. On 2 September 2025, a specimen of the Blacktip grouper, *Epinephelus fasciatus* (Forsskål in Niebuhr 1775) was hooked at 30 m by the fisher A'aid Mahamid near Haifa,

Israel. The specimen was photographed (Fig. 14) but was not preserved. The present record constitutes the third record from the Mediterranean. It was first recorded in the new environment by Bariche & Heemstra (2012) from Lebanon and later from Antalya Bay, Türkiye (Gökuğlu & Biçer, 2022). *Epinephelus fasciatus* can be distinguished from its co-generic species in the Red Sea and the Mediterranean by its color pattern; light orange body with six dark orange bars, blacktips of the dorsal spines and the reddish-brown upper part of the head and nape. The family of Serranidae includes 475 species world-wide (Heemstra & Randall, 1993). Of theese 22 six species inhabit the Mediterranean; namely, *Epinephelus coioides, E. malabaricus, E.areolatus, E. fasciatus, E. geoffroyi* and *Variola louti*.

Epinephelus fasciatus feeds on small fishes, crustaceans, and cephalopods and inhabits shallow rocky habitat to depths of 150 m; nevertheless, Baranes & Golani (1993) collected a specimen at the depth of 350 m in the Gulf of Aqaba. *Epinephelus fasciatus* has a wide Indo-Pacific distribution, from Japan, Australia, South Africa, and the Red Sea. However, according to Kuriiwa *et al*. (2014) who analyzed its genetics, there my be several cryptic species. This species is common in the shallow waters of the Gulf of Aqaba, where its body color is almost uniform off-white to pale yellow, often with 5-6 faint bars and brown-black on top of the head and nape (see Bergbauer & Kirschner, 2014, p.89 at the bottom).

All the six Lessepsian groupers are rare in the Mediterranean, only two, *E. coioides* and *E. malabaricus*, have established small populations, while the others are known by a single specimen or two specimens at most. The finding of the third *E. fasciatus* specimen suggests that this species has established a self-sustaining small population in its new environmemt.

Fig. 14: *Epinephelus fasciatus*, 2 September 2025, hooked at 30 m near Haifa. Photo credit: A'aid Mahamid.

1.11.TÜRKIYE

New record of the green algae (Chlorophyta) *Cladophora patentiramea* in Türkiye

Öznur YAZILAN and Ergün TAŞKIN

Cladophora Kützing (Cladophorales, Cladophoraceae) is one of the largest and most widespread genera of green macroalgae, currently comprising 188 taxonomically accepted species (Guiry & Guiry, 2025). In this study, alien green alga *Cladophora patentiramea* is reported for the first time from the Aegean coasts for Türkiye. The specimen was collected in June 2025 from the coast of Marmaris, Muğla (36.72653° N, 28.13003° E) at approximately 0.5 m depth, growing horizontally on rocky substrata. Identification followed the morphological descriptions by Sakai (1964). The voucher specimen is deposited in the Department of Biology, MCBU (Türkiye). Forming compact, cushion-like tufts approximately 4.5-5 cm in diameter, the thallus consists of rather stiff filaments (Fig. 15A-B). Adventitious rhizoids arise from all portions of the thallus, originating from both basal and intercalary cells, and loosely attach the cushion-like tuft to the substratum (Fig. 15 D-E). Branching is predominantly unilateral, only rarely opposite, with branches arising at relatively wide angles. Apical cells of young filaments are 50–60 µm in diameter and 600–650 µm long, with very thin cell walls (1–2 µm). Older apical cells become markedly elongated, reaching 135–200 µm in diameter and 1.5-1.8 mm long, with apical wall thickness increasing up to 10 µm (Fig. 15C). Cells of the main axis measure 200–230 µm in diameter and up to 1.3–1.5 mm long, bearing cell walls 7–8 µm thick. Terminal cells are 120–160 µm in diameter and 300–500 µm long. Cross-wall formation at the base of lateral branches is typically delayed (Figs 15E-F). Originally described from Tahiti and widely distributed throughout the Indo-Pacific Ocean, this species was first recorded in the Mediterranean Sea in 1991 from Cyprus (Verlaque, 1994).

