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SHORT COMMUNICATION **KISA ARAŞTIRMA**

On the occurrence of *Eucrate crenata* (De Haan, 1835) (Crustacea, Decapoda) in the Aegean Sea

Eucrate crenata (De Haan, 1835) (Crustacea, Decapoda)'nın Ege Denizi'nde bulunması

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Abstract: *Eucrate crenata* that is a lessepsian species, is expanding its distribution area in the eastern Mediterranean. Several individuals of the species caught with the nets of fishermen were obtained. This species has been reported in the past from the Levantine coast of Turkey and this study provides information on the established population of this species in the İzmir Bay on the Aegean Sea coast. In addition, the color variations and morphological differences of this species were compared with previous studies.

Keywords: *Eucrate crenata*, alien species, Aegean Sea, Turkey

Öz: Bir lesepsiyen tür olan *Eucrate crenata*, doğu Akdeniz'deki dağılım alanını genişletmektedir. Balıkçıların ağlarına yakalanan türe ait bazı bireyler elde edilmiştir. tür, önceden Türkiye'nin Levanten kıyılarından bildirilmiş olup, bu çalışma türün İzmir Körfezi (doğu Ege Denizi) kayıtı üzerinedir. Ayrıca, türün renk çeşitliliği ve morfolojik farklılıkları önceki çalışmalar ile karşılaştırılmıştır.

Anahtar kelimeler: *Eucrate crenata*, egzotik tür, Ege Denizi, Türkiye

INTRODUCTION

The indo-pacific originated euryplacid crab, *Eucrate crenata* (De Haan, 1835) which penetrated to the Mediterranean via the Suez Canal was first reported by Calman (1927) and Balss (1936) from Port Said and Alexandria (Egypt). Its second report as a decayed male individual was given on the coast near Mersin, Turkey about half a century after this discovery (Enzenross and Enzenross, 1987). Later, live individuals were caught by means of fishing nets in Karataş, Adana (Enzenrou et al., 1992). In the same year, *E. crenata* was found by Zaouali (1992) in various areas of the Gulf of Gabes (Tunisia). So *E. crenata* spreaded to both the north and the east after it reached the Egyptian coast. Then, hundreds of individuals were presented as the first record on the Israel coast in 1994 (Galil, 1997). Nowadays, It seems that, this species established successfully populations between the area from Tunisia to the Levantine coasts.

MATERIAL AND METHOD

The individuals were collected from the trammel nets of local fishermen in the Gediz Estuary. The nets were laid on sandy mud bottoms covered with photophilic algae, *Ulva* sp. and *Gracilaria* sp. at the depths of 2-4 meters in the Gediz Estuary (Figure 1A).

Figure 1. A: The sampling points in Doğan et al. (2016) and present study in İzmir Bay; **B:** The sampling points of Enzenross and Enzenross (1987) and Enzenrou et al. (1992) on the Levantine coast of Turkey.

RESULTS AND DISCUSSION

An unusual crab species was found that did not appear in the area earlier. It was observed in local fishing nets. As a result of the study , the presence of the *Eucrate crenata* in the area is new. Besides, the individuals identified as *Eurycarcinus integrifrons* De Man, 1879 by Doğan et al. (2016) in the İzmir Bay actually belong to this species (Figure 1A). *E. crenata* was previously found from the Levantine coast of Turkey by Enzenross and Enzenross (1987) and Enzenrou et al. (1992) (Figure 1B).

The color of this species is described as uncountable small red dots covering the creamy white body surface and is characterized by two distinct red flecks or spots on the carapace in many literatures (Enzenross and Enzenross, 1987; Galil, 1997) (Figure 2A-C). On the other hand, several individuals captured from Levantine coast of Turkey were identified with pale gray carapace and red dots on it (Enzenrou et al., 1992). It has also been noted that two typical red flecks on the carapace are always found in the study conducted on the Tunisian coast. The color of the body can be changed according to the light or dark ground tones depending on the habitat and the small dots of the carapace can sometimes be too weak (Enzenross and Enzenross, 2000). It was mentioned that In a revision

study, the availability of two red flecks on the carapace may not be accurate. In addition, a male individual with no flecks was given among the photographs of the *E. crenata* (Castro and Ng, 2010).

