

Rapid Communication**First record of the Atlantic blue crab *Callinectes sapidus* Rathbun, 1896 (Decapoda: Brachyura: Portunidae) in Algerian coastal waters (southwestern Mediterranean)**Mouloud Benabdi^{1,2,*}, Alae Eddine Belmahi¹ and Samir Grimes³¹Laboratoire Réseau de Surveillance Environnementale, Université d'Oran 1 Ahmed Ben Bella, Oran, Algeria²Abyss Environmental Services, 33, plage la fontaine, Alger, 16000, Algeria³Laboratoire de la Conservation et de la Valorisation des Ressources Vivantes, Equipe de Recherche Interaction Milieu - Biodiversité Marine, Ecole Nationale Supérieure des Sciences de la Mer et de l'Aménagement du Littoral, Campus Universitaire de Dely Brahim, Bois des Cars 16320, Alger, AlgeriaAuthor e-mails: benabdi@gmail.com (MB), aladin81dz@hotmail.com (AB), samirgrimes@yahoo.fr (SG)

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Received: 12 October 2018**Accepted:** 25 November 2018**Published:** 14 December 2018**Handling editor:** Fabio Crocetta**Copyright:** © Benabdi et al.This is an open access article distributed under terms of the Creative Commons Attribution License ([Attribution 4.0 International - CC BY 4.0](https://creativecommons.org/licenses/by/4.0/)).**OPEN ACCESS****Abstract**

A single specimen of the invasive American blue crab *Callinectes sapidus* was captured at a depth between 0.5 and 1 m, by a fisherman in August 2018, near the estuary of the Oued Z'hor, in the eastern part of the Algerian coast. This report represents the first record of this species from Algerian coastal waters. *Callinectes sapidus* has widely invaded European Atlantic coasts and several areas of the Mediterranean, probably through ballast waters. However, information is still insufficient to ascertain the origin and mode of introduction of this species into the Algerian coast.

Key words: Blue crab, invasive species, Algeria, southwestern Mediterranean**Introduction**

The blue crab *Callinectes sapidus* Rathbun, 1896 is a species originating from the western Atlantic coasts, between Nova Scotia in Canada down to northern Argentina, including Bermuda and the Antilles (Williams 1974). In the twentieth century, the species has been reported from the eastern Atlantic (North Sea to Portugal), Baltic Sea, and Mediterranean Sea (Galil et al. 2008; Nehring 2011; Suaria et al. 2017). It has also been reported in the Pacific Ocean, where it colonized Japan since 1975 and Hawaii since 1985 (Eldredge 1995). Transport through ballast waters is considered the most probable introduction vector (Nehring 2011). The first record in European waters refers to the Atlantic coast of France (Bouvier 1901). In the Mediterranean, *Callinectes sapidus* was first recorded in the Northern Adriatic Sea (Giordani Soika 1951). Subsequently, the species has been widely recorded in the Mediterranean Sea, especially in its eastern basin (Galil et al. 2002, 2008; Nehring 2011) and is currently widespread in the Mediterranean and in the Black Sea (Mancinelli et al. 2017; Suaria et al. 2017).