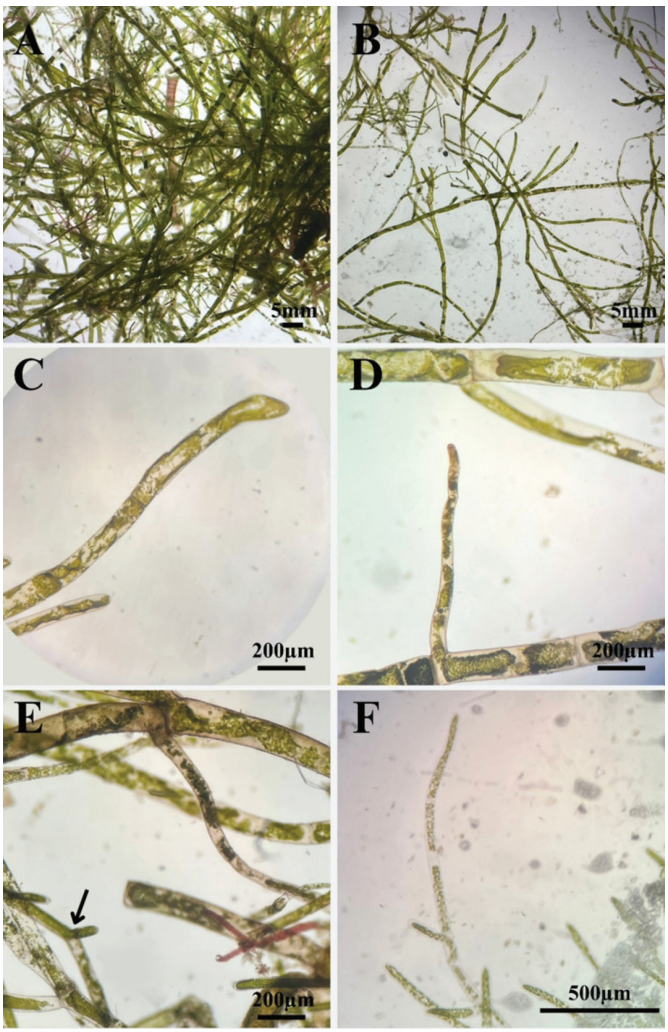

Fig. 15: Morphological features of *Cladophora patentiramea.* A-B) General view of branching, C) Morphology of elongated apical cell, D) Young rhizoid, E) Delayed cross wall formation and rhiozoid structure, F) Detail of long apical cell and delayed cross wall formation. Photo credit: Öznur Yazilan.

2. NATIVE SPECIES

2.1. First sighting of the Oceanic manta ray *Mobula birostris* (Walbaum, 1792) in the Mediterranean basin in the last 100 years

Juan A. PUJOL, Víctor ORENES-SALAZAR and Claudio BARRÍA

The Oceanic manta ray *Mobula birostris* (Myliobatiformes: Mobulidae) is a large size batoid species (8 m maximum disc width), with dorsal-ventrally flattened body, modified cephalic fins, and broad pectoral fins adapted to the pelagic habitat (Couturier *et al.*, 2012). *Mobula birostris* is considered a migratory species with a circumglobal distribution (Carlson, 2021), and is characterized by slow growth, delayed maturation, and low fecundity (Stevens *et al.*, 2018). According to the IUCN Red List, the species is currently globally assessed as Endangered (Marshall *et al.*, 2022).

There has been long-standing confusion in the taxonomic assignment of mobulid rays in the Mediterranean Sea and adjacent areas, particularly regarding the distinction between *M. mobular* and *M. birostris*. A recent review of historical records indicated that several large specimens previously identified as *M. mobular* actually correspond to *M. birostris* (Notarbartolo di Sciara *et al.*, 2020). Specifically, the individuals recorded from the Bay of Rosas (Spain, 1898), Oran (Algeria, 1901), and Cádiz (Spain, 1916) have been confirmed as *M. birostris*, while the specimen from Marseilles (France, 1723) is presumed to belong to this species. The Rosas specimen, preserved in the Paris Museum (MNHN 1899–1), thus constitutes the earliest confirmed record of *M. birostris* in the Mediterranean Sea.

Here, we document the presence of an individual *M. birostris* observed on 6 September 2023 in the vicinity of Cabo Tiñoso (approximate coordinates: 37.53878°N, 1.1430°W), Spain, southwestern Mediterranean Sea. The observation was made by “Caballito Salado” diving club and submitted to the authors.

