ANNALES

Anali za istrske in mediteranske študije
Annali di Studi istriani e mediterranei
Annals for Istrian and Mediterranean Studies
Series Historia Naturalis, 36, 2026, 1

UDK 5 Annales, Ser. hist. nat., 36, 2026, 1, pp. 1-256, Koper 2026 ISSN1408-533X

UDK 5

ISSN 1408-533X
e-ISSN 2591-1783

ANNALES

Anali za istrske in mediteranske študije
Annali di Studi istriani e mediterranei
Annals for Istrian and Mediterranean Studies

Series Historia Naturalis, 36, 2026, 1

KOPER 2026

ISSN 1408-533X
e-ISSN 2591-1783

UDK 5

Letnik 36, leto 2026 številka 1

Izdajatelja/*Editori/Published by:*

Zgodovinsko društvo za južno Primorsko - Koper */ Società storica del Litorale - Capodistria*©
Inštitut IRRIS za raziskave, razvoj in strategije družbe, kulture in okolja */ Institute IRRIS for Research, Development and Strategies of Society, Culture and Environment / Istituto IRRIS di ricerca, sviluppo e strategie della società, cultura e ambiente*©

Sedež uredništva/*Sede della redazione/*
Address of Editorial Board:

Nacionalni inštitut za biologijo, Morska biološka postaja Piran / *Istituto nazionale di biologia, Stazione di biologia marina di Pirano / National Institute of Biology, Marine Biology Station Piran*
SI-6330 Piran /*Pirano*, Fornače/*Fornace* 41, tel.: +386 5 671 2900, fax +386 5 671 2901;
e-mail: annalesSHN@nib.si, *internet:* www.zdjp.si

Redakcija te številke je bila zaključena 20. 06. 2026.

Sofinancirajo/*Supporto finanziario/*
Financially supported by: Javna agencija za znanstveno-raziskovalno in inovacijsko dejavnost Republike Slovenije (ARIS)

Annales - Series Historia Naturalis izhaja dvakrat letno.

Naklada/*Tiratura/Circulation:* 300 izvodov/copie/copies

Revija Annales, Series Historia Naturalis je vključena v naslednje podatkovne baze / *La rivista Annales, series Historia Naturalis è inserita nei seguenti data base / Articles appearing in this journal are abstracted and indexed in:* BIOSIS-Zoological Record (UK); Aquatic Sciences and Fisheries Abstracts (ASFA); Elsevier B.V.: SCOPUS (NL); Directory of Open Access Journals (DOAJ).

ANNALES · Ser. hist. nat. · 36 · 2026 · 1

Anali za istrske in mediteranske študije - Annali di Studi istriani e mediterranei - Annals for Istrian and Mediterranean Studies

UDK 5 Letnik 36, Koper 2026, številka 1 ISSN 1408-53 3X
e-ISSN 2591-1783

VSEBINA / *INDICE GENERALE / CONTENTS*

received: 2026-05-03 DOI 10.19233/ASHN.2026.05

FIRST RECORD OF THE DEVIL FIREFISH *PTEROIS MILES* (BENNETT, 1828) (ACTINOPTERYGII: SCORPAENIDAE) FROM MALTESE COASTAL WATERS

Alan DEIDUN
Oceanography Malta Research Group, Department of Geosciences, Faculty of Science, University of Malta, Msida MSD 20280 Malta

Bruno ZAVA
Wilderness studi ambientali, via Cruillas 27, 90146 Palermo, Italy
Museo Civico di Storia Naturale di Comiso, Via degli Studi 9, 97013 Comiso (RG), Italy

Maria CORSINI-FOKA
Hydrobiological Station of Rhodes, Hellenic Centre for Marine Research, Aquarium Sq., 85131 Rhodes, Greece
Institute of Oceanography, Hellenic Centre for Marine Research, 46.7 km Athinon-Souniou Av., 19013 Anavyssos, Greece
e-mail: mcorsini@hcmr.gr

Arnold SCIBERRAS
The Exterminator Ltd. 5, The Service Hub, Triq San Gorg, Naxxar NXR 2541 Malta

Alessio MARRONE
Oceanography Malta Research Group, Department of Geosciences, Faculty of Science, University of Malta, Msida MSD 20280 Malta

