

## The first record of the banana prawn *Fenneropenaeus merguensis* (De Man, 1888) (Crustacea: Decapoda: Penaeidae) from the Mediterranean Sea

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### Abstract

A bilaterally ablated female banana prawn, *Fenneropenaeus merguensis*, collected in the Bay of Iskenderun, southeastern Turkey on 6 October 2006, is likely an escape or an inadvertent release from an aquaculture facility. Because of the high permeability of aquaculture facilities, all introductions should be administered as to avoid unintentional releases or escapes into the wild.

Key words: *Fenneropenaeus merguensis*, Decapoda, Turkey, Mediterranean, aquaculture, alien

An adult female specimen of *Fenneropenaeus merguensis* (De Man, 1888), length of carapace (measured dorsally from the orbital margin to the posterior margin of the carapace) 53 mm, was collected in Iskenderun Bay, Turkey, (between 36°30'75"N, 35°59'70"E and 36°35'03"N, 36°59'77"E) on 6 October, 2006, at a depth of 20-35m, by the fishing boat ERKAN. The specimen was deposited at the National Collections, Tel Aviv University, Israel (TAU AR-27825).

Eight species of alien penaeid prawns occur in the Levant Basin, eastern Mediterranean, all of them known from the Turkish coast: *Marsupenaeus japonicus* (Bate, 1888), *Metapenaeus monoceros* (Fabricius, 1798), *Penaeus semisulcatus* de Haan, 1844, *Melicertus hathor* (Burkenroad, 1959), *Metapenaeopsis aegyptia* Galil, 1990, *Metapenaeopsis moigensis consobrina* (Nobili, 1904), *Metapenaeus*

*stebbingi* (Nobili, 1904), and *Trachysalambria palaestinensis* (Steinitz, 1932). The first three species are highly prized and compose most of the prawn catch from the coast of Egypt and the Nile delta lagoons (Dowidar and Ramadan 1976, Bishara 1976), the Israeli coast (Pisanty and Grofit 1991, Galil 1993, Snovsky and Shapiro 1999), as well as the Bay of Iskenderun, Turkey (B. Yokes, pers. com.). However, that boon came at the expense of the native penaeid prawn, *Melicertus kerathurus* (Forskål, 1775). Geldiay and Kocatas (1972) reported that off the southern coast of Turkey the native prawn had been replaced by *M. japonicus* in fisheries catches. All the alien penaeids had entered the Mediterranean through the Suez Canal. Indeed, all but one (*M. aegyptia*), had been collected from the Canal. *Fenneropenaeus merguensis* (Figure 1) is distinguished from the other alien penaeid prawns in the Mediterranean in its distinctive

color pattern, and by the following combination of characters: high rostral crest, rostrum armed with 6-7 dorsal teeth, 3-5 ventral teeth; adrostral carina short of the epigastric tooth; sixth abdominal somite bearing three cicatrices; telson unarmed; thelycum closed, lateral plates rounded, meeting along midline.

*Fenneropenaeus merguensis* occurs in the Indo-West Pacific Ocean, from the Persian Gulf and the Arabian Sea, to New Guinea, Australia, New Caledonia and Fiji (Pérez Farfante and Kensley 1997). The species is “commercially of major importance in the Persian Gulf and in Pakistan” (Longhurst 1970, Holthuis 1980: 43), where it is commonly captured on muddy and sandy bottoms, mostly at depths of 10-45 m (Siddeek et al. 1999). The global farm production of *F. merguensis* was 219,309 tons in 1999 (Hoang 2001): it is raised in extensive ponds in southeast Asia, and in semi-extensive ponds in Australia, Thailand, Indonesia, and elsewhere (Gundermann and Popper 1975, Holthuis 1980). Because unilateral and bilateral eyestalk ablation is commonly used in aquaculture for inducing maturation of gonads, there is no doubt that the bilaterally ablated mature female specimen collected in the Bay of Iskenderun escaped or was inadvertently released from a nearby aquaculture facility.

Market-driven demands for alien fish and shellfish are on the rise with the increasing affluence of Mediterranean countries. This, coupled with the crisis in wild fisheries, has created a surge in development of marine aquaculture (mariculture) farming along the shores of the Mediterranean in the last twenty years. Two commercially-important shellfish, *Crassostrea gigas* and *Ruditapes philippinarum*, were intentionally introduced to the Mediterranean in the 1960s and 1970s, respectively, and are implicated in the arrival of scores of alien species (Ribera Siguan 2002, Occhipinti-Ambrogi 2002). Because of the high permeability of aquaculture facilities, all introductions for the purpose of aquaculture should be regarded and administered as possible, even probable, introductions into the wild. To reduce environmental and other risks, the responsible ministries and the aquaculture industry need to pursue management practices that prevent escapes and reduce the number of inadvertent releases. Proper decision protocols,



**Figure 1.** *Fenneropenaeus merguensis* (De Man, 1888), female, 53 mm, Iskenderun Bay, Turkey (TAU AR-27825), lateral view (photo by Tahir Özcan)

containment, contingency planning, and end-user education are proactive means of coping with potentially invasive species (ICES 2005, Hewitt et al. 2006).

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