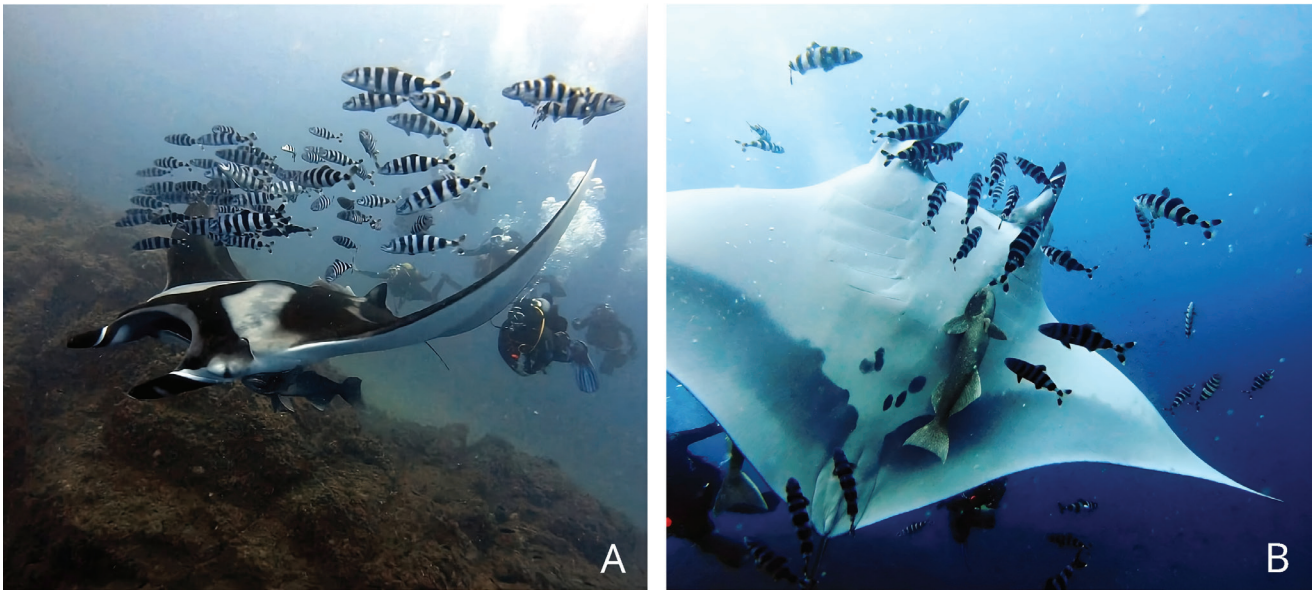

***Fig. 16A–B**:* Dorsal (A) and ventral (B) views of *Mobula birostris* individual observed on 6th September 2023 in the vicinity of Cabo Tiñoso, southeastern Iberian Peninsula (southwestern Mediterranean). Photo credit: Q. González/*Caballito Salado Diving Club*.

The photographic material (Fig. 16 A-B) obtained from the video recorded during the sighting allowed a precise identification of the species as *M. birostris*: a relatively broad head projecting forward into a pair of paddle-shaped cephalic lobes; large triangular pectoral fins; a distinct, T-shaped black marking on the center of the shoulders; and whitish, triangular shoulder patches with a large backward-oriented hook on their inner margin; white ventral surface, with a pair of large semicircular black patches immediately posterior to the last gill slits, and no dark markings between the gill openings.

The Oceanic manta ray was accompanied by approximately 50 pilotfish *Naucrates ductor* (Linnaeus, 1758) and two shark suckers *Remora remora* (Linnaeus, 1758), one attached dorsally and the other ventrally. Based on these observations, the specimen was estimated to measure approximately 2.5 meters in disc width, suggesting that it was an immature female (Froese & Pauly, 2026).

This record from the southeastern Iberian Peninsula confirms the presence of *M. birostris* in the Mediterranean and is the first observation of live individuals in the basin. Considering available records and the geographical proximity to the Strait of Gibraltar, it seems plausible that the individual entered the Mediterranean Sea from the Atlantic Ocean through this route. This finding emphasizes the need for accurate identification of *Mobula* individuals, since undetected occurrences in the western Mediterranean cannot be ruled out.

2.2. Records confirming the rare Slender Snipe Eel, *Nemichthys scolopaceus* (Anguilliformes: Nemichthyidae), in the Central Mediterranean (GSA 15) and evidence of its global cryptic diversity

Noel VELLA and Adriana VELLA

Here we report two records of the slender snipe eel *Nemichthys scolopaceus* Richardson, 1848, collected from GSA15 in the central Mediterranean. This deep-sea species is rarely encountered in the region and until now, lacked authenticated records leaving its presence in GSA15 questionable (Borg *et al.*, 2023)during the Mediterranean International Trawl Survey (MEDITS.

