

SHORT COMMUNICATION

First stranding record of a harbour porpoise (*Phocoena phocoena*) in the Southern Aegean Sea

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Abstract

A stranding of a harbour porpoise (*Phocoena phocoena*) was reported for the first time in the Southern Aegean Sea. This is the twelfth confirmed and the southern record of this species in the Aegean Sea. *Pennella* sp. infestation is reported for the first time on a phocoenid species.

Key words: Harbour porpoise, *Phocoena phocoena*, Aegean Sea, *Pennella*, ectoparasite infestation.

Introduction

The harbour porpoise (*Phocoena phocoena*) live in cold temperate to sub-polar waters of the Northern Hemisphere; Northern Pacific, the Northern Atlantic and the Black Sea (Hammond *et al.* 2008). The fragmentation of harbour porpoise distribution in the Mediterranean Sea was triggered approximately 5000 years ago during the warm 'Mid-Holocene Optimum' (Fontaine *et al.* 2010) and is recognized as the subspecies *Phocoena phocoena relicta* in the Black Sea by morphological and genetic studies (e.g. Viaud-Martinez *et al.* 2007; Galatius and Gol'din 2011).

In the Turkish waters it is predominantly found in the Black Sea. Its occurrence was, however, first described as "sometimes" in the Marmara Sea and "very rare" in the Mediterranean by Devedjian (1926). There have been several records of sightings and strandings in the Turkish Straits System (TSS),

especially in the Istanbul Strait (Dede *et al.* 2008; Ozturk *et al.* 2009; Tonay *et al.* 2009; Dede 2010). There are two records of stranded harbour porpoises in the Northern and Central south Turkish Aegean Sea coast; one in Saroz Bay (Tonay *et al.* 2009) and the other in Izmir Bay (Güçlüsoy 2008). Besides these records, nine records of strandings and sightings of harbour porpoises have been reported in the Greek Northern Aegean Sea since 1993 (Frantzis *et al.* 2003; Notarbartolo di Sciara and Birkun 2010) (Figure 1). On the other hand, the subspecies of harbour porpoise *P. phocoena phocoena* of the North Atlantic was recorded in the Mediterranean Sea in 1822 (Adriatic Sea), in 1981 and 2006 (Alborán Sea) (Notarbartolo di Sciara and Birkun 2010).

