

## SHORT COMMUNICATION

### **First record of fin whale (*Balaenoptera physalus* Linnaeus, 1758) in Kotor Bay (South Adriatic Sea)**

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#### **Abstract**

A single individual of fin whale, *Balaenoptera physalus* (Linnaeus, 1758) was recorded on 17 December 2011 in Kotor Bay (southeastern Adriatic Sea). The depth was between 5 and 7 meters. The specimen was about 10 meters long and this paper reports the first occurrence of the fin whale in very shallow waters in the most inner part of Boka Kotorska Bay.

**Key words:** Cetacean, fin whale, Kotor Bay, South Adriatic Sea.

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#### **Introduction**

Fin whales, *Balaenoptera physalus*, are widely distributed in the world's oceans. The fin whale has been listed as "endangered" under the IUCN red list of threatened species. The fin whale has an extensive distribution in the North Atlantic, occurring from the Gulf of Mexico (Jefferson and Schiro 1997) and Mediterranean Sea, northward to the edges of the arctic pack ice (Jonsgård 1966a, 1966b; Sergeant 1977; IWC 1992). There is a resident subpopulation in the central and western Mediterranean which is genetically distinct from that of the North Atlantic (Bérubé *et al.* 1998). The species also occurs rarely in the eastern Mediterranean (Notarbartolo di Sciara *et al.* 2003).

Although fin whales are certainly migratory, moving seasonally into and out of high-latitude feeding areas, the overall migration pattern is confusing and likely complex (Christensen *et al.* 1992). Fin whales occur year-round in a wide range of latitudes and longitudes, but the density of individuals changes seasonally. Thus, their aggregate movements are patterned and consistent, but movements

of individuals in a given year may vary according to their energetic and reproductive condition, climatic factors, etc. (Notarbartolo di Sciara *et al.* 2003).

Fin whale is the second largest animal in the world after the blue whale, the fastest swimmer of all the large whales and the commonest of the large baleen whales. Adult whales range between 20 and 27 m long and weigh more than 70 tonnes.

Like other large whales, fin whales feed in the spring and summer and migrate towards warmer waters in the winter months. The fin whale is a filter-feeder, feeding on small schooling fish, squid, and crustaceans including copepods and krill. The fin whale moves into warm waters to breed in the winter time and also to give birth. Fin whales become sexually mature at 6-10 years of age and the average length at sexual maturity is 19.2 m (Laws 1961).

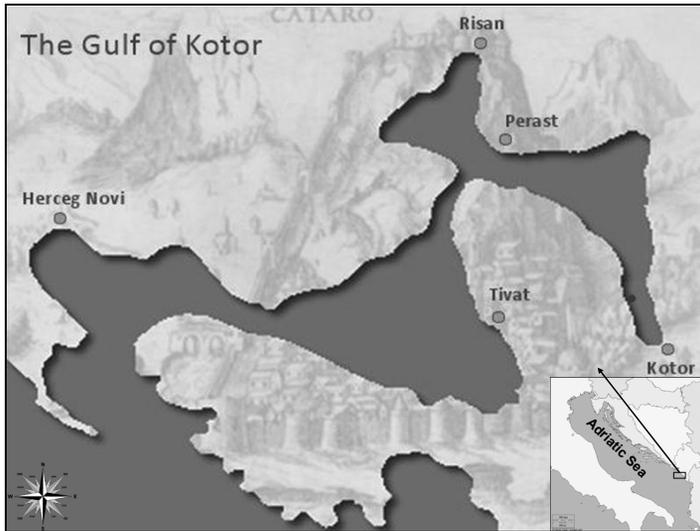
Generally, fin whales are usually seen alone or in pairs. However they are usually part of a group of a round 6 or 7 that are in turn often part of a much larger group.

## **Results and Discussion**

On 17 December 2011, early in the morning, one specimen of fin whale was recorded by amateur camera in the most inner part of Boka Kotorska Bay – in the Bay of Kotor (42° 25' 37.67" N, 18° 45' 33.84" E), where the maximum depth is between 5 and 7 m. By detailed analyses of the recorded material by the researchers from the Institute of Marine Biology (Kotor), it was estimated that the specimen was about 10 m long. This is the first occurrence of the fin whale in such shallow waters up to now.

One explanation for this unusual phenomenon may be a heavy storm, accompanied by strong windson previous night and that morning in the southern Adriatic. It is possible that the whale was seeking a sheltering area from the storm, and was most likely to stray into very shallow waters of the most inner part of the Boka Kotorska Bay (Figure 1).

Another possible explanation may lie in intensive oil and gas exploration in the southern Adriatic. It is well known that these investigations include geophysical surveying with air guns and underwater explosions. Together with bad weather, these factors may have affected the movements of this individual in Boka Kotorska Bay.



**Figure 1.** Geographical position of Boka Kotorska Bay and location where fin whale was sighted (black circle)

Fin whales in the Mediterranean appear to be markedly pelagic. They are primarily observed in deep offshore waters, although their occurrence over the continental shelf is not unusual.

Among 62 fin whale groups sighted by Forcada *et al.* (1996) during a dedicated line transect survey in the western Mediterranean, only two were observed in waters shallower than 1000 m, and overall mean water depth at which sightings were made was 2360 m. Between 1990 and 1992 total of 93 sightings were made in the western Ligurian Sea in a mean water depth of 2248 m (Zanardelli *et al.* 1992). The mean water depth from 20 fin whale sightings made over a wide portion of the central Mediterranean Sea yielded a lower value and with a greater variance than the Ligurian Sea values alone (mean - 1775 m, range 25-2500 m) (Notarbartolo di Sciara *et al.* 1993). These observations suggest that fin whale habitat is variable across the species Mediterranean range. In some years fin whales are frequently seen over the narrow shelf waters unusually close to the coast, probably as a result of different oceanographic conditions in those years.

Caputo and Giovannotti (2009) report one dead individual found at Sirolo beach near Ancona (central Italy) in November 2007. As reported by those authors and Notarbartolo di Sciara *et al.* (2003), observed specimens in the Adriatic are believed to be sporadic vagrants from the Ionian feeding grounds.

Lipej *et al.* (2004) mostly agree with that conclusion, but believe that the appearance of fin whales in shallow waters of the northern Adriatic can be a sign that something new is going on in the northern Adriatic Sea.

In the Adriatic Sea fin whale occurrence is very scarce, particularly in its shallow northern and central parts where appropriate fin whale habitats are lacking (Notarbartolo di Sciara *et al.* 2003). However, both stranding (Brusina 1889; Kolombatovic 1894; Princi and Bussani 1976) and sightings (Rallo 1979; Politi *et al.* 1992; Notarbartolo di Sciara 1994; Stanzani *et al.* 1997) are known from the sub region, particularly in recent years (D. Holcer, Croatian Natural History Museum, Zagreb, personal communication; Affronte 2000).

### Acknowledgement

The authors thank Ms. Brankica Radonjić for providing material, and to Mr. Draško Holcer, Senior curator in Croatian Natural History Museum, for his help in identification of the fin whale and for useful suggestion for this manuscript.

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**Received:** 12.11.2012  
**Accepted:** 21.12.2012