

## SHORT COMMUNICATION

### **First stranding record of a Risso's Dolphin (*Grampus griseus*) in the Marmara Sea, Turkey**

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#### **Abstract**

A stranding of a Risso's dolphin (*Grampus griseus*) was reported for the first time in the Marmara Sea, Turkey. A piece of rope tied around its tail fluke can be the evidence of bycatch. The occurrence of the Risso's dolphin, dead or alive, was never reported before in the Marmara Sea.

**Key words:** Risso's dolphin, *Grampus griseus*, Turkish Straits System, the Marmara Sea.

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#### **Introduction**

Risso's dolphins (*Grampus griseus*) are widely distributed from the tropics to the temperate regions, including the Mediterranean Sea (Jefferson *et al.* 1993). Risso's dolphins occur in deep waters, shelf break areas where the slope is steepest, around offshore islands and archipelagos in the Mediterranean Sea (Notarbartolo di Sciara and Birkun 2010; Bearzi *et al.* 2011). Diet consists primarily of cephalopods, especially mesopelagic squids (Öztürk *et al.* 2007; Bearzi *et al.* 2011).

There are three species of cetaceans regularly found in the Marmara Sea, namely; common dolphin (*Delphinus delphis*), bottlenose dolphin (*Tursiops*

*truncatus*) and harbour porpoise (*Phocoena phocoena*). Besides, the striped dolphin (*Stenella coeruleoalba*) has limited records although it is common in the Aegean Sea (Öztürk 1996). Öztürk *et al.* (1999) reported two striped dolphin strandings and Altuğ *et al.* (2011) reported sightings of striped dolphins in the southern Marmara Sea for the first time. According to previous cetacean stranding studies, such as Öztürk *et al.* (1999) and Tonay *et al.* (2009), there had been no stranding of Risso's dolphins reported in the Turkish Straits System (TSS), which includes the Marmara Sea. Öztürk (1996) indicated Risso's dolphins were observed in Saroz Bay-Northern Aegean Sea especially in April and May. Between 1997 and 2011 three strandings (two of them in the Northern Aegean Sea) (Öztürk *et al.* 2011) and one sighting (Altuğ *et al.* 2011) of Risso's dolphins were reported in the Northern Aegean Sea coast of Turkey. Beside these individuals, two more animals as bycatch during swordfish driftnet fishery and one stranding were reported in the Mediterranean Sea (Öztürk *et al.* 2007; 2011). One live individual was also observed in Gökova Bay (Okuş *et al.* 2006) and two in the association with a group of striped dolphins off Turkish coast in the Mediterranean (Dede *et al.* 2012). The present study is the first record of a Risso's dolphin in the Marmara Sea, a part of the TSS.

## Material and Method

On 4 December 2012, one male Risso's dolphin (body length 310cm) stranded dead on the coast of Gaziköy village (40° 44.950'N, 27° 20.119'E) in the western Marmara Sea (Figures 1 and 2a) with a piece of rope tied around its tail fluke. A day later, it was removed from the stranding site. It was found again on 13 December approximately 1 km inland from the stranding site and the necropsy was done (Figure 2b).

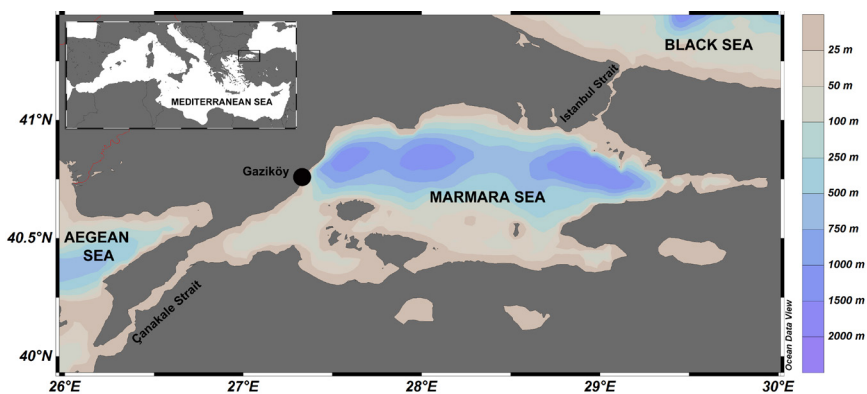


Figure 1. Location of the stranding of the Risso's dolphin



**Figure 2.** Stranded specimen of Risso's dolphin a) on the beach, 4 December 2012, b) on the disposed site, 13 December 2012

### **Result and Discussion**

Due to decomposition, the carcass was not available for detailed gross necropsy but the cause of mortality was found as hypoxia due to strangulation. A piece of rope tied around the tail fluke of the dolphin can be the evidence of bycatch. Since the most intensive fishery was purse seining for pelagic fishes in that time in the area, this rope may have been used as a sling during the fishing activities.

There are 19 cephalopod species found in the Marmara Sea (Salman and Katağan 2002), of which 11 species were found in the stomach contents of Risso's dolphins in the Mediterranean Sea (Bearzi *et al.* 2011). Besides, the stranded area is close to the deepest part of the Marmara Sea (Figure 1).

Considering these circumstances, the occurrence of the stranded animal in the Marmara Sea may be related to its feeding activity.

