

SHORT COMMUNICATION

Preliminary study on a stranding case of Mediterranean monk seal *Monachus monachus* (Hermann, 1779) on the Eastern Mediterranean coast of Turkey

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Abstract

The Mediterranean monk seal *Monachus monachus* (Hermann, 1779) is one of the critically endangered species in the world and in the northeast Mediterranean Sea there is a continuously breeding population. On 28 February 2014, 3-3.5 months old, male Mediterranean monk seal stranded near Yasilovacık Harbour, Mersin. Gross necropsy was carried out one day later. The seal was emaciated and lungs were pneumonic. This paper summarizes the preliminary findings of the gross necropsy.

Keywords: Mediterranean monk seal, *Monachus monachus*, Eastern Mediterranean Sea, deliberate killing, emaciation

Introduction

The Mediterranean monk seal, *Monachus monachus* (Hermann 1779), is Europe's most endangered marine mammal and there are about 100 individuals in the Turkish coasts (Güçlüsoy *et al.* 2004). The number of identified seals in the northeastern Mediterranean Sea is given as 42 by Gücü *et al.* (2009). Pollution, overfishing, bacterial, fungal and viral infectious diseases effect to decline the population (Öztürk 1992; Androukaki *et al.* 1999). An adult, female monk seal was found stranded on Antalya coast in August 2013. In the gross

necropsy, seal was emaciated and nematodes, cestodes, and trematodes were found in the gastrointestinal tract (Danyer *et al.* 2013a). Fishermen and fish farmers use lights, feeding with pesticide-injected fish, noise generation, warning and direct shots with rifles and physical exclusion of seals to keep seals away from fishing cages and nets (Güçlüsoy and Savaş 2003).

The monk seal population is also under pressure of deliberate killing. Güçlüsoy *et al.* (2004) reported that five out of 22 dead seals had been deliberately killed. Öztürk (2007) also reported that 12 out of 24 mortalities observed during 1986-1996 were due to deliberate killing. During 2012-2014 two more deliberate killing cases were recorded. A juvenile, female Mediterranean monk seal was found dead by local people on the coast of Meydan Village, Hatay Province on 5 December 2012 (Figure 1). The carcass was delivered to Veterinary Faculty of Mustafa Kemal University by local officers of the Ministry of Food, Agriculture and Livestock for necropsy. In the gross necropsy, two sharp force injuries, one above the right orbita and one in the inter costal space to heart, were observed as the evidence of deliberate killing (Ergün and Altuğ 2012; HDOMFAL 2012). Danyer *et al.* (2013b) reported a deliberate killing of a monk seal by rifle on Antalya coast of Turkey in April 2013. It was an adult male monk seal, well-recognized and even nicknamed “Duman” by local people.



Figure 1. Mediterranean monk seal which was found on the coast of Meydan Village, Hatay Province in 2012 (Kırkasır Gazetesi 2012)

On 28 February 2014, a 3-3.5 months old, male Mediterranean monk seal stranded near Yasilovacık Harbour, Mersin. There have been 20 photo traps set in the caves along the northeastern coast of the Mediterranean Sea and those

caves are observed continuously (Saydam *et al.* 2014). This individual had been seen in the breeding cave near the harbor construction site several times and could be easily recognized in previous photos. The carcass preserved in $4\pm 2^{\circ}\text{C}$ until necropsy.

Necropsy findings

The necropsy of the seal was performed on 1 March, 2014. It was a very thin, emaciated juvenile with length of 123 cm from nose to hind flipper end, 112 cm from nose to tail end and body weight of approximately 20-30 kilograms (Figure 2). On the external examination there were two holes, about 2 mm in diameter. The one was on the abdomen skin the other one was on the left lateral side of the mandible. Around the hole on the abdomen, there was a black ring. Under the hole on the mandible, there were abscesses. Abscesses did not reach mouth cavity. All the body, inside of the eyes, mouth and anus were covered with fly larvae. Decomposition Code was 2, according to Rowles *et al.* (2001).



