

Touchdown - first record of *Percnon gibbesi* (H. Milne Edwards, 1853) (Crustacea: Decapoda: Grapsidae) from the Levantine coast

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Abstract

Percnon gibbesi (H. Milne Edwards, 1853) is reported for the first time from the southern coast of Turkey in 2005-2006. This grapsid crab is the most invasive decapod species to enter the Mediterranean, it was first recorded in 1999 in the Balearic Islands, Sicily and adjacent islands. Possible vectors for its rapid spread across the Mediterranean include larval transport by surface currents and shipping.

Key words: *Percnon gibbesi*, Grapsidae, Turkey, Mediterranean, invasive, alien species

Introduction

Percnon gibbesi is found over a wide latitudinal and temperature range extending from California to Chile, Florida to Brazil, and Portugal to the Gulf of Guinea (Manning and Holthuis 1981, d'Udekem d'Acoz 1999). The crab was first collected in the Mediterranean Sea in 1999 from the Balearic Islands, and Sicily and its adjacent islands (Relini et al. 2000, Garcia and Reviriego 2000, Mori and Vacchi 2002). Later reports documented its dispersal northwards along the Tyrrhenian coast of Italy, along the Ionian coast of Calabria, recent records from Greece confirm its eastwards spread, and everywhere it has established viable populations within a short time

of its arrival (Pipitone et al. 2001, Mori and Vacchi 2002, Cannicci et al. 2004, Deudero et al. 2005, Cannicci et al. 2006).

An ovigerous specimen of *Percnon gibbesi* (H. Milne Edwards, 1853) (Figure 1) cl 33 mm, cw 28 mm, was collected in Bohcaiskelesi, Kaş-Antalya, Turkey (Figure 2, Annex) on 30 July 2006, at a depth of 5 m, while feeding on an algae-covered boulder. The specimen is deposited at the National Collections, Tel Aviv University (TAU AR 27814). Another specimen was seen nearby, in Heybeliada, Kaş-Antalya, at a depth of 1 m (Figure 2, Annex). However, other specimens of *P. gibbesi* were sighted in Uç Adalar, Tekirova-Antalya, Turkey already in the summer of 2005 (Figure 2, Annex).



Figure 1. *Percnon gibbesi* female specimen, cl 33 mm, Bohcaiskelesi (photo by B.Yokes)

Discussion

The proposed mechanisms for the introduction and spread of *P. gibbesi* in the Mediterranean are larval transport by surface currents (Pipitone et al. 2001), and shipping (Galil et al. 2002). There is little data to support the plausibility of coastal advective transport, beyond the crab's long larval life span (up to 6 weeks, J. Paula, pers. comm.). *Percnon gibbesi* inhabits a narrow subtidal zone (commonly at depths of 1-2 m), and there has been no work on its ability to export larvae over open waters. In any case, circulation must be favorable for such long distance nearshore transport. Along the Levantine coast of Turkey the prevailing current runs westwards, though passive larval drift eastwards is possible when the Asia Minor Current occasionally declines in strength, or reverses locally (I. Gertman, pers. comm.).

Percnon gibbesi is found in shallow rocky habitats where it scampers to safety under boulders and in narrow crevices (Pipitone et al. 2001, Russo and Villani 2005). The "... high affinity of this species for boulders" (Deudero et al. 2005: 155), favours colonization of harbour breakwaters. Enclosed marinas have been shown to increase the chances of transport of alien species that occur in the harbour basin (Floerl and Inglis 2003), and only few ovigerous females may be needed to establish a viable

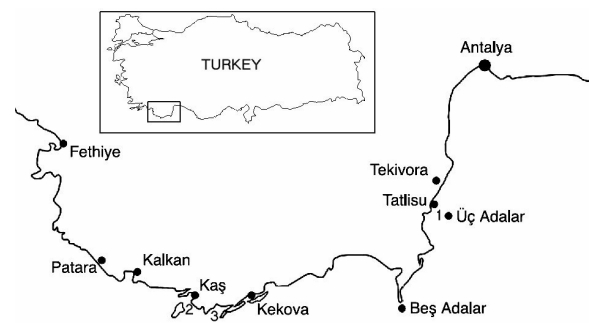


Figure 2. Location of sampling sites, Kaş peninsula, Turkey

population and expand its range. Its life history characteristics, crevicolous habits and preferred habitat position *P. gibbesi* as a likely candidate for successful primary and secondary ship-borne transport (Coutts et al. 2003). The occurrence of *P. gibbesi* in the Balearic Islands, the Sicilian archipelago, Sardinia, the Partenopean Island, the Amalfitan coast, the little frequented island of Antikythira, and lately along the touristic Kaş peninsula and Antalya, possibly points to the role of recreational vessels as vectors.

Molecular data may be needed in order to infer the source population of *P. gibbesi* in the Mediterranean, whether it had been a single introduction or multiple events, and to corroborate the pattern of range expansion.

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Annex

Records of *Percnon gibbesi* along the southern coast of Turkey in 2005-2006*

Map Ref.	Location	Record coordinates		Record date	Collector
		Latitude, °N	Longitude, °E		
1	Uç Adalar, Tekirova-Antalya	36°27.28'	30°32.49'	August 2005	-
2	Heybeliada, Kaş-Antalya	36°09.24'	29°37.35'	17 July 2006	-
3	Bohcaiskelesi, Kaş-Antalya	36°09.12'	29°45.23'	30 July 2006	B. Yokes

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