ABSTRACT

A specimen of the invasive Devil firefish, Pterois miles *(Bennett, 1828), was recorded for the first time in Maltese waters in January 2026. The individual was caught by a recreational angler at Migraħ Ferħa (north-west Malta) at a depth of 10 m using a paternoster rig baited with squid. The fish was photographed and then released. This record marks a further expansion of the* P. miles *distribution in the central Mediterranean Sea and highlights the importance of citizen science initiatives in the early detection of marine non-indigenous species.*

Key words: Lionfish, *Pterois miles*, Malta, Mediterranean Sea, invasive species, citizen science

PRIMA SEGNALAZIONE DEL PESCE LEONE *PTEROIS MILES* (BENNETT, 1828) (ACTINOPTERYGII: SCORPAENIDAE) DALLE ACQUE COSTIERE MALTESI

SINTESI

Un esemplare della specie invasiva Pterois miles *(Bennett, 1828), nota come pesce scorpione o pesce leone, è stato segnalato per la prima volta nelle acque maltesi nel gennaio 2026. Il pesce è stato catturato da un pescatore sportivo a Migraħ Ferħa (costa nord-occidentale di Malta) a una profondità di 10 m, utilizzando una lenza paternoster provvista di calamaro come esca. Una volta fotografato, l'esemplare è stato rilasciato. Questa segnalazione rappresenta un ulteriore ampliamento della distribuzione di* P. miles *nel Mediterraneo centrale e sottolinea l'importanza delle iniziative di scienza partecipativa per l'individuazione precoce di specie marine non-indigene.*

Parole chiave: pesce leone, *Pterois miles*, Malta, Mediterraneo, specie invasiva, scienza partecipativa

INTRODUCTION

The Devil firefish, *Pterois miles* (Bennett, 1828), is a scorpaenid fish native to the Red Sea and the Indo-West Pacific, ranging from East Africa to Indonesia (Poss & Motomura, 2022). It is equipped with highly venomous fin spines. It has become one of the most successful marine invaders worldwide, particularly following its rapid expansion in the western Atlantic (Schofield, 2009; Albins & Hixon, 2013).

In the Mediterranean Sea, *P. miles* is a Lessepsian migrant, having entered via the Suez Canal (Bariche *et al.*, 2017; Golani *et al.*, 2021). The species was first recorded in Israeli waters in 1991 (Golani & Sonin, 1992), and since the early 2010s, it has undergone a rapid range expansion across the eastern Mediterranean, with records from the waters of Lebanon and Cyprus (Bariche *et al.*, 2013; Iglésias & Frotté, 2015), Turkey (Turan *et al.*, 2014), Greece (Crocetta *et al.*, 2015), Israel (Stern & Rothman, 2019), and as far as the central sector of the Tunisian coasts (Dailianis *et al.*, 2016), demonstrating its highly invasive character in the eastern part of the basin (Kletou *et al.*, 2016; Azzurro *et al.*, 2017; Katsanevakis *et al.*, 2020; Kondylatos *et al.*, 2023, 2024). More recently, the species has continued to spread westward, with records from the Ionian Sea, the Adriatic, and Sicily indicating ongoing colonisation of central Mediterranean ecosystems (Azzurro *et al.*, 2022, 2025). The species is also familiar to spearfishers in Libya and Tunisia (Al Mabruk & Rizgalla, 2019; Ben Amor *et al.*, 2022). Although still unpublished at the time of writing, another Mediterranean record of the species was reported on social media on 26 April 2026 by Manuela Falautano and ISPRA (the national Italian institute for environmental management) from the Italian island of Lampedusa, located in the Strait of Sicily just over 100 km south-west of the Maltese Islands.

Despite its proximity to colonised areas, no confirmed published records of *P. miles* from Maltese waters have been documented to date. In fact, when SCUBA diving centres in Malta and neighbouring countries were consulted as part of a pan-Mediterranean study, they stated that they had observed the species in local waters but did not provide any photographic or video evidence of such occurrences, raising doubts of misidentification (Bottacini *et al.*, 2024). Here, we report the first occurrence of *P. miles* in Malta based on photographic evidence provided by a recreational angler.