Figure 2. Emaciated monk seal

Blubber thickness was measured 1.9 cm on the sterno-median line. Abdomen muscles were congested. Peritoneum was normal. Esophagus and stomach were empty. Stomach was hyperemic. Intestines were hypostatic and congested. No parasite was found in the intestines. All lymph nodes were solid and lymphadenopathy has been seen. Liver was congested. Kidneys were congested and decomposed. In the vascular system no defect was seen. In the trachea, foamy liquid was seen and the lungs were pneumonic, crepitating and congested

(Figure 3). Parasites were not observed in the lungs. Samples were taken from each organ for histopathological examination.

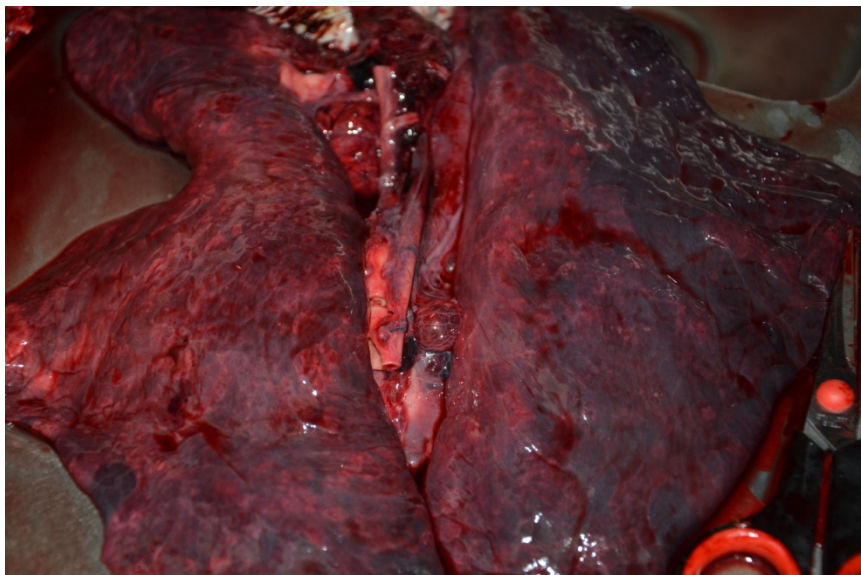


Figure 3. Lungs were pneumonic, crepitating and congested

It is assumed that this individual was in a poor health condition. Perhaps due to the noise stress he could not exit from the cave to feed, then his nutritive condition decreased. Considering the lesions seen in the internal organs, it is possible that the monk seal suffered from infection at the same time. According to these findings, emaciation and severe pneumonia might have led to the monk seal's death. After histopathological examination, more detailed information can be obtained.

Mersin District Office of Ministry of Forest and Water Affairs has a continuous conservation plan for monk seals. We could reach this individual by this conservation plan's network; Institute of Marine Sciences of Middle East Technical University's and Turkish Marine Research Foundation's network. This case showed that common efforts of state authorities, universities and NGOs make the conservation plan stronger. This conservation plan should be developed throughout all Turkish coastal areas and contain precautions against deliberate killings, stranding action plans and awareness raising programs for local people.

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Türkiye'nin Doğu Akdeniz kıyısında karaya vuran Akdeniz fokü *Monachus monachus* (Hermann, 1779) hakkında ilk bulgular

Özet

Kuzey Doğu Akdeniz'de büyümekte olan popülasyonu bulunan Akdeniz Foku *Monachus monachus* (Hermann, 1779) dünyanın nesli kritik olarak tehlikede olan hayvanlarından birisidir. 28 Şubat 2014 tarihinde Yeşilovacık Limanı/ Mersin kıyılarında 3-3.5 aylık, erkek bir Akdeniz Foku bulundu. Bir gün sonra nekropsisi yapıldı. Fok kaşektik ve akciğerlerinde pnömoni tablosu görüldü. Bu çalışma nekropside elde edilen ilk bulguları paylaşmaktadır.

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