Two individuals were collected on 20 July 2015 (35.1° N, 14.6° E) on 1 June 2016 (35.1° N, 14.5° E) (Fig. 17a-b), by Maltese fishermen, 42 NM south of Malta while fishing for swordfish using pelagic longlines reaching depths around 150 to 200 meters. The specimens, having a total length of 98 cm and 102 cm respectively, were handed to the authors, identified morphologically following Bilecenoglu *et al.* (2006) and confirmed through DNA barcoding. Sequences were deposited in GenBank (accession numbers PX475085 and PX475086), and were compared to those of other specimens from the genus *Nemichthys* though Bayesian Inference analysis using 5×10^6 generations, a sample frequency every 1,000 generations and a burn-in of 25%.

The two specimens analysed here differed by 1 bp in the COI sequence (591 bp). On BOLD (Ratnasingham & Hebert, 2007) they were assigned to the Barcode Index Number (BIN) BOLD:AAB5787, that encompasses another specimen of Mediterranean origin (Israel) and a number of individuals from the Atlantic (Sweden; Nova Scotia, Canada; Greenland; Atlantic coast, USA). Based on currently available data, the mean *p*-distance within this BIN is 0.27%, with a maximum p-distance of 1.30%, whereas the p-distance to its nearest neighbour, BOLD:AAE5311, is 4.49%. Phylogenetic analyses (Fig. 18) using publicly available data revealed that our specimens are closely related to specimens from the afore-

mentioned regions, yet show differences of more than 6% from conspecifics originating from the Pacific Ocean. This genetic structure suggests that currently *N. scolopaceus* may represent a species complex, with marked divergence between oceans, and with *N. larseni* forming a clade within the N. scolopaceus complex (Fig. 18). Multiple BINs are currently recognised for *N. scolopaceus*, including BOLD:AAB5787 (Atlantic and Mediterranean); BOLD:ABX7764 (eastern Pacific) and BOLD:AAB6644 and BOLD:ACC3729 (western Pacific), highlighting potential cryptic diversity (Fig. 18).

By documenting these two central Mediterranean records, this study extends the confirmed range of *N. scolopaceus* into GSA15 and provides new evidence for unresolved taxonomic issues within the genus *Nemichthys*. The substantial genetic differentiation calls for a comprehensive reassessment of the genus, integrating molecular, morphological and biogeographic data, with particular attention to the re-examination of junior synonyms (Froese & Pauly, 2025). Placing these findings within a broader phylogeographic framework, this work highlights the value of DNA barcoding in validating the occurrence of rare understudied species.

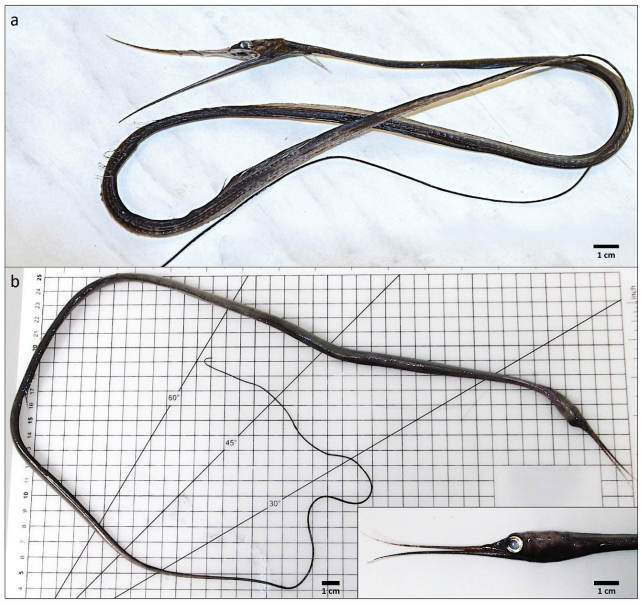

Fig. 17: Specimen (a) collected on 20 July 2015 (TL = 98 cm); Specimen (b) collected on 1 June 2016 (TL = 102 cm). Photo credit: Adriana Vella & Noel Vella.

