



First record of the blue mussel *Mytilus edulis* (Linnaeus, 1758) in Shatt Al-Arab River, Basrah, Iraq

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Abstract. The mussel *Mytilus edulis* is considered an euryhaline marine and estuarine mollusc that lives in a wide range of salinity. During 2018, the salt wedge progressed towards fresh water in Shatt Al-Arab river and reached the regions of north of Basrah province which led to the entrance of many marine species that are able to adapt and live in this new environment. *M. edulis* was first recorded in Shatt Al-Arab river at Hareer and Al-Garmah regions, where the salinity was 2.73 and 3.95ppt respectively, and the dissolved oxygen was 12.5 and 11.7, respectively during the sampling period. The maximum length of the shell from the beak to the anterior end of the valves was 4cm, and the colors ranged from brown to pale yellowish.

Key Words: Bivalvia, euryhaline, Mytilidae, shells.

Introduction. The Family Mytilidae is considered one of the ancient mussel that date back to the Devonian era. It is an edible mussel that has been collected for food for centuries, especially in Europe. It has a wide distribution and grows on all hard beaches in Europe, as well as in the North Waters of the western Atlantic and Pacific oceans (Moore 1983). Bivalve include mussels of more than 20 genera (Soot-Ryen 1955). It has genera of commercial importance such as *Perna*, *Aulocomya*, *Chloromytilus*, *Musculus* and *Mytilus* that dominate global production (Lutz et al 1991). The *Mytilus* species had been an important subject of study for a long time, because of their wide geographical distribution and its environmental role (McLeod 2002). Mussels are consumed by people most of the time due to their palatable taste and flavor. It has been bred in large fisheries, especially in Europe (Prou & Gouilletquer 2002). Mussels are ideally suited for aquaculture because they are highly tolerant to environmental conditions, low position in the food chain and consume natural primary production, exhibit high fertility and high productivity, grow at high densities (Asmus 1987), and form the basis of complex dynamic populations by increasing habitat heterogeneity, biodegradation and modifying environmental processes (Norling & Kautsky 2007). Bivalve molluscs belonging to the genus *Mytilus* are distributed worldwide and are widely used as model organisms in numerous agricultural studies: more than 20 countries have reported regular harvests of farmed mussels, but global production is dominated by two countries, China and Spain (Hickman 1992).

Many studies were conducted in the Arabian Gulf, including the study of the accumulation of hydrocarbons in three types of organisms, including the mussel *M. edulis* (Bayat et al 2019). It was also mentioned in the Coastal and Marine Ecological Classification Standard (CMECS) for the Qeshm Island area located the Hormouz Strait in the intertidal zone along the coast with a length of 122 km (Ansari et al 2014).

The mussel belongs to the Mollusca phylum, Bivalvia class, Mytilida order, Mytilidae family, *Mytilus* genus, and the species binomial name is *Mytilus edulis* Linnaeus, 1758.