

SHORT COMMUNICATION

First record of the lionfish *Pterois miles* (Bennett 1828) from the Aegean Sea

Cemal Turan^{1*}, Bayram Öztürk^{2,3}

¹ Marine Science and Technology Faculty, Iskenderun Technical University, Iskenderun, TURKEY

² Faculty of Fisheries, Istanbul University, Istanbul, TURKEY

³ Turkish Marine Research Foundation (TUDAV), P.O. Box: 10, Beykoz, Istanbul, TURKEY

*Corresponding author: turancemal@yahoo.com

Abstract

The lionfish *Pterois miles* (Bennett 1828) was observed by scuba diving in August 2015 at 11 m depth on sandy bottom in Dalyan on the Aegean Sea coast of Turkey. This is a lessepsian species entering the Mediterranean Sea through the Suez Canal. All urgent measures such as killing, eliminating and fishing are proposed to avoid the expansion of this venomous fish species in the Turkish waters and adjacent area.

Keywords: Aegean Sea, lessepsian migration, *Pterois miles*, Suez Canal, Turkey

Since the opening of the Suez Canal in 1869, connecting the Indo-Pacific Ocean and Mediterranean Sea, the Mediterranean Sea has been colonized by species of Indo-Pacific origin, which process is called lessepsian migration (Öztürk and Turan 2012). Although the number of lessepsian species was initially low, their number has increased especially during the last decade (Turan *et al.* 2010; 2011).

The Lionfish *Pterois miles* (Bennett 1828) is a species commonly found in the Indian Ocean and Red Sea (Froese and Pauly 2014). They are usually found in reef fish communities (Green and Côté 2009; Morris and Whitfield 2009; Kulbicki *et al.* 2012) and generally found in water depths from 25 to 85 m on hard bottom, coral reefs and artificial substrate, sometimes found under ledges and hiding in crevices (Hare and Whitfield 2003). Adult *P. miles* specimens can reach the maximum size of 35 cm in standard length (Sommer *et al.* 1996; Dorsal anal and pelvic fin spines of *P. miles* are highly venomous that may cause injury and fatalities for divers and fishermen (Sommer *et al.* 1996; Schofield 2009).



Figure 1. *Pterois miles* (Photo. by C. Turan).

A single specimen of *P. miles* has been reported as the first record from the Mediterranean coast, Haifa Bay in 1991 (Golani and Sonin 1992). Later two lionfish specimens were reported from Lebanon coast in the Mediterranean Sea (Bariche *et al.* 2013). Oray *et al.* (2015) also reported *P. miles* from the northern part of Cyprus. In Turkey, a single specimen of *P. miles* was first captured in Iskenderun Bay (Kaleköy) in the Northeastern Mediterranean at a depth of 25 m on a rocky bottom in 2014 (Turan *et al.* 2014). The occurrence of this species in the Turkish water is due to its range expansion from the southern to the northern Mediterranean. The lionfish is the first non-native marine fish from the family Scorpaenidae for the Turkish marine waters. Moreover, underwater observations and captures have been made by divers and fishermen at Antalya Gazipaşa in May 2004, Antalya (Kemer, Demre and Kaş) in June 2014, and Fethiye in July 2015 (Önder Mogol, pers.comm.)

Here we report the first sighting of the lionfish at Dalyan on the Aegean coast in August 2015 (Figure 1). These observations indicate that *P. miles* is expanding its distribution northward to the Aegean Sea successfully and rapidly (Figure 2).



Figure 2. Locations for the reports of *Pterois miles* in the Mediterranean and Aegean Sea. Numbers indicate location of the migration. The numbers is arranged according to the time of occurrence.

Golani and Sonin (1992) assumed that *P. miles* is probably introduced into the Mediterranean Sea from the Red Sea via the Suez Canal. Bariche *et al.* (2013) also supported this argument that *P. miles* invaded the Mediterranean from the Red Sea via the Suez Canal. Alvarez (2014) quoted that the lionfish has become the most numerous marine non-native invasive species in the world and proposed a call for actions against this predator fish.

Deepening and enlargement of the Suez Canal will bring negative ecological and socio-economic consequences to Turkey and other riparian states of the Mediterranean Sea. To fight against invasion of non-indigenous species, mostly venomous species like the lionfish, a regional cooperation and an urgent alert system should be established with the help of local and regional funds. Besides, a public awareness campaign is also needed on negative impacts made by this invasive fish species mostly for fishers and divers.