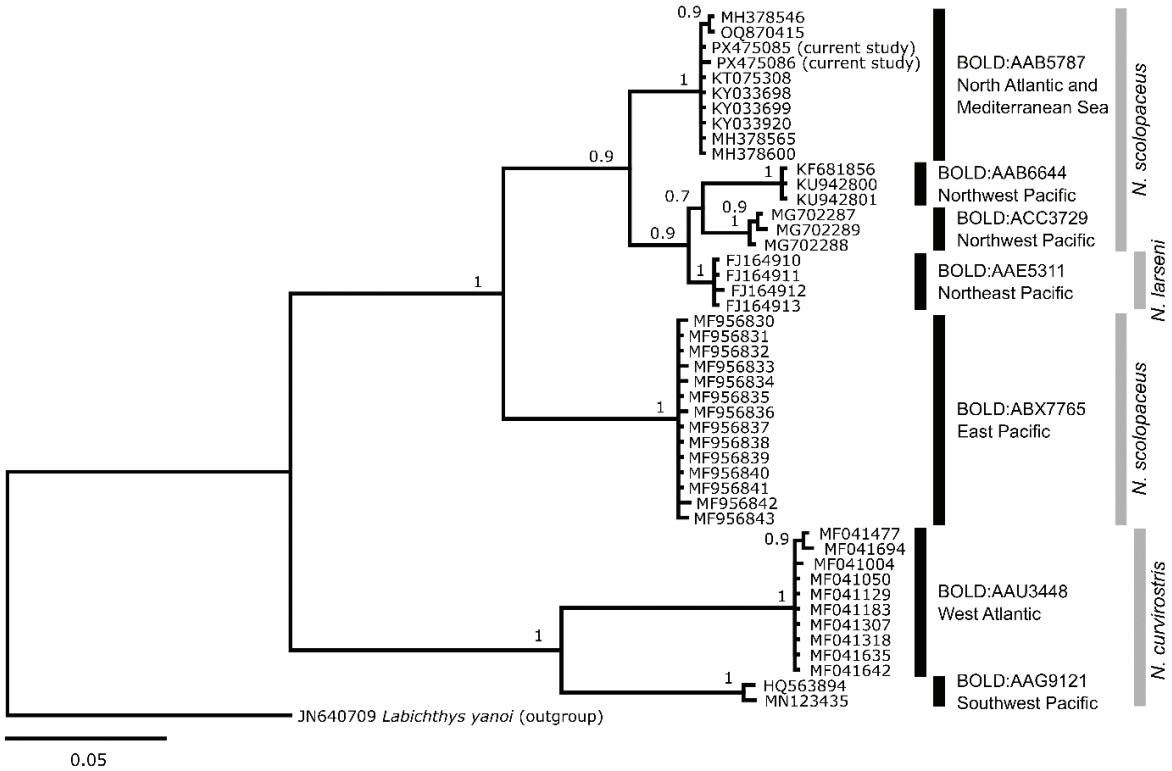

Fig. 18: Bayesian Inference based phylogeny depicting the phylogenetic relationship between COI sequences of specimens from the genus *Nemichthys*. Labels include GenBank accession numbers, associated BOLD BINs and species. The numbers at the nodes indicate the posterior probability values.

2.3. Extending the known range of *Latreillia elegans* (Decapoda, Lareillidae) to the southern Levant

Bella S. GALIL

Latreillia elegans Roux, 1830, is noted for its long ocular peduncles, longer supraocular spines and much longer filiform legs. The species is native to the Mediterranean Sea and eastern and western Atlantic Ocean,

collected across the shelf and upper slope, at 35–474 m depth (Castro *et al*., 2003). Its first Levantine record (Mersin, Türkiye), a single specimen, dates back to 1956 (Lewinsohn & Holthuis, 1964). A study of deep trawling grounds in the Gulf of Antalya (2010-2011) yielded more than one hundred specimens at 200-300 m depth (Deval & Froglia, 2016).

On 15 December 2025, as part of the National Monitoring Program of Israel's Mediterranean waters carried out by Israel Oceanographic and Limnological Research (IOLR), the benthic biota off Ashdod (31.7874° N, 34.433° E) at 80 m depth was sampled using a standard bottom trawl commercial net (20 m long, opening 2x12 m, cod stretch mesh opening 42 mm, 90 minutes haul duration). In the material collected, together with a tangle of *Pennatula rubra* Ellis, 1764, was a specimen of *L. elegans* (Fig. 19). The carapace length (CL - base of rostrum to middle of carapace posterior margin) of the specimen, an ovigerous female, is 12.0 mm; though somewhat damaged and missing most legs, it is easily identifiable. The color pattern and the spinose pereopods are likely adaptation to commensalism with Pennatulidae (Porporato *et al*., 2011). The specimen was deposited in the Steinhardt Museum of Natural History, Tel Aviv University (SMNHTAU:Ar.30554). Perusal of the collection revealed two previously unpublished specimens: an ovigerous female

Fig 19: *Latreillia elegans* Roux, 1830. SMNHTAU:Ar30554, ovigerous female, CL 12.0 mm, Ashdod, Israel. Photo credit: O. Ritner.

