



Project awareness to young students

In November 2015, the Assistant Project Manager of the LIFE+ MIGRATE and the National Affairs Team from MEPA had a meeting with the School representatives and Assistant Head of San Anton School (Mgarr) to discuss promoting the project to young students. A number of brochures and stickers were provided to this school for dissemination in order to increase awareness and knowledge on how to be eco-friendly and avoid throwing waste, especially plastic, in the sea, noting the damage that can be caused to flagship species amongst others. This was considered to be very effective since young children have the affinity to learn faster than adults and therefore, would further increase their long-term awareness and knowledge about marine species, particularly on the loggerhead turtle and the bottlenose dolphin. Furthermore, this school was also provided with a number of beach umbrellas in order to be used during school-related outdoor activities and thus further increasing the visibility of the project.



Beach umbrellas were given to San Anton School to be used during school-related activities

Networking

Between 1st and 2nd December 2015, the project Manager attended the International Workshop on Bottlenose Dolphin Conservation and Monitoring in the Mediterranean Sea, which workshop was organised by GIS3M in collaboration with the ACCOBAMS Secretariat and held in Marseille, France. For this workshop, the team carried out an oral presentation on an abstract of a paper which was submitted previously and was accepted for such a presentation. This abstract gave information on the networking done throughout this project, mainly focusing on the local training carried out to AFM, CPD officials, various diving schools and other entities.

Rare, vagrant and occasional marine species in the Mediterranean Sea

- **The olive ridley**

The olive ridley, *Lepidochelys olivacea* is classified under the family *Cheloniidae*. This species is relatively small, when compared to other turtles and it has an adult carapace with an average length of 60 to 70 cm.

Being included in the family *Cheloniidae*, the olive ridley is thus also related to the Kemp's ridley (and it is in fact in the same genus of this species), which was described in Newsletter issue 11. The olive ridley is distinguishable from the Kemp's ridley since the latter generally has 5 pairs of costal plates (lateral scutes) whilst in the former; they range from 5 to 9 pairs of costal plates. The pattern of plates/scutes on the head (two pairs of prefrontals), the number of costal scutes (asymmetrical lateral plate ranging from five to 9 plates on each side) and the presence of inframarginal pores are diagnostic features for the olive ridley

The olive ridley has a circumtropical distribution and occurs regularly in the Pacific and Indian oceans. It is also globally distributed in the tropical regions of the South Atlantic, Pacific, and Indian Oceans. In the South Atlantic Ocean, it is found along the Atlantic coasts of West Africa and South America. In the Eastern Pacific, they occur from Southern California to Northern Chile. *Arribadas* (see further below) however, occur on only a few beaches worldwide, in the eastern Pacific and northern Indian oceans, in the countries of: Mexico; Nicaragua; Costa Rica; Panama and India.

The olive ridley mainly feeds on fish and invertebrates, including molluscs, crustaceans and jellyfish. It exhibits mass nesting behaviour where literally thousands of females come ashore to lay eggs at the same. This unique nesting event (which does not occur in the Mediterranean for any kind of species, although the olive ridley is not considered a Mediterranean species) is called an *arribada*, which is a Spanish term for the word *arrival*. This type of mass nesting has the advantage of 'saturating' the natural predators of the turtles. In fact, when the hatchlings come out, mostly at the same time, noting that nesting occurred at the same time, being so many, predators quickly reach the satiety, giving the chance to the 'survivors' to get in the water. Although *arribadas* have such advantages, they also have the disadvantage that during nesting the females may not only compete for space, but may also disturb each other and each other's nest.