Ege Denizi'nde Aslan Balığı *Pterois miles* (Bennett 1828) 'in ilk kaydı

Özet

Bu çalışmada Ege Denizi'nde Dalyan bölgesinde dalış yapılarak kumlu ortamlarda 11 metre derinlikte gözlenen Aslan Balığı *Pterois miles* (Bennett 1828) in ilk kaydı verilmiştir. Süveyş Kanal'ı yoluyla Akdeniz'e giren lesepseyen bir türdür. Bu balığın zehirli olması nedeniyle yayılımının önlenmesi, avcılığının yapılması, öldürme dahil ortamdan alınması için acil bütün tedbirlerin alınması önerilmektedir.

Acknowledgement

Authors thank diving clubs in Antalya, Kaş, Fethiye and Dalyan area for kind help and information about this fish species.

References

Alvarez, L. (2014) A call to action against a predator fish with an import ban, an app and even rodeos. New York Times. 25 September 2014. (Downloaded 31.08.2015 at http://www.nytimes.com/2014/09/26/us/a-call-to-action-against-a-predator-fish.?_

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

Golani, D., Sonin, O. (1992) New records of the Red Sea fishes, *Pterois miles* (Scorpaenidae) and *Pteragogus pelycus* (Labridae) from the eastern Mediterranean Sea. *Jap. J. Ichthyol.* 39(2): 167-169.

Green, S.J., Côté, I.M. (2009) Record densities of Indo-Pacific lionfish on Bahamian coral reefs. *Coral Reefs* 28: 107.

Hare, J.A., Whitfield, P.E. (2003) An integrated assessment of the introduction of lionfish (*Pterois volitans/miles* complex) to the western Atlantic Ocean. NOAA Technical Memorandum NOS NCCOS 2, 21 pp.

Kulbicki, M., Beets, J., Chabanet, P., Cure, K., Darling, E., Sergio, R.F., Galzin, R., Green, A., Harmelin-Vivien, M., Hixon, M., Letourneur, Y., De Loma, T.L., McClanahan, T., McIlwain, J., Mou Tham, G., Myers, R., O'Leary, J.K., Planes, S., Vigliola, L., Wantiez, L. (2012) Distributions of Indo-Pacific lionfishes *Pterois* spp. in their native ranges: implications for the Atlantic invasion. *Mar. Ecol. Prog. Ser.* 446: 189-205.

Morris, J.A.Jr., Whitfield, P.E. (2009) Biology, ecology, control and management of the invasive Indo-Pacific lionfish: An updated integrated assessment. NOAA Technical Memorandum, NOS NCCOS 99, 57 pp.

Oray, I.K., Sinay, E., Karakulak, S.F., Yıldız., T. (2015) An expected marine alien fish caught at the coast of Northern Cyprus: *Pterois miles* (Bennett, 1828). *Journal of Applied Ichthyology* 31(4): 733-735.

Öztürk, B., Turan, C. (2012) Alien species in Turkish Seas. In: The State of the Turkish Fisheries (eds., A. Tokaç, A.C. Gücü, B. Öztürk), Publication no. 34, Turkish Marine Research Foundation (TUDAV), Istanbul, Turkey, pp. 92-130.

Schofield, P.J. (2009) Geographic extent and chronology of the invasion of non-native lionfish *Pterois volitans* (Linnaeus 1758) and *P. miles* (Bennett 1828) in the Western North Atlantic and Caribbean Sea. *Aq. Inv.* 4: 473-479.

Sommer, C., Schneider, W., Poutiers, J.M. (1996) FAO Species Identification Field Guide for Fishery Purposes. The Living Marine Resources of Somalia. FAO, Rome, 376 pp.

Turan, C., Ergüden, D., Gürlek, M., Yağlıoğlu, D., Uyan, A., Uygur, N. (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.

Turan, C., Gürlek, M., Yağlıoğlu, D., Seyhan, D. (2011) A new alien jellyfish species in the Mediterranean Sea - *Aequorea globosa*. *J. Black Sea/Medit. Environ.* 17: 282-286.

Turan, C., Uygur, N., Ergüden, D., Öztürk, B., Özbalcılar, B. (2010) On the occurrence of invasive ctenophore *Mnemiopsis leidyi* A. Agassiz, 1865 in Antakya Bay, Eastern Mediterranean Sea. *Biharean Biologist* 4 (2): 179-180.

Received: 10.09.2015

Accepted: 01.10.2015