(CL 12.9 mm) collected between Tel Aviv and Ashdod, 13 August 1979, at 73–78 m depth (SMNHTAU:Ar.25195) and a damaged female specimen collected off Ashdod, 12 May 2008, at 40 m (SMNHTAU:Ar.28574). These are the first records of the species in the southern Levantine Sea.

2.4. New records of the marine green algae *Didymosporangium repens* in Türkiye

Öznur YAZILAN and Ergün TAŞKIN

Didymosporangium repens F.D.Lambert

Originally described by Lambert (1912), *Didymosporangium* includes minute epiphytic green algae forming short, prostrate filaments and producing four-spored conical to pyriform sporangia. In this study, *Didymosporangium repens* F.D. Lambert is reported for the first time from the Levantine Sea of Türkiye, based on material collected in May 2016 from Samandağ (Hatay) (36.13769° N, 35.91027° E). This species was previously recorded from Türkiye by Digenis *et al.* (2024), based on material collected from Yeniköy (Çanakkale) in the Aegean Sea. Epiphytic on *Antithamnion* sp., forming short, prostrate and slightly curved filaments composed of 10–30 cells (Fig. 20). Filament cells cylindrical, 15–20 µm long and 4–5 µm broad. Terminal cells rounded to slightly subacute. Sporangia present, arising from vegetative cells of the median or terminal parts of the filament, and conical to pyriform in shape. *D. repens* is endemic to the Mediterranean Sea and is known from France, Corsica, Greece, Italy, Spain, Tunisia, Cyprus, Türkiye, and the Levant Basin (Guiry & Guiry, 2025).

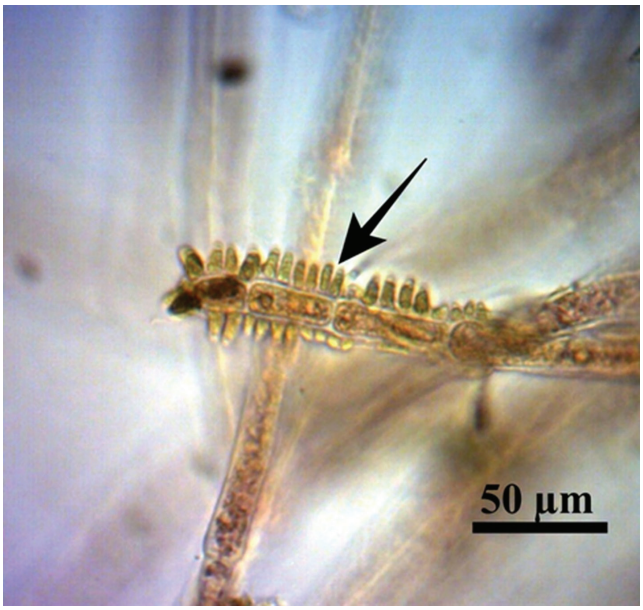

Fig. 20: Habit of *Didymosporangium repens*, epiphytic on *Antithamnion* sp. Photo credit: Ergün Taşkin.

3. RANGE EXPANDING

3.1. First record of fangtooth moray (*Enchelycore anatina*) in Montenegro (South-east Adriatic Sea)

Nikola ĐORĐEVIĆ and Ilija ĆETKOVIĆ

The fangtooth moray (*Enchelycore anatina*) is a species native to the Atlantic Ocean, which has expanded its range into the Mediterranean Sea, where it was firstly recorded in Levantine Basin, off the Israeli coast in 1980 (Ben-Tuvia & Golani, 1984). Since then, it was recorded in various regions of the Mediterranean basin, including the Adriatic Sea, where it was firstly observed near island of Sušac (Croatia) in July of 2010 (Lipej *et al*., 2011). A few additional records of the species were reported mostly from Croatian coast, and it is currently considered established in the southern Adriatic Sea (Dulčić *et al*., 2014; Bartulović *et al*., 2017; Dulčić & Dragičević, 2023). Here, we document the first record of the species in Montenegro (South-east Adriatic Sea). One individual of *E. anatina* (Fig. 21) was observed *in situ* during a field survey in August of 2024 at area commonly known as Cape Kostovica (42.30324° N, 18.72919° E), located within the recently designated Marine Protected Area (MPA) Platamuni. Photographic documentation was conducted using a Sony α6400 mirrorless camera, providing high-resolution imagery. The species was identified acording to following traits (Lipej *et al*., 2011): pointed head with adistinctly elevated occipital region; tubular anterior nostril; large mouth, with cleft extending well back behind the eye; arched jaw, with many conical and sharp fang-like teeth; dark brown body with numerous yellow blotches and dots; lightbrown snout and cheeks with yellow dots (Fig. 20). The specimen was observed on a vertical cliff face, positioned within a narrow crevice at a depth of approximately 12 meters. The habitat was characterised by an algal-dominated hard-bottom environment, with abundant macroalgae and encrusting coralline algae. The terrain comprised a steep, rocky substrate with significant vertical relief, offering diverse microhabitats typical of the southern Adriatic coastal geomorphology. This additional record from the eastern Adriatic Sea further strengthens the assumption that this species is becoming frequent inhabitant of this part of the Mediterranean.

