

Mytilus galloprovincialis empty shells. The length of *H. tubulosa* specimens ranged from 23 to 26 cm and their weight ranged from 400 to 420 g, while *H. polii* specimens were smaller in size (12.5 to 14 cm and 150 to 180 g). The maximum size of both species was very close to those reported from Turkey (Gonzales-Wangüemert *et al.*, 2014).

Given that sea cucumbers are detritivorous invertebrates that feed on benthic microorganisms and organic particles (e.g. detritus and associated microorganisms), it is clear that both species take benefit from the organically-rich bottom and accordingly from the nutrient inputs of the nearby farm, which is operating since the early 1980s. These results partially confirm the observed increased density of *H. tubulosa* by Vafeiadou *et al.* (2010) in the vicinity of fish farms in the Dodecanese, suggesting a relationship of mutual benefit.

Concerning the commercial exploitation of sea cucumbers in the Mediterranean Sea, they have been sporadically consumed in some coastal villages of Apulia (southern Italy) since World War II (Sicuro & Levine, 2011). In Turkey, which is the leading Mediterranean country in sea cucumber trade, harvesting from the wild started in 1996 in the central part of the Eastern Aegean coast and it was mainly focused on *H. tubulosa* and *H. polii*. They are exported to the Asian (mainly Chinese) markets frozen, dried and salted reaching 555 tons in 2011 (González-Wangüemert *et al.*, 2014), where they are considered a gastronomic delicacy (Sicuro *et al.*, 2012). Given the high export-market demand for sea cucumbers mainly for consumption (the body wall that is edible, accounts for about 56% of the total weight), cosmetics, pharmaceutical and aquarium use, the opportunities for culture of these species should be thoroughly evaluated. Despite the progress made mainly on *Holothuria scabra* and *Apostichopus japonicus* culture in other countries/regions (e.g. in China, Japan, Vietnam, Canada and the Red Sea/Persian gulf; Lovatelli *et al.*, 2004; Al Rashdi *et al.*, 2012), culture efforts in the Mediterranean are currently limited to a research project in Greece that is focused on experimental bottom cage integrated culture for bioremediation (nutrient reduction) beneath sea bass and sea bream cage farms (University of Thessaly, project No 185363 funded by the EU Operational Programme 'Fisheries 2007-2013'). Accordingly, full control of the reproductive, settling and feeding cycle with appropriate hatchery and rearing techniques (e.g. integrated culture techniques and/or capture-based aquaculture) is necessary for successful culture of Mediterranean sea cucumber species.

2.3 First recorded sighting of the bull ray, *Pteromylaeus bovinus* (Myliobatidae), in Maltese waters

By G. Nowell and L. Koehler

The Maltese Islands are located in the central Mediterranean Sea, 93 km south of Sicily and 290 km away from the north African coast of Tunisia. The total landmass of the Maltese Islands is about 320 km² and the coast-

line presents several bays and lagoons. Golden Bay, also known as Ir Ramlja tal-Mixquqa, is located on the North Western side of the Island. The depth of the water from the water's edge to the mouth of the bay gradually reaches a maximum depth of 15 meters. An investigation on data for Elasmobranch species in Maltese waters by Schembri *et al.* (2003) stated that 38 species of Elasmobranchs have been proven to exist in the surrounding waters; for the bull ray, however, the status was set as unconfirmed. The distribution described for the species ranges from the Eastern Atlantic, off the coast of Portugal, and Morocco and Angola, including the Canary Islands (Schwartz, 2005) and Madeira (Schwartz, 2005; Wirtz *et al.*, 2008), from Saldanha Bay to Natal in South Africa to the waters of southern Mozambique (Compagno *et al.*, 1989). In the Mediterranean Sea, the occurrence of *P. bovinus* was reported from Tunisian waters (Merji & Soussi, 2004; Capape, 1977) as well as in the Adriatic (Dulčić *et al.*, 2008) and Tyrrhenian Sea (Feretti *et al.*, 2005). Observations by Quignard & Capape (1975) state a higher abundance of bull rays in the southern areas of Tunisia. More recent studies in Tunisian waters showed that *P. bovinus* migrated northwards and entered brackish areas such as the Lagoon of Bizerte (Neifar *et al.*, 1999; El Kamel *et al.*, 2009) and Tunis Southern Lagoon (Mejri & Soussi, 2004).

The sighting of three *Pteromylaeus bovinus* (Geoffroy Saint-Hilaire, 1817) at Golden Bay, Malta, occurred at 8.39 am on Thursday 18th August 2011 during a snorkel activity organized by Sharklab-Malta. The depth at which the rays were seen was approximately 11 metres. Digital images were captured of two of the rays – the third one was not captured (Fig. 24).

According to the IUCN Red list Conservation Status of marine Fishes of the Mediterranean Sea, *Pteromylaeus bovinus* belongs to the native species, but remains categorized as "data deficient" for the regional and global red list (Abdul Malak *et al.*, 2011). The population trend is



Fig. 24: Image of the first *Pteromylaeus bovinus* (Geoffroy Saint-Hilaire, 1817) observed at Golden Bay, Malta on 18th August 2011.

considered as unknown (Wintner, 2006). For the Mediterranean Sea, there is evidence of the occurrence of the bull ray at several locations, including Tunisia, where in some the places it is even considered as frequent (e.g. Capapé, 1977; Meriji & Soussi, 2004).

Pteromylaeus bovinus (Geoffroy Saint-Hilaire, 1817) has not yet, to our knowledge, been confirmed as being present in Maltese territorial waters. The observation of *Pteromylaeus bovinus* (Geoffroy Saint-Hilaire, 1817) in coastal Maltese waters is valuable as it adds to the list of confirmed species present, helps to identify an existing habitat of this species, and requires further research to ensure the possibility of a regular presence.

2.4 New record of *Lobotes surinamensis* (Bloch, 1790) from Maliakos Gulf (Central Aegean Sea, Greece)

By S. Kavadas and P. Bekas

A new record of *Lobotes surinamensis* (Bloch, 1790) in the Maliakos Gulf is reported (Fig. 25). The species is generally distributed in tropical and subtropical waters (Whitehead *et al.*, 1986). It was caught by a professional fisherman on 11 September 2014 close to the Sperchios river estuary (38.86110°N, 22.57932°E) using static nets with a mesh size of 32mm at approximately 2 m depth. The total length was 409 mm and the total weight 1497 gr. According to the local fishermen, the species was unknown to them. A previous finding of a specimen caught by hand-line at a depth of 5 m in Chalkida (38.46643°N, 23.59213°E) was acknowledged to the authors in October 2011. Nowadays, the presence of *Lobotes surinamensis* has been sporadically reported in several areas in Greece (Athos, Thermaikos Gulf, Dodecanesos islands) (Papaconstantinou, 2014). In the Mediterranean Sea, the species has been reported in the southern part of Spain, eastern part of Morocco, Gulf of Lion, Tyrrhenian Sea, Sicily, Central Adriatic Sea and Israel (Froese & Pauly, 2014). The collected specimen is stored in a freezer at the Laboratory of the Institute of Marine Biological Resources and Inland Waters of HCMR.



Fig. 25: The specimen of *Lobotes surinamensis* from Maliakos Gulf (Central Aegean Sea, Greece).

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