MATERIAL AND METHODS

On 27 April 2026, a Maltese angler contacted one of the authors (A.D.) through the "Spot the Alien" citizen science campaign (campaigns.ocean.mt) to report a lionfish caught on 25 January 2026. The observation involved a single lionfish, captured using a paternoster rig with size 10 hooks baited with squid (Fig. 1). The capture took place from land at a depth of approximately 10 m at Migraħ Ferħa, northwest Malta Island (35°52′25.0″N, 14°20′36.3″E), on a rocky substrate.

The fish was photographed immediately after capture. No morphometric measurements nor meristic counts were taken, as the individual was released alive shortly afterwards.

Species identification was based on morphological characteristics and colour visible in the photograph, while some biometric measurements were estimated using ImageJ software (Schindelin *et al.*, 2012). Before measurement, the image was calibrated using a reference object of known dimensions visible in

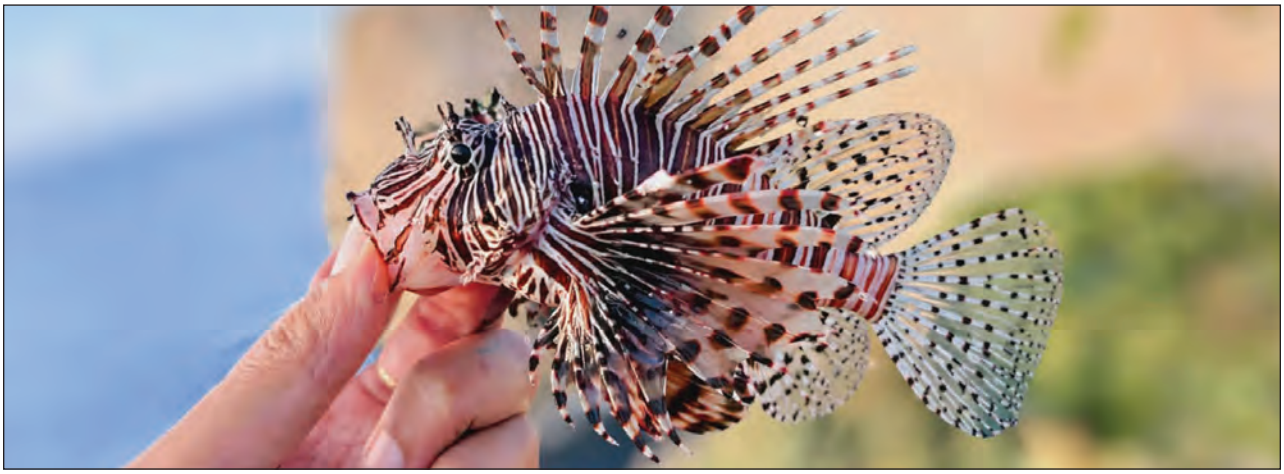

Fig. 1.: The individual of** Pterois miles **fished at Migraħ Ferħa, Malta Island, on 25 January 2026 (Photo by James Mamo).
Sl. 1.: Primerek plamenke** (Pterois miles)**, ujet pri mestu Miġraħ Ferħa na otoku Malta 25. januarja 2026 (Fotografija: James Mamo).

the photograph (*i.e.*, the fisherman's hand), allowing conversion of pixel values to centimetres. Standard morphometric parameters were then recorded where possible, including total length (TL), standard length (SL), head length, eye diameter, caudal fin length, and pre-dorsal and pre-pectoral distances. Measurements were taken along straight-line axes using the segmented line and point tools in the software. To minimise potential error associated with image perspective and fish curvature, only clearly defined anatomical landmarks and axes aligned as closely as possible to the plane of the image were used.

RESULTS

The photographed fish (Fig. 1) was identified as *P. miles* following Schultz (1986), Poss (1999), Golani *et al*. (2021), and Poss & Motomura (2022). The pectoral fin does not extend beyond the caudal peduncle; the head and body have a pale background and dark red or reddish brown vertical bars of irregular width; four broad stripes radiate from the eyes; the supraocular cirrus is blackish; dorsal-fin spines have dark red areas alternating with nearly white areas; soft dorsal, anal, and caudal rays have numerous black spots, and the membranes are transparent. Estimated morphometric measurements obtained from the lateral photographic analysis were: total length (TL) 13.8 cm; standard length (SL) 10.5 cm; head length 4.1 cm (39.0% of SL); eye diameter 0.9 cm (8.6% of SL); caudal fin length 3.3 cm; pre-dorsal distance 3.8 cm (36.2% of SL); pre-pectoral distance 3.4 cm (32.4% of SL).