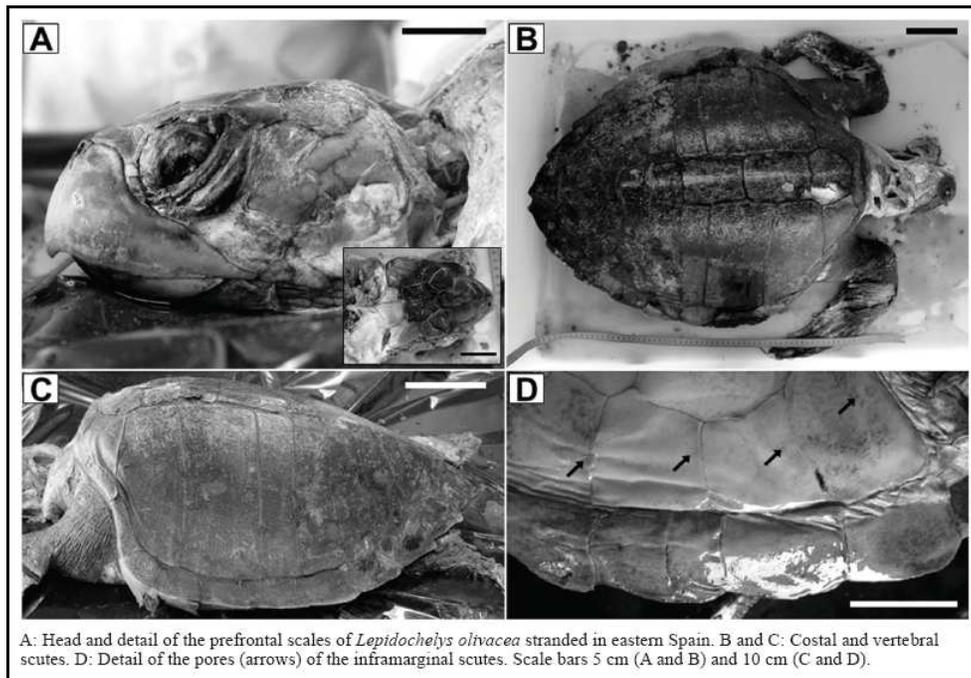
This species is categorised as vulnerable in the IUCN Red listing¹. In accordance with the IUCN guidelines for Red List Assessments, the focus of this evaluation has been the number of mature individuals (IUCN 2001). For olive Ridley, as with other sea turtle species, as it is not possible to survey mature individuals they used an index of abundance in the form of the number of annual nesting females". This species is also listed in Appendix I of the Convention on International Trade in Endangered Species of Flora and Fauna (CITES- lists species that are most endangered; appendices I, II, III are lists of species afforded different level or types of protection from over-exploitation)

The olive ridley is also protected by various other international treaties and agreements as well as national laws, amongst which:

¹ The IUCN Red List is the world's most comprehensive inventory of the global conservation status of biological species and is set upon precise criteria to evaluate the extinction risk of thousands of species and subspecies.

- CMS: listed in Appendices I and II of the Convention on Migratory Species and are protected under the following auspices:
 - IOSEA: Memorandum of Understanding on the Conservation and Management of Marine Turtles and their Habitats of the Indian Ocean and South-East Asia;
 - Memorandum of Understanding Concerning Conservation Measures for Marine Turtles of the Atlantic Coast of Africa;
 - SPAW: protected under Annex II of the Specially Protected Areas and Wildlife Protocol of the Cartagena Convention;
 - IAC: The U.S. is a party of the Inter-American Convention for the Protection and Conservation of Sea Turtles, which is the only international treaty dedicated exclusively to marine turtles.

Though not a Mediterranean Species, on 8 May 2014, a carcass of a stranded sea turtle found in the town of *Oropesa del Mar* on the Mediterranean coast (East of Spain), was positively identified to be that of an olive ridley. The olive ridley was identified based on prefrontal (2 pairs), costal (7 pairs) and vertebral scutes (7 pairs) and also on the presence of pores in the inframarginal plates.



Photos of *Lepidochelys olivacea* extracted from: Revuelta, O., Carreras, C., Domenech, F., Gozalbes, P. & Tomas, J. (2015). 'First report of an olive ridley (*Lepidochelys olivacea*) in the Mediterranean Sea'. In: *Mediterranean Marine Science*, 16 (2), 73-78.

- **The harbour porpoise**

The harbour porpoise (*Phocoena phocoena*) is one of six species of porpoise and is considered one of the smallest marine mammals. In fact, the harbour porpoise is only about 67–85 cm long at birth, weighing 6.4–10 kg, with adults of both sexes growing to 1.4 to 1.9 m.

It has a rounded head which slopes down to the mouth, a flat forehead and no prominent beak (unlike the common and bottlenose dolphin). It has black lips and chin, a mouth that curves upwards as if smiling and a robust dark body, with a white or pale grey belly.

