

## **A COMPARATIVE ECOLOGICAL STUDY OF BOTTLENOSE DOLPHINS (*Tursiops truncatus*) IN SOUTH AND NORTH EVOIKOS GULFS**

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### **EXTENDED ABSTRACT**

The geographic distribution, population density and behavior of bottlenose dolphins (*Tursiops truncatus*) have been studied in North and South Evoikos gulfs over the past 5 years in an effort to better understand factors affecting the well-being and the survival of this species of small cetaceans. Fieldwork was carried out by *ad libitum* line transects and the geographic distribution and population density was assessed by sighting frequencies. At the same time photoidentification techniques were used to identify individuals and observations of the dolphin behavior were made based on dive duration.

Our results show a significant difference in the geographic distribution and population density of the bottlenose in the two gulfs. North Evoikos has a quite high population density as inferred from the relatively high sighting frequencies of 4.1/100 km which are among the highest observed in Greek and Mediterranean coastal areas. On the other hand South Evoikos has a much lower population density based on sighting frequencies of only 1.2/100 km.

In North Evoikos bottlenose dolphins spend considerable time in the behavioral states of dive/travel, dive and surface feeding but also socializing indicating low feeding efforts. They readily approached our boat and exhibited playing behavior. Their groups were relatively large with a mean size of 16 individuals. In South Evoikos bottlenose dolphins were never observed in the surface feeding behavioral state nor socializing but spend relatively more time traveling. Bottlenose dolphins in South Evoikos gulf never approached our boat and were observed systematically in what can be described as avoidance behavior.

In both gulfs there is no evidence of bottlenose dolphin emaciation as a result of malnutrition which has been reported for the Ionian Sea bottlenose dolphins. Differences of sighting frequencies, population density and behavior between the two gulfs are most probably due to differences in food abundance and therefore prey availability.

**Key words:** Bottlenose dolphins, cetaceans, *Tursiops truncatus*, Evoikos gulf, bottlenose dolphin behavior and ecology.