DISCUSSION

This record represents the first documented occurrence of *Pterois miles* in Maltese waters and contributes to the growing body of evidence indicating the species' rapid expansion across the central Mediterranean Sea.

Morphological characters and colour of the Maltese individual agreed with the literature mentioned above and allowed for its identification as *P. miles*. The rocky substrate and shallow depth of capture are consistent with habitat preferences observed for the species in invaded Mediterranean areas, where individuals frequently occupy rocky reefs and coastal habitats between 5 and 50 m depth (Kletou *et al*., 2016; Kondylatos *et al*., 2023).

The arrival of *P. miles* in Malta is not entirely unexpected given its established presence in nearby regions such as Sicily and the Ionian and Adriatic seas, as well as in Libyan and Tunisian waters (Azzurro *et al*., 2017, 2025; Di Martino *et al*., 2021; Dulčić *et al*., 2024). A high degree of hydrodynamic connectivity and larval dispersal likely facilitate this continued spread (Johnston & Purkis, 2015). Nevertheless, the 'late' nature of this sighting might be putatively attributed to the discarding at sea of specimens caught by local fishers wary of its venomous nature or to the non-use of underwater cameras by SCUBA diving instructors during supervised dives with customers. The dispersion pathway for the *P. miles* specimen recorded in this study might have proceeded along the North African coastline and the Tunisian platform, as hypothesized for similar newcomers such as *Sepioteuthis lessoniana* (Marrone *et al*., 2025). In addition, several mathematical modelling studies (*e.g.,* Turan, 2020; Mitchell & Dominguez Almela, 2025) have predicted that the north-eastern stretches of the African coast, as well as central Mediterranean areas, including the waters around Malta, provide the most suitable areas for lionfish establishment.

The ecological implications of this record are significant. Lionfish are generalist predators with high reproductive output and few natural predators in invaded ecosystems, allowing them to exert strong predation pressure on native fish and invertebrate assemblages (Albins & Hixon, 2013; Zannaki *et al*., 2019; Batjakas *et al*., 2023). Their establishment in Maltese waters could therefore pose a threat to local biodiversity and fisheries resources.

It is important to note that the fish was released alive after capture, raising the possibility of future recapture. Moreover, the presence of additional individuals in the area cannot be excluded. Public awareness and targeted removal efforts have been identified as key management strategies in other regions (Azzurro *et al*., 2022). In reviewing management lessons learned from the lionfish invasion of the western Atlantic, Ulman *et al*. (2022) listed participatory management, involving local stakeholders and organisations, as a key strategy, along with a number of others (*e.g.*, lionfish hunting tourism, recreational tournaments and commercial fishery removals). Removal experiments involving the two highly invasive species, *Pterois miles* and *Diadema setosum*, were carried out in Cyprus, and their effectiveness in reducing their populations and facilitating the recovery of native fish populations was discussed (Hüseyinoğlu *et al.,* 2024). Within participatory management strategies, citizen science campaigns play a critical role in detecting early-stage invasions through an early-warning system. Platforms such as "Spot the Alien" provide valuable real-time data that can kick-start and complement scientific monitoring programs.

Further monitoring is required to determine whether this record represents an isolated occurrence or the early stage of population establishment in Maltese waters.

ACKNOWLEDGEMENTS

The authors thank the recreational angler, James Mamo, for providing, through the "Spot the Alien" campaign, photographic material and capture information on the *Pterois miles* reported in this work.