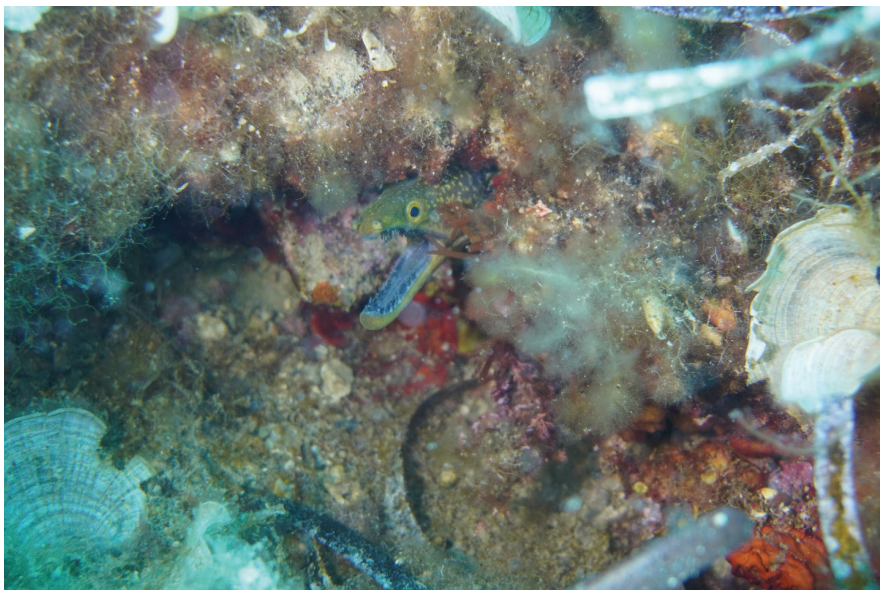

Fig. 21: Image of *Enchelycore anatine* spotted *in situ* in the Montenegro. Photo credit: N. Đorđević.

3.2. First record of diamond lizardfish, *Synodus synodus* (Linnaeus, 1758) in the Syrian waters, Eastern Mediterranean

Ranim Mohamad OTHMAN and Mohamad Younes GALIYA

More than 40 species of the genus *Synodus* occur in the tropical and temperate seas of the world (Froese & Pauly, 2025), among which three species have been reported from the Mediterranean Sea, namely *Synodus saurus* (Linnaeus, 1758), *Synodus randalli* Cressey, 1981 and *Synodus synodus* (Linnaeus, 1758) (Deidun *et al.*, 2025). This note reports the first record of *S. synodus* from Syrian waters.

Two specimens of *S. synodus* (Fig. 22) were caught by bottom trawl nets at depth of 40 m on muddy bottom off Latakian coast (35.5022º N, 35.8020º E) in December 2025. The specimens were measured and weighed. Later,

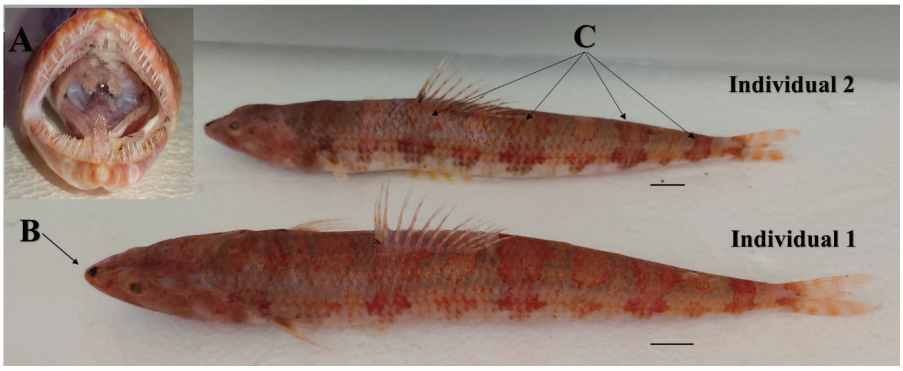

Fig. 22 A–C: General view of specimens 1 and 2 of Synodus synodus caught in Syrian marine waters in December 2025 (A: dentition, B: black spot on snout, C: red brown bands. Black bars: 1 cm). Photo credit: Ranim Othman.

they were taken to the Hydrobiology Laboratory, Faculty of Sciences, Latakia University (Latakia, Syria), where they were preserved in 7% formaldehyde. Morphometric measurements of the samples are shown in Table 2.