In the TSS there are two layer current systems; the upper layer carries less saline Black Sea water, the lower layer more saline Mediterranean water. The TSS serves as a corridor and also a barrier or an acclimatization zone for living organisms and two-way translocation of species from their native habitats in the Black and Mediterranean Seas (Öztürk and Öztürk 1996; Oğuz and Öztürk 2011). Although the Çanakkale Strait is a narrow waterway (min. width 1.3km, length 67 km) and has heavy marine traffic, cetacean especially common dolphins and bottlenose dolphins occur in the straits and the Marmara Sea (Öztürk and Öztürk 1996). The passive acoustic monitoring of cetaceans in the Istanbul Strait revealed that the cetaceans were more active during the night time, nevertheless present all year around in the area (Dede *et al.* 2011; 2013). Bearzi *et al.* (2011) mentioned that the TSS is not a suitable habitat for Risso's dolphins. But the presence of cephalopods is known in the Marmara Sea, contrary to his expectations. Therefore the occurrence of the Risso's dolphin in the Marmara Sea was expected although it had never been confirmed up to this stranding. It may have also been triggered by Mediterraneanization, along with other factors.

It is essential to carry out more stranding surveys, research cruises and to improve the stranding network to understand the situation of Risso's dolphins in the Marmara Sea.

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## **Türkiye'nin Marmara Denizi'nde bir Grampus'un (*Grampus griseus*) ilk karaya vurma kaydı**

#### **Özet**

Marmara Denizi'nde ilk defa karaya vuran Grampus (*Grampus griseus*) rapor edilmiştir. Kuyruk sapına bağlı halat, tesadüfi ağa yakalanmanın (bycatch) göstergesi olabilir. Canlı veya ölü olarak grampus türü deniz memelisi Marmara Denizi'nde daha önce rapor edilmemiştir.

## References

- Altuğ, G., Aktan, Y., Oral, M., Topaloğlu, B., Dede, A., Keskin, Ç., İşinbilir, M., Çardak, M., Çiftçi, P. S. (2011) Biodiversity of the northern Aegean Sea and southern part of the Sea of Marmara, Turkey. *Marine Biodiversity Records* Vol. 4: e65.
- Bearzi, G., Reeves, R. R., Remonato, E., Pierantonio, N., Airoidi, S. (2011) Risso's dolphin *Grampus griseus* in the Mediterranean Sea. *Mammalian Biology* 76: 385-400.
- Dede, A., Öztürk, A. A., Akamatsu, T., Tonay, A. M., Öztürk, B. (2011) Long-term passive acoustic monitoring of cetaceans in the Istanbul Strait. Abstract book of 25th Annual Conf. European Cetacean Society, Cadiz, Spain, 75 pp.
- Dede, A., Öztürk, A. A., Akamatsu, T., Tonay, A., Öztürk, B. (2013) Long-term passive acoustic monitoring revealed seasonal and diurnal presence patterns of cetaceans in the Istanbul Strait. *JMBA Special Issue* (in press)
- Dede, A., Saad, A., Fakhri, M., Öztürk, B. (2012) Cetacean sightings in the eastern Mediterranean Sea during the cruise in summer 2008. *J. Black Sea/Mediterr. Environ.* 18(1):49-57.
- Jefferson, T. A., Leatherwood, S., Webber, M. A. (1993) FAO Species Identification Guide. Marine Mammals of the World. FAO, Rome, 320 pp.
- Nortarbartolo di Sciarra, G., Birkun, A. Jr. (2010) Conserving Whales, Dolphins and Porpoises in the Mediterranean and Black Seas: an ACCOBAMS Status Report, 2010. ACCOBAMS, Monaco, 212 pp.
- Öğuz, T., Öztürk, B. (2011) Mechanisms impeding natural Mediterraneanization process of Black Sea fauna. *J. Black Sea/Mediterr. Environ.* 17 (3): 234-253.
- Okuş, E., Yüksek, A., Yokeş, M. B., Yılmaz, I. N., Aslan-Yılmaz, A., Karhan, S. Ü., Demirel, N., Demir, V., Zeki, S., Taş, S., Sur, H. I., Altıok, H., Müftüoğlu, E., Balkis, N., Aksu, A., Gazioglu, C. (2006) Marine biological diversity assessment of Gökova specially protected area, Final Report. Istanbul University, Institute of Marine Sciences and Management, Istanbul, Turkey. Authority for Specially Protected Areas, Ministry of Environment and Forestry of Turkey (in Turkish).
- Öztürk, A. A., Tonay, A. M., Dede, A. (2011) Strandings of the beaked whales, Risso's dolphins, and a minke whale on the Turkish coast of the Eastern Mediterranean Sea. *J. Black Sea/Mediterr. Environ.* 17: 269-274
- Öztürk, B. (1996) Whales and Dolphins, Introduction to Cetology. Anahtar Kitapları Yayınevi, Istanbul, 136 pp. (in Turkish).

Öztürk, B., Dede, A., Komut, O. (1999) Cetacean strandings in the Marmara Sea. 13<sup>th</sup> Annual Conference of the European Cetacean Society. Valencia, Spain, 258 pp.

Öztürk, B., Öztürk, A. A. (1996) On the biology of the Turkish Strait System. *Bulletin de l'Institut océanographique, Monaco*, no special 17, CIESM Science Series No: 2: 205-221.

Öztürk, B., Salman, A., Öztürk, A.A., Tonay, A. (2007) Cephalopod remains in the diet of striped dolphins (*Stenella coeruleoalba*) and Risso's dolphins (*Grampus griseus*) in the eastern Mediterranean Sea. *Vie et Milieu* 57 (1/2): 53-59.

Salman, A., Katağan, T. (2002) Cephalopod fauna of the eastern Mediterranean. *Turk J. Zool.* 26:47-52.

Tonay, A. M., Dede, A., Öztürk, A. A., Öztürk, B. (2009) Cetacean strandings in the Turkish Straits System (TSS) and the Northern Aegean Sea coast of Turkey during 1999-2008. Proc. 23rd Annual Conf. European Cetacean Society, Istanbul, Turkey.

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