Zaouali (1992) reported that the population in the areas polluted of Gabes Gulf were well adapted to the silty bottoms of 10 to 22 meters. Enzenross and Enzenross (2000) emphasize that the bottom structure on the Tunisian coast where this species have been found is mud and partially heavily silted with plants and detritus. *E. crenata* may be obtained on sandy bottoms from the intertidal zone up to 35 meters deep on the Israeli coast and on sandy bottoms covered with mud and photophilic algae, *Caulerpa* sp. in shallower than 50 meters deep on the Egyptian coast (Ramadan and Dowidar, 1972; Galil, 1997). In the present study, *E. crenata* was collectedon soft substratum with some algal patches suh as *Ulva* sp., *Gracilaria* sp. between the depths of 2-4 meters in the Gediz Estuary.

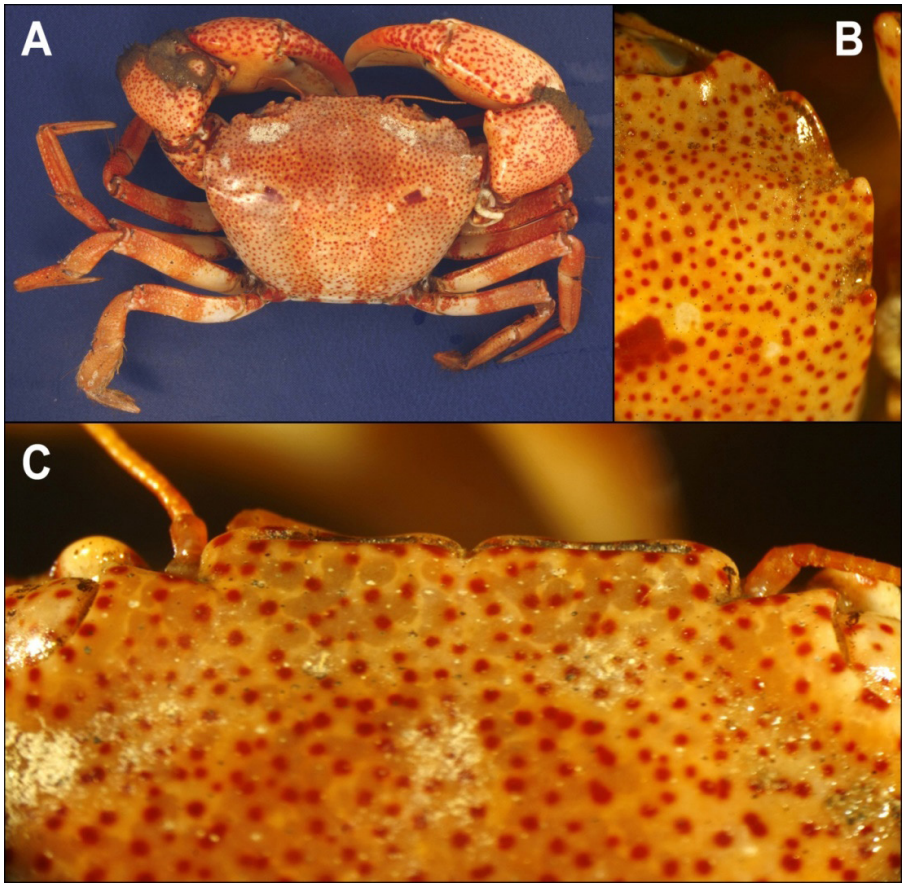

Figure 2. Male specimen of *Eucrate crenata* (De Haan, 1835) with carapace width of 26 mm.
(**A:** dorsal view of body, **B:** antero-lateral margin of the carapace, C: Anterior margin of the carapace).

There ara several morphologically differences. The Individuals collected from the Tunisian coast were larger and more compact, cheliped of males were more powerful than those in Levantine coast of Turkey in general (Enzenross and Enzenross, 2000). Although 2 distinct red dots on the carapace of the specimens collected in the study can not be distinguished in photograph given because of its grayscale view, it is seen that the antero-lateral edges are rounded and have 3 teeth. These teeth are blunt and the tooth in the middle is more distinctive than the others (Enzenross and Enzenross, 2000). The specimens caught in the Gediz Estuary had also 3 teeth in this way, however, the tooth in the middle forms a slight corner by breaking the roundness of the antero-lateral margin (Figure 2B).

Although *E. crenata* is represented by several individuals in the study, it is frequently observed in the nets of fishermen in Gediz Estuary and İzmir Bay. This species is more likely to be transported to the region by sea transport. As a result, we can say that *E. crenata* is establihed a constant population in İzmir Bay.

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