PRVI ZAPIS O POJAVLJANJU PLAMENKE *PTEROIS MILES* (BENNETT, 1828) (ACTINOPTERYGII: SCORPAENIDAE) V MALTEŠKIH OBALNIH VODAH

Alan DEIDUN
Oceanography Malta Research Group, Department of Geosciences, Faculty of Science, University of Malta, Msida MSD 20280 Malta

Bruno ZAVA
Wilderness studi ambientali, via Cruillas 27, 90146 Palermo, Italy
Museo Civico di Storia Naturale di Comiso, Via degli Studi 9, 97013 Comiso (RG), Italy

Maria CORSINI-FOKA
Hydrobiological Station of Rhodes, Hellenic Centre for Marine Research, Aquarium Sq., 85131 Rhodes, Greece
Institute of Oceanography, Hellenic Centre for Marine Research, 46.7 km Athinon-Souniou Av., 19013 Anavyssos, Greece
e-mail: mcorsini@hcmr.gr

Arnold SCIBERRAS
The Exterminator Ltd. 5, The Service Hub, Triq San Gorg, Naxxar NXR 2541 Malta

Alessio MARRONE
Oceanography Malta Research Group, Department of Geosciences, Faculty of Science, University of Malta, Msida MSD 20280 Malta

POVZETEK

Avtorji poročajo o invazivni plamenki, Pterois miles *(Bennett, 1828), ki je bila januarja 2026 prvič zabeležena v malteških vodah. Primerek te vrste je ujel ljubiteljski ribič pri mestu Miġrаħ Ferħa (severozahodna Malta) na globini 10 metrov z uporabo ribiške vrvice s svincem na dnu (paternoster), kot vabo pa je uporabil lignja. Riba je bila fotografirana in nato izpuščena. Ta zapis o pojavljanju označuje nadaljnjo* širitev *območja razširjenosti vrste* P. miles *v osrednjem Sredozemskem morju in poudarja pomen pobud ljubiteljske znanosti pri zgodnjem odkrivanju tujerodnih morskih vrst.*

Ključne besede: plamenka, *Pterois miles*, Malta, Sredozemsko morje, invazivna vrsta, ljubiteljska znanost

REFERENCES

Albins, M.A. & M.A. Hixon (2013): Worst case scenario: potential long-term effects of invasive predatory lionfish (*Pterois volitans*) on Atlantic and Caribbean coral-reef communities. Environ. Biol. Fishes, 96, 1151–1157.

Al Mabruk, S.A.A. & J. Rizgalla (2019): First record of lionfish (Scorpaenidae: *Pterois*) from Libyan waters. J. Black Sea/Mediterr. Environ., 25, 108–114.

Azzurro, E., B. Stancanelli, V. Di Martino & M. Bariche (2017): Range expansion of the common lionfish *Pterois miles* (Bennett, 1828) in the Mediterranean Sea: an unwanted new guest for Italian waters. BioInvasions Rec., 6(2), 95–98.

Azzurro, E., T. Ballerini, C. Antoniadou, G.D. Aversa, J. Ben Souissi, A. Blašković, V. Cappanera, M. Chiappi *et al*., (2022): ClimateFish: A collaborative database to track the abundance of selected coastal fish species as candidate indicators of climate change in the Mediterranean Sea. Front. Mar. Sci., 9, 910887.

Azzurro, E., M. Falautano, L. Castriota, M. Chiappi, M. D'Amen, A. Lunetta *et al*. (2025): Tracking the lionfish (*Pterois miles*) invasion through public engagement: new records and implications for species distribution models in the Mediterranean Sea. Mediterr. Mar. Sci., 26(3), 484–490.

Bariche, M., M. Torres & E. Azzurro (2013): The presence of the invasive lionfish *Pterois miles* in the Mediterranean Sea. Mediterr. Mar. Sci., 14(2), 292–294.

Bariche, M., P. Kleitou, S. Kalogirou & G. Bernardi (2017): Genetics reveal the identity and origin of the lionfish invasion in the Mediterranean Sea. Sci. Rep., 7, 6782.

Batjakas, I. E., A. Evangelopoulos, M. Giannou, S. Pappou, E. Pappanikola, M. Atsikvasi, D. Poursanidis & C. Gubili (2023): Lionfish diet composition in three study sites in the Aegean Sea (Southern Crete, and Kastellorizo and Nysiros Islands): An Invasive Generalist? Fishes, 8, 314.