The harbour porpoise has a triangular dorsal fin with a blunt tip which is positioned just past the centre of the back. Though the dark dorsal fin is small it can appear large when scaled to the relatively small portion of visible back. It has slightly rounded flippers. Young harbour porpoises are dull in colour compared to their parents.

The harbour porpoise typically keeps a low profile in the water, but its small size, characteristic rolling swimming style and small triangular dorsal fin make it reasonably easy to recognise if the observer is able to get a good look at it. Fish, especially small schooling fish, and cephalopods, are the main prey items. They use echolocation clicks when exploring the surrounding environment. They usually swim slowly and alone or in small groups and can dive for as long as six minutes. The most common social group is that of mother and calf.

It is also referred to a *puffer* or *puffing pig* by fishermen in New England and eastern Canada. This is probably because it can at times be detected by the blow, which although rarely seen, makes a sharp puffing sound rather like a sneeze. The harbour porpoise species is widespread in cooler coastal waters of the North Atlantic, North Pacific and they occasionally travel over deeper offshore waters. In the Atlantic, harbour porpoises may be present in a curved band of water running from the coast of West Africa to the coasts of Spain, France, the United Kingdom, Ireland and Scandinavia, Iceland, Greenland, Nova Scotia and Newfoundland and the eastern seaboard of the United States.

The harbour porpoise is considered to be regular albeit rare in the Contiguous Atlantic with individuals known to occasionally stray into the Mediterranean. The past regular presence of this species in the Mediterranean is subject of controversy and in fact many argue that it was absent in historical times but one museum specimen exists which was alleged to have been captured from the Adriatic Sea. In fact, the known occurrences are from the following years and places:

- 1822, Adriatic Sea, Cagnolaro citing Alessandrini;
- 1981, Playa de Malagueta, Spain, Frantzis *et al.*, 2001 citing Rey & Cendrero 1982, a stranded female;
- 2006, Malaga, Spain, Male, 1.65 m, stranded alive, Ana Cañadas.

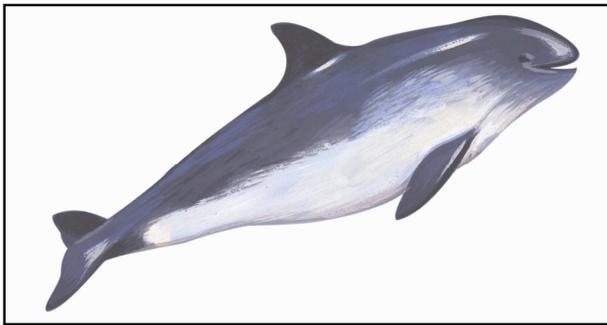
The Harbour porpoise is protected by various international treaties and agreements as well as national laws including the following:

- The European Union's (EU's) Habitats Directive and included in Appendix II and IV;
- Endangered Species Act (ESA) Candidate Species - Baltic Sea population;
- Marine Mammal Protection Act (MMPA) - Harbour porpoises, like all marine mammals, are protected under the MMPA;
- Convention on International Trade in Endangered Species (CITES) Appendix II;
- Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (CMS/Bonn Convention);

- Annex II of the Protocol concerning Specially Protected Areas and Biological Diversity in the Mediterranean of the Barcelona Convention
- IUCN Listing: Least Concern (LC), Baltic Sea subpopulation listed as critically endangered (CR).

The main threat to porpoises is static fishing techniques such as gill and tangle nets. By-catch in bottom-set gill nets is considered the main anthropogenic mortality factor for harbour porpoises worldwide.

Harbour porpoises were traditionally hunted for food, as well as for their blubber, which was used for lighting fuel. The drive hunt in the Little Belt strait, Denmark, is the best known example. Thousands of porpoises were caught there until the end of the 19th century, and again in smaller scale during the world wars. In the Gulf of Maine region in the early 1990s, for example, as many as 3,000 were annually drowned in commercial fishing gear like gill nets.



Populations are also harmed by chemical and noise pollution. Mortality resulting from trawling by catch seems to be less of an issue, probably because porpoises are not inclined to feed inside trawls, as dolphins are known to do.

Illustration of a *Phocoena phocoena* by Andrew Micallef from the poster *Mammiferi tal-Baħar Imħarsa bil-Liġi fil-Gżejjer Maltin* (1992) *Segretarjat għall-Ambjent*.