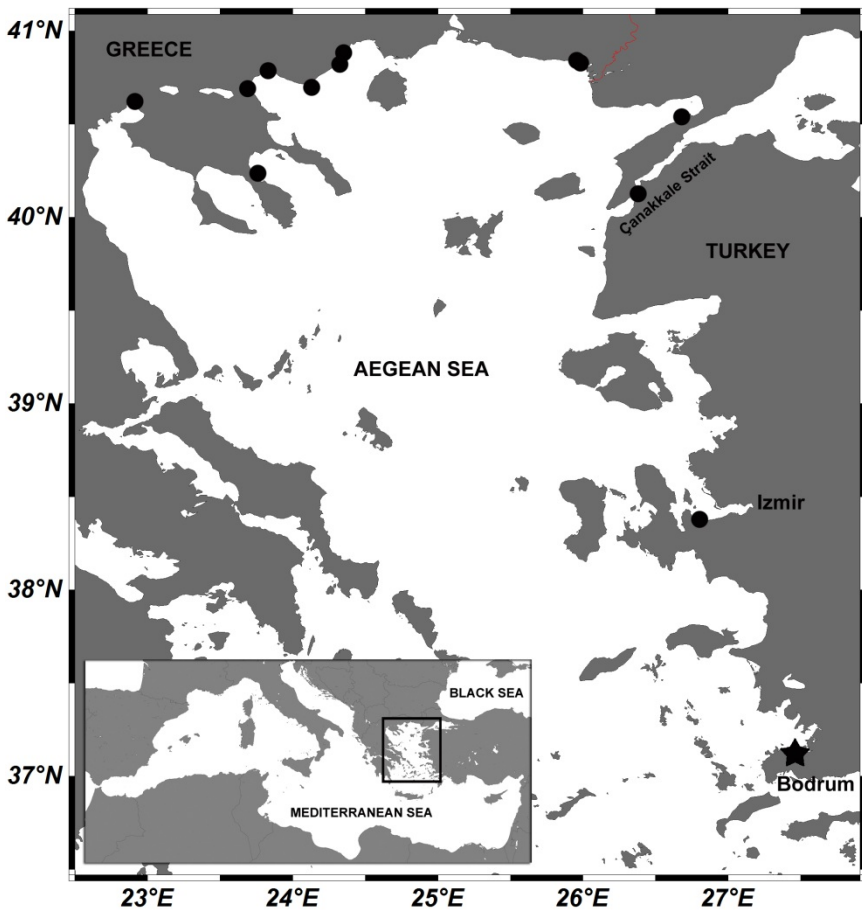


Figure 1. Locations of the stranded harbour porpoise in the Aegean Sea (star) with other confirmed records (dots) of sightings and strandings in the Aegean Sea and Çanakkale Strait according to Birkun and Frantzis (2008); Güçlüsoy (2008); Tonay *et al.* (2009)

Although the connectivity between the Black Sea and Northern Aegean Sea harbour porpoises has been suggested according to genetic studies, it is still possible that they may represent separate subpopulations in the Aegean Sea (Rosel *et al.* 2003; Notarbartolo di Sciara and Birkun 2010). In addition, the haplotype found in four individuals in the Marmara Sea suggests that harbour porpoises in this water body may be genetically differentiated from both the Black Sea and Northern Aegean Sea populations (Viaud-Martinez *et al.* 2007; Tonay *et al.* 2012).

On 10 January 2013, one adult female harbour porpoise stranded dead on the coast of Torba village of Bodrum Peninsula (37° 4.904'N, 27° 27.714'E) in the Southern Aegean Sea coast of Turkey (Figures 1 and 2). On the following day, the external examination and measurement were made, as well as its necropsy was done. Body length was 141.5cm. It was in bad nutritive condition, its blubber was thin, *longissimus dorsi* and neck visibly concave and the nutritive condition code (NCC; Jauniaux *et al.* 2005) was 4. Right lateral side was damaged, internal organs were almost decomposed (Decomposition Condition Code 4). Intense ectoparasite infestation of *Pennella* sp. was observed all over its body. Some tissues (skin, ovary, teeth etc.), skull and parasites were sampled for further analyses.

This stranding provides the first confirmed presence of the species in the Southern Aegean Sea. It is also the first infestation case of *Pennella* sp. on a phocoenid species, according to the list of parasites and hosting cetacean species in Aznar *et al.* (2001). After genetic and morphological studies, the origin of the specimen will be determined.

Acknowledgement

We would like to thank Bayram Öztürk, Ayaka A. Öztürk for their encouragement and support, Yaşar Anter, Nilüfer Kandırmış, Mehmet Çınar and Aytaç Aydın for their information and help in the field; Turkish Marine Research Foundation for financial support.

Güney Ege Denizi'nde bir muturun (*Phocoena phocoena*) ilk karaya vurma kaydı

Özet

Güney Ege Denizi'nde ilk defa karaya vuran Muttur (*Phocoena phocoena*) rapor edilmiştir. Bu türün Ege Denizi'ndeki doğrulanan 12. kayıdır. *Penella* sp. dış parazit enfestasyonu Phocoenidae familyasında ilk defa rapor edilmiştir.



Figure 2. Stranded specimen of harbour porpoise (*Phocoena phocoena*) on the beach, Torba village of Bodrum Peninsula (a: left side, b: right side)