Ben Amor, M.M., K. Ounifi Ben Amor, M. Bdioui & K. El Hasni (2022): Additional occurrence of common lionfish, *Pterois miles* in the Northern Tunisian Coast. In: Proceedings of the 2nd Mediterranean Symposium on the Non-Indigenous Species, 22-23 September 2022, Genoa, Italy, pp. 81–82.

Bottacini, D., B.J. Pollux, R. Nijland, P.A. Jansen, M. Naguib & A. Kotrschal (2024): Lionfish (*Pterois miles*) in the Mediterranean Sea: a review of the available knowledge with an update on the invasion front. NeoBiota, 92, 233–257.

Crocetta, F., D. Agius, P. Balistreri, M. Bariche, Y.K. Bayhan, M. Çakir, S. Ciriaco, M. Corsini-Foka, A. Deidun, R. El Zrelli, D. Ergüden, J. Evans, M. Ghelia, M. Giavasi, P. Kleitou, G. Kondylatos, L. Lipej, C. Mifsud, Y. Özvarol, A. Pagano, P. Portelli, D. Poursanidis, L. Rabaoui, P.J. Schembri, E. Taşkin, F. Tiralongo & A. Zenetos (2015): New Mediterranean Biodiversity Records (October 2015), Mediterr. Mar. Sci., 16 (3), 682–702.

Di Martino, V. & B. Stancanelli (2021): The alien lionfish, *Pterois miles* (Bennett, 1828), enters the Adriatic Sea, Central Mediterranean Sea. J. Black Sea/Mediterr. Environ., 27(1), 104–108.

Dulčić, J., R. Grgičević & B. Dragičević (2024): Additional record of *Pterois miles* (Scorpaenidae) in Croatian waters (Eastern Adriatic Sea). Annales Ser. Hist. Nat., 34(1), 95–100.

Golani, D. & O. Sonin (1992): New records of the Red Sea fishes, *Pterois miles*, from the eastern Mediterranean Sea. Jpn. J. Ichthyol., 39, 167–169.

Golani, D., E. Azzurro, J. Dulčić, E. Massutí & L. Orsi-Relini (2021): Atlas of Exotic Fishes in the Mediterranean Sea, 3rd ed., CIESM Publishers, Paris, France, 365 pp.

Hüseyinoğlu, M.F., C. Jimenez, V. Resaikos, Y. Arda, D. Beton, R.T.E. Snape, G. Tari & M. Erdem Günay (2024): Assisted recovery of mediterranean native fish species by removal of two established invasive alien species, *Pterois miles* and *Diadema setosum*. Estuar., Coast. Shelf Sci., 304, 108826.

Iglésias, P.S. & L. Frotté (2015): Alien marine fishes in Cyprus: update and new records. Aquat. Invasions, 10, 425–38.

Johnston, M.W. & S.J. Purkis (2015): A coordinated and sustained international strategy is required to turn the tide on the Atlantic lionfish invasion. Mar. Ecol. Prog. Ser., 533, 219–235.

Katsanevakis, S., A. Zenetos, M. Corsini-Foka & K. Tsiamis (2020): Biological Invasions in the Aegean Sea: Temporal Trends, Pathways, and Impacts. In: Anagnostou Ch.L., A.G. Kostianoy, I.D. Mariolakos, P. Panayotidis, M. Soilemezidou & G. Tsaltas (eds.): The Aegean Sea Environment: The Biodiversity of the Natural System, Hdb. Env. Chem., 129, 367–400.

Kletou, D., J.M. Hall-Spencer & P. Kleitou (2016): A lionfish invasion has begun in the Mediterranean Sea. Mar. Biodivers. Rec., 9, 46.

Kondylatos, G., K. Perdikaris, G. Kaoukis, G. Patatoukos, M. Corsini-Foka, A. Conides & D. Klaoudatos (2023): Small scale fishery catch composition in Rhodes Island (Eastern Mediterranean Sea). Mediterr. Mar. Sci., 24(3), 586–600.

Kondylatos, G., A. Theocharis, M. Mandalakis, M. Avgoustinaki, T. Karagyaurova, Z. Koulocheri, S. Vardali & D. Klaoudatos (2024): The Devil firefish *Pterois miles* (Bennett, 1828): Life history traits of a potential fishing resource in Rhodes (Eastern Mediterranean). Hydrobiol., 3, 31–50.

