

## The first record of *Percnon gibbesi* (H. Milne Edwards, 1853) (Crustacea: Decapoda: Plagusiidae) from the southern rim of the Mediterranean

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### Abstract

*Percnon gibbesi* is reported for the first time from Libya. This plagusiid crab is the most invasive decapod species to enter the Mediterranean Sea. It was first recorded in 1999 from the Balears and Sicily and has since spread from Spain to Turkey. This is the first record from the southern rim of the Mediterranean.

**Key words:** *Percnon gibbesi*, Plagusiidae, Libya, Mediterranean, invasive, alien

573 alien marine metazoan species have been recorded in the Mediterranean Sea – in the past two decades on average about 10 alien species new to the Mediterranean are recorded annually (Galil in press). However, only 34 alien species have been reported thus far from Libya, with only a single decapod crustacean – the recently recorded plagusiid\* crab *Plagusia squamosa* (Herbst, 1790) (Zaouali et al. 2007). Most of those aliens are considered to have entered the

Mediterranean through the Suez Canal (Erythrean aliens).

An ovigerous specimen of *Percnon gibbesi* (H. Milne Edwards, 1853) was collected near Al Haniyah (32°50,205'N 21°30,803'E), Jabal Aghdar province, Libya (Figure 1), on 1 September 2004, in very shallow waters, together with 3 males. Two ovigerous females and two additional males (Figure 2) were collected on 29 July 2007 nearby, at a depth of 1-1.5 m. The specimens were retained, measured, preserved and deposited in the zoological collections of Zoology Department, Al-Fatah University, and the Marine Biology Research Centre. Their habitat, in common with previous observations (Deudero et al. 2005), is the shallow subtidal rocky shore (commonly at depths of 1-2 m) exposed to heavy wave action, among boulders and algae (Figure 3).

\* The Plagusiinae Dana, 1851 has long been classified as a subfamily in the Grapsidae MacLeay, 1838, and traditionally composed of the genera *Plagusia* Latreille, 1804 and *Percnon* Gistel, 1848. Recent evidence have suggested that the latter genus has many unique generic apomorphies and therefore was placed by Ng et al (2007) in a separate subfamily, Percninae Števc̆ić, 2005 within the Plagusiidae Dana, 1851



Figure 1. Map of the Mediterranean coast of Libya



Figure 2. *Percnon gibbesi*. Male specimen, collected near Al Haniyah, 29 July 2007 Photograph by H. M. Elkrwe

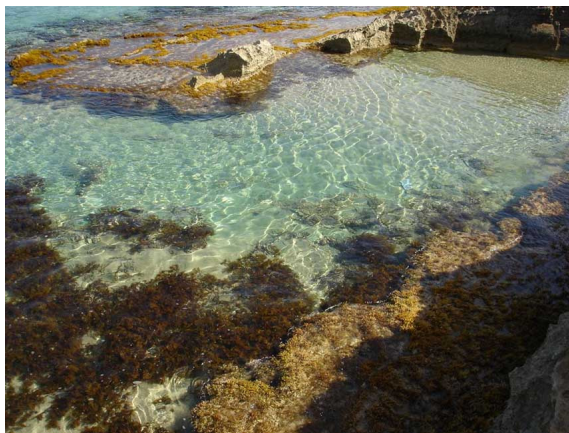


Figure 3. Coastal pool near Al Haniyah, location of the record. Photograph by H. M. Elkrwe

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). It spread northwards and eastwards and by 2005 was recorded from Antalya, Turkey (Pipitone et al. 2001; Cannicci et al. 2004; Cannicci et al. 2006; Yokes and Galil 2006).

Abelló et al. (2003) suggested larvae of *P. gibbesi* have entered the Mediterranean with the Atlantic currents. These currents sweep eastwards along the southern Mediterranean coast. However, recent collections along the Tunisian coast in and near harbours have failed to record it (Ben Souissi et al. 2003, 2004, 2005; Zaouali et al. 2007). Similarly, Pipitone et al. (2001) proposed that the mechanism for the introduction and spread of *P. gibbesi* in the Mediterranean are larval transport by surface currents, yet despite early occurrence and large populations in the nearby Sicilian Archipelago and Malta (Puccio et al. 2006; Sciberras and Schembri 2007), and the crab's long larval life span (up to 6 weeks, J. Paula, pers. comm.), this is the first time it has been recorded along the south-central Mediterranean coastline.

The life history characteristics of *P. gibbesi*, its crevicolous habits and preferred habitat position, its recent records in or near ports and marinas, its very rapid dispersal across the Mediterranean, and its presence in the Balearic Islands, the Sicilian archipelago, Sardinia, the Partenopean Islands, the Amalfitan coast, the little frequented island of Antikythira, and along the touristic Kaş peninsula and Antalya, possibly points to the role of fishing and recreational vessels as vectors.

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