References

- Aznar, F. J., Balbuena, J. A., Fernandez, M., Raga, J. A. (2001) Living Together: The Parasites of Marine Mammals. In: Marine Mammals, Biology and Conservation. (eds. P.G.H. Evans, J.A. Raga). Chapter 11. Kluwer Academic/Plenum Publishers, New York, 637 pp.
- Birkun Jr., A. A., Frantzis, A. (2008) *Phocoena phocoena* ssp. *relicta*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. Available at <http://www.iucnredlist.org/details/17030/0> (accessed 13 Jan.2013)
- Dede, A. (2010) Marine mammals of the Marmara Sea. Proceedings of the Symposium 'The Marmara Sea 2010' (ed., B. Ozturk), Turkish Marine Research Foundation Publications no: 32, pp. 272-281 (in Turkish).
- Dede, A., Ozturk, A. A., Tonay, A. M. (2008) Cetacean surveys in the Istanbul (Bosphorus) Strait in 2006. In: Proceedings of 22nd Annual Conf. European Cetacean Society, Egmond aan Zee, the Netherlands. (eds., G.J. Pierce, E. Philips, R. Lick).
- Devedjian, K. (1926) Pêche et Pêcheries en Turquie. Imprimerie de l'Administration de la Dette Publique Ottomane, Istanbul, 480pp. (Translated by Aras Yayıncılık 2006 Istanbul).
- Fontaine, M. C., Tolley, K. A., Michaux, J. R., Birkun, A. Jr., Ferreira, M., Jauniaux, T., Llavona, A., Ozturk, B., Ozturk, A. A., Ridoux, V., Rogan, E., Sequeira, M., Bouqueneau, J-M., Baird, S. J. E. (2010) Genetic and historic evidence for climate-driven population fragmentation in a top Cetacean predator: the harbour porpoises in European Water. *Proc. R. Soc.* 277: 2829-2837.
- Frantzis, A., Alexiadou, P., Paximadis, G., Politi, E., Gannier, A., Corsini-Foka, M. (2003) Current knowledge of the cetacean fauna of the Greek Seas. *J. Cetacean Res. Manage.* 5 (3): 219-232.
- Galatius, A., Gol'din, P. E. (2011) Geographic variation of skeletal ontogeny and skull shape in the harbour porpoise (*Phocoena phocoena*) *Canadian Journal of Zoology* 89 (9): 869-879.
- Güçlüsoy, H. (2008) The first confirmed report of the harbour porpoise (*Phocoena phocoena*) in the Turkish Aegean Sea. *Marine Biodiversity Records*, 1, e94 doi:10.1017/S1755267207009529.
- Hammond, P. S., Bearzi, G., Bjørge, A., Forney, K., Karczmarski, L., Kasuya, T., Perrin, W. F., Scott, M. D., Wang, J. Y., Wells, R. S., Wilson, B. (2008) *Phocoena phocoena*. In: IUCN 2012. IUCN Red List of Threatened Species. Version 2012.2. Available at <http://www.iucnredlist.org/details/17027/0> (accessed 13 Jan. 2013)

- Jauniaux, T., Beans C., Dabin W. (2005) Stranding, Necropsy and Sampling: Collection Data, Sampling Level and Techniques. European Cetacean Society Student Workshop, La Rochelle, France.
- Notarbartolo di Sciara, G., Birkun, A. Jr. (2010) Conserving Whales, Dolphins and Porpoises in the Mediterranean and Black Seas. ACCOBAMS Status Report, 2010, ACCOBAMS, Monaco, 212 pp.
- Ozturk, A. A., Dede, A. Tonay, A.M., Ozturk, B. (2009) Cetacean surveys in the Istanbul (Bosphorus) Strait in 2007-2008. In: Abstracts of 23rd Annual Conf. European Cetacean Society, Istanbul, Turkey.
- Rosel, P. E., Frantzis, A., Lockyer, C., Komnenou, A. (2003) Source of Aegean Sea harbour porpoises. *Mar. Ecol. Prog. Ser.* 247: 257-261.
- Tonay, A. M., Dede, A., Maracı, Ö., Bilgin, R. (2012) A preliminary genetic study on the harbour porpoise (*Phocoena phocoena*) in the Turkish Seas. *J. Black Sea/Mediterr. Environ.* 18:83-89.
- Tonay, A. M., Dede, A., Ozturk, A. A., Ozturk, B. (2009) Cetacean strandings in the Turkish Straits System (TSS) and the Northern Aegean Sea coast of Turkey during 1999-2008. In: Proc. 23rd Annual Conf. European Cetacean Society, Istanbul, Turkey.
- Viaud-Martinez, K. A., Milmer, M. V., Goldin, E. P., Ridoux, V., Ozturk, A. A., Ozturk, B., Rosel, P. E., Frantzis, A., Komnenou, A., Bohonak, A. J. (2007) Morphological and genetic differentiation of the Black sea harbour porpoise *Phocoena phocoena*. *Marine Ecology Progress Series* 338: 281-294.

Received: 15.01.2013

Accepted: 30.01.2013