Marrone, A., A. Deidun, M. Corsini-Foka, B. Zava, E. Tinto, C. Rizzo & P. Battaglia (2025): First Record of *Sepioteuthis lessoniana* from the Maltese Archipelago, with Further Notes on Its occurrence in the Central Mediterranean Sea. J. Mar. Sci. Eng., 13(9), 1783.

Mitchell, E. & V. Dominguez Almela (2025): Modelling the rise of invasive lionfish in the Mediterranean. Mar. Biol., 172(1), 18.

Dailianis, T., O. Akyol, N. Babali, M. Bariche, F. Crocetta, V. Gerovasileiou, R. Chanem, M. Gökoğlu, T. Hasiotis, A. Izquierdo-Muñoz, D. Julian, S. Katsanevakis, L. Lipej, E. Mancini, Ch. Mytilineou, K. Ounifi Ben Amor, A. Özgül, M. Ragkousis, E. Rubio-Portillo, G. Servello, M. Sini, C. Stamouli, A. Sterioti, S. Teker, F. Tiralongo & D. Trkov (2016): New Mediterranean biodiversity records (July 2016). Mediterr. Mar. Sci., 17(2), 608–626.

Poss, S.G. (1999): Scorpaenidae. Scorpionfishes. In: Carpenter, K.E. & V.H. Niem (eds.): FAO species identification guide for fishery purposes. The living marine resources of the Western Central Pacific. Vol. 4. Bony fishes part 2 (Mugilidae to Carangidae). Rome, FAO, pp. 2291–2352.

Poss, S.G. & H. Motomura (2022): Scorpaenidae. Scorpionfishes and lionfishes. In: Heemstra, P.C., E. Heemstra, D. Ebert, W. Holleman & J.E. Randall (eds.): Coastal Fishes of the Western Indian Ocean. Vol. 2. South African Institute for Aquatic Biodiversity, Makhanda, South Africa, pp. 506–549.

Schindelin, J., I. Arganda-Carreras, E. Frise, V. Kaynig, M. Longair, T. Pietzsch *et al.* (2012): Fiji: an open-source platform for biological-image analysis. Nat. methods, 9(7), 676–682.

Schofield, P.J. (2009): Geographic extent and chronology of the invasion of non-native lionfish (*Pterois volitans* and *P. miles*) in the western North Atlantic and Caribbean Sea. Aquat. Invasions, 4(3), 473–479.

Schultz, E.T. (1986): *Pterois volitans* and *Pterois miles*: two valid species. Copeia, 3, 686–690.

Stern, N., & S.B.S. Rothman (2019): Iron Lion Zion: The Successful, Albeit Lingered, Invasion of the Lionfish in the Israeli Mediterranean Sea, In: Hüseyinoğlu, M.F. & B. Öztürk (eds.): Lionfish Invasion and Its Management in the Mediterranean Sea, Turkish Marine Research Foundation (TUDAV), Istanbul, Turkey, Vol. 49, pp. 51–56.

Turan, C. (2020): Species distribution modelling of invasive alien species; *Pterois miles* for current distribution and future suitable habitats. Glob. J. Environ. Sci. Manag., 6(4), 429–440.

Turan, C., D. Ergüden, M. Gürlek, D. Yağlıoğlu, A. Uyan & N. Uygur (2014): First record of the Indo-Pacific lionfish *Pterois miles* (Bennett, 1828) (Osteichthyes: Scorpaenidae) for the Turkish marine waters. J. Black Sea/Medit. Environ., 20(2), 158–163.

Ulman, A., F.Z. Ali, H.E. Harris, M. Adel, S.A.A. Al Mabruk, M. Bariche *et al.* (2022): Lessons from the Western Atlantic lionfish invasion to inform management in the Mediterranean. Front. Mar. Sci., 9, 865162.

Zannaki, K., M. Corsini-Foka, T.E. Kampouris & I.E. Batjakas (2019): First results on the diet of the invasive *Pterois miles* (Actinopterygii: Scorpaeniformes: Scorpaenidae) in the Hellenic waters. Acta Ichthyol. Piscat., 49(3), 311–317.