

A new record of the invasive Red Sea mussel *Brachidontes pharaonis* (Fischer P., 1870) (Bivalvia: Mytilidae) from the Turkish coasts

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Abstract

A specimen of the invasive mytilid mussel *Brachidontes pharaonis* (Fischer P., 1870) was collected on 18 April 2007 in Karaburun Peninsula, İzmir. This record represents the northernmost occurrence of the species along the Aegean coast of Turkey. Information on the distribution of the species along the Mediterranean coast of Turkey is provided.

Key words: *Brachidontes pharaonis*, Mytilidae, Aegean Sea, Turkey, Lessepsian

Biological invasions pose a great threat to the integrity of natural communities. An invasive species may compete for space and resources with native species, altering the functioning of the ecosystem (Sarà et al. 2006). The Red Sea mussel *Brachidontes pharaonis* (Figure 1), a Lessepsian invasive species, was first recorded in the Mediterranean seven years after the opening of the Suez Canal in 1869. In the past 20 years it has become abundant in midlittoral and infralittoral rocky habitats, especially along the rocky shores of the Eastern Mediterranean (Zenetos et al. 2003, Rilov et al. 2004).

A single live specimen of *B. pharaonis* was found attached to a stone by its byssus, in the midlittoral zone close to a fish farm, on the western side of Karaburun Peninsula, İzmir (Figure 2). The dissolved oxygen value was found as 8.02 mg/l, while temperature and salini-

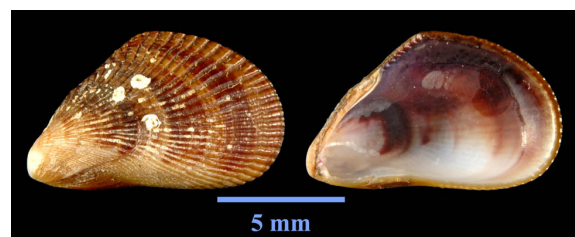


Figure 1. *Brachidontes pharaonis*, view of the outside of the left valve and inside of the right valve (Photograph: Dr. Alper Doğan)

ty values were 17.8°C and 38.6 ppt respectively at the sampling point. The specimen, collected on 18.04.2007, was preserved in 70% ethanol and deposited at the Museum of the Faculty of Fisheries, Ege University (EFSM). This is the northernmost record of the species along the

Aegean coast of Turkey, but the species has been already recorded in Chalkida, Greece (Koroneos 1979).

The first record of *B. pharaonis* (as *B. semistriatus*) along the Turkish coasts was from the Bay of İskenderun in 1978 (Kinzelbach 1985). The species has since been successively

recorded along the Mediterranean coast of Turkey (Figure 2, Annex), but dense formations had been only mentioned by Çınar (2006). It does not form dense populations in the Aegean Sea because the waters of the Aegean Sea are less saline and colder (Kocataş and Bilecik 1992).

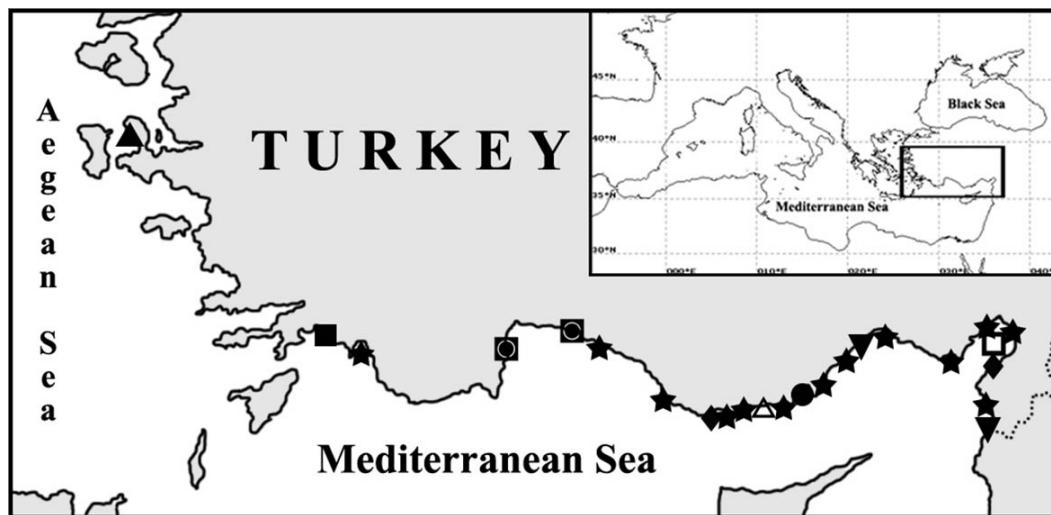


Figure 2. Sampling locations of *B. pharaonis* along the Turkish Seas (▲: Present study; ■: Van Aartsen and Kinzelbach 1990; ★: Niederhofer et al. 1991; ▣: Ergen and Çınar 1997; ◆: Kinzelbach 1985; △: Tringali and Villa 1990; ●: Buzzurro and Greppi 1996; □: Çevik and Sarihan 2004; ▼: Çınar 2006)

Rilov et al. (2004) attributed the massive buildup of *B. pharaonis* beds along the Israeli coast to a recent shift in habitat conditions due to the receding biogenic rim of vermetid platforms that allowed more effective washing, reduced sediment accumulation, and reduced perennial algae cover making those platforms more suitable for the mussels. *Brachidontes pharaonis* has spread as far west as Sicily, probably by ship fouling and generated intensive population with over 25000 ind. m⁻² in western part of island (Sarà et al. 2006).

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Annex

Records of *Brachidontes pharaonis* along the Turkish coasts

Location	Geographic coordinates		Record date	Reference
	Latitude, N	Longitude, E		
İskenderun Bay	36°37'	36°07'	1978-1979	Kinzelbach 1985
Anamur	36°47'	28°37'	1983	Kinzelbach 1985
Aydıncık (Mersin)	36°08'	33°19'	-	Tringali and Villa, 1990
İztuzu (Dalyan)	36°47'	28°37'	1987-1989	Van Aartsen and Kinzelbach 1990
Med. Coast of Turkey	-	-	1985-1989	Niederhofer et al. 1991
Taşucu (Mersin)	36°19'	33°52'	1992-1995	Buzzurro and Greppi 1996
Antalya Bay	-	-	1993	Ergen and Çınar 1997
İskenderun Bay	-	-	1995-1998	Çevik and Sarıhan 2004
Meydan Köy	36°00'36"	35°58'34"	12.09.2005	Çınar 2006
Mersin	36°48'00"	34°38'15"	17.09.2005	Çınar 2006
Karaburun Peninsula	38°30'18"	26°23'57"	18.04.2007	Present study