Respectively for specimen 1 and 2, the total length was 21 cm and 19.1cm, the weight 61 g and 49 g and the meristics were: First dorsal rays 12 and 13, Pectoral rays 11 and 11, Pelvic rays 8 and 8, Anal rays 9 and 9. The specimens had the following characteristics: body elongated, cylindrical with cycloid scales; a short based first dorsal fin followed by an adipose fin; caudal fin forked, inner rays of pelvic fins longer than outer; head large, snout rounded from above, pointed from the side; eyes at middle of the upper jaw; inter-orbital space narrow; mouth large extending back beyond the eye with lanceolate teeth on jaws alternatively long and short in each side of roof of mouth; single band of lanceolate palatine teeth arranged in various rows (Fig. 22A); lingual teeth well-developed; gill-rakers on the first arch minute and spine-like. The specimens had a black spot on upper surface of tip of snout (Fig. 22B); the body was red on back and pale ventrally with four red brown bands across the back between the dorsal origin and the caudal fin base (Fig. 22C), the fins were yellowish with transverse dark bands.

The shape of the sagittal otolith was rectangular (Fig. 23c 1-6), rostrum was pointed and short (Fig. 23-2), anti-rostrum was short and round (Fig. 23-1) and had a wide excisura with notch (Fig. 23-3). Ostium was funnel-like (Fig.23-4), sulcus acusticus was heterosulcoid, ostial and median (Fig. 23-5). Cauda was tubular, curved (Fig. 23-6) and ending close to the posterior margin that was oblique and irregular, the anterior region was peaked.

Morphological measurements, meristic features and

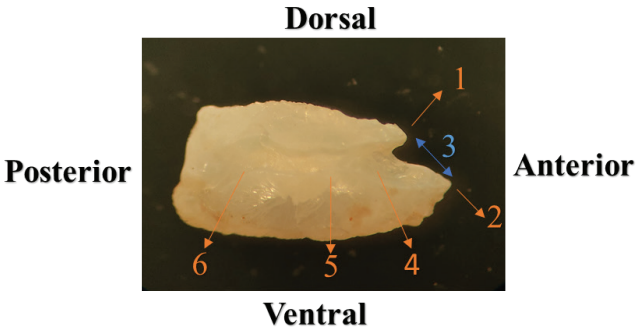

Fig. 23: Sagittal otolith inner face view (otolith length: 3 mm, otolith width: 2 mm). 1 – Anti-rostrum; 2 – Rostrum; 3 – Excisura; 4 – ostium; 5 – sulcus; 6 – Cauda. Photo credit: Ranim Othman.

the color of the specimens from Syria agreed with the descriptions of *S. synodus* given by Whitehead *et al*. (1986), Russell (2016) and Deidun *et al*. (2025). The identification of our specimens as *S. synodus* was furthermore confirmed through the anatomical study of their sagittal otholits, following Tuset *et al.* (2008).

The Diamond lizardfish *S. synodus* is an uncommon species in the Mediterranean Sea and its occurrence has been recently confirmed through integrated morphological and molecular analysis from specimens collected in April 2025 off Malta, in the central sector of the basin (Deidun *et al*., 2025). The presence here ascertained of *S. synodus* in Syrian waters few months later could indicate an ongoing fast increase and/or expansion of the Mediterranean population of this species under today favourable environmental conditions (Deidun *et al*., 2025).

Table 2. Morphometric measurements (cm) of *Synodus synodus* captured in the Syrian marine waters (December 2025).

Morphometric measurements (cm)					
	1	**2**		**1**	**2**
Total length	21	19.1	Dorsal fin base length	2.4	2.4
Standard length	18.2	17.2	Pectoral fin base length	0.6	0.6
Forked length	19.2	18.1	Pelvic fin base length	0.7	0.7
Head length	4.9	4.4	Anal fin base length	1.4	1.3
Orbit diameter	0.6	0.6			
Snout length	1.3	1.1			
Interorbital length	0.4	0.4			

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