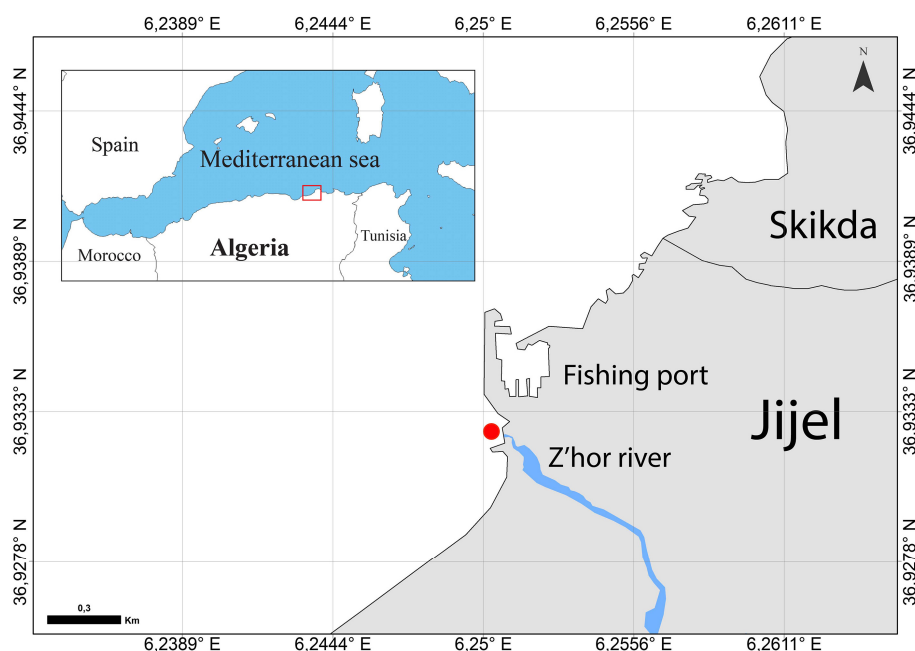


Figure 1. Location of the new record of *Callinectes sapidus* at Oued Z'hor, Algeria (western Mediterranean).

This species is recognized as an Invasive Alien Species (Streftaris and Zenetos 2006; Mancinelli et al. 2016) and was selected as one of the 100 “worst invasive” species in the Mediterranean (Streftaris and Zenetos 2006), and one of the 87 species in Europe with documented high impact on ecosystem services or biodiversity (Katsanevakis et al. 2014).

Callinectes sapidus inhabits estuaries, lagoons, and other coastal habitats, is euryhaline and eurythermal, and is characterized by a high fecundity and aggressive behaviour (Millikin and Williams 1984). Adverse interactions with other native crustacean species have been repeatedly suggested (Gennaio et al. 2006; Mancinelli et al. 2013) and some negative effects on artisanal fishing activities have been episodically reported (Nehring 2011).

Callinectes sapidus is starting to become commercially important in southern European shellfish trade (Ribeiro and Verissimo 2014), and dedicated fishery is increasing in Eastern Mediterranean countries as Turkey (Ayas and Ozogul 2011), Greece (Kevrekidis et al. 2013), and Egypt (Fatma et al. 2016).

The present paper reports the first occurrence of *C. sapidus* in the Algerian coastal water (southwestern Mediterranean).

Materials

A single adult *Callinectes sapidus* was caught on 26 August 2018, using a hawk net in the beach at a depth between 0.5 and 1 m near the estuary of Oued Z'hor, Algeria (36.932173°N; 6.250761°E) (Figure 1). The specimen was photographed but not preserved (Figure 2). The identification of the crabs was based on carapace morphology and the coloration pattern according to Williams (1974).



Figure 2. *Callinectes sapidus* specimen collected at Oued Z'hor Algeria between 0.5 and 1m depth (photography by Achour Benmahdi).

Results and discussion

The specimen of *Callinectes sapidus* had a carapace length of 63 mm and a carapace width of 146 mm (including the 9th lateral spines). The dorsal carapace surface was brownish-green, with white spots scattered mostly in its anterior portion. This specimen represents the first occurrence of *Callinectes sapidus* off the Algerian coast and the second in the southern coast of the West Mediterranean after the report by Chartosia et al. (2018) for Marchica lagoon (Morocco). The overall Mediterranean records revealed that the species is now confirmed in 17 out of 23 countries surrounding the Mediterranean Sea. The proximity of Oued Z'hor to three important commercial and petroleum ports (Skikda, Djendjen and Annaba) may explain this first sighting of *Callinectes sapidus* on the Algerian coast. To confirm this hypothesis, a large exploration of suitable environments along Algerian coasts is needed to understand the actual distribution and the invasion success of this species. It is also important to implement ballast water management practices recommended by Perdikaris et al. (2016) because of the existence of numerous ports with the capacity to serve ships with ballast tanks in close proximity of invulnerable ecosystems.

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