

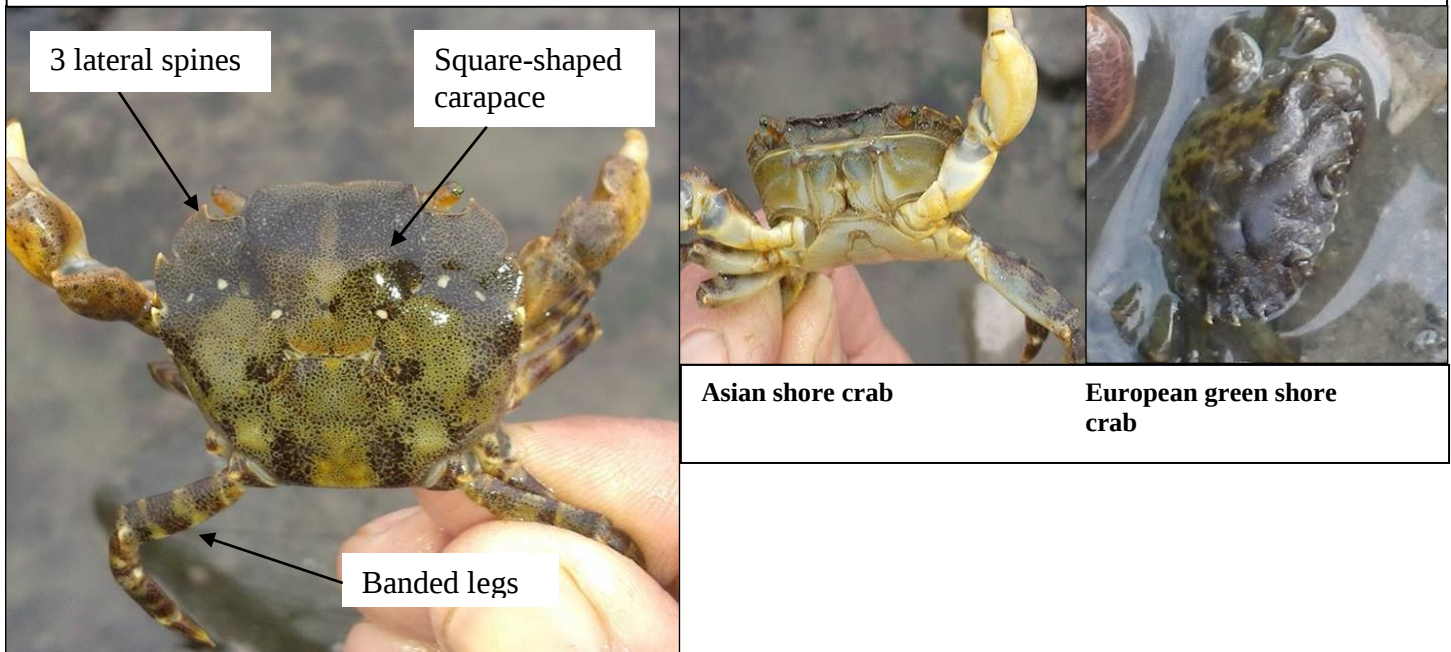
Asian shore crab *Hemigrapsus sanguineus*

Species Summary

Scientific name: *Hemigrapsus sanguineus*

Native to: Western Pacific Ocean from Russia, along the Korean and Chinese coasts, to Hong Kong, and the Japanese archipelago

Habitat: Inhabits shallow hard-bottom intertidal or sometimes subtidal habitat. They tend to aggregate at high densities under rocks where they overlap habitats with native crab species. The Asian crab can tolerate wide ranges of salinity and temperature as well as damp conditions in the upper intertidal regions.



Key ID Features

- 3 lateral spines on each side of a square-shaped carapace.
- Light and dark bands on legs with red spots on the claws.
- Colour variable: commonly orange-brown, also green and maroon.
- Larger males have fleshy bulb at base of pincers.
- The species is small with adults ranging from 35 mm (1.5 inches) to 42 mm (1.65 inches) in carapace width.
- The maximum size reported for the carapace width is 43.9 mm.
- Males have a fleshy swelling (vesicle) at the base of the dactylus of the cheliped.

Species Characteristics

This species is an opportunistic omnivore, feeding on macroalgae, saltmarsh grass, larval and juvenile fish, and small invertebrates such as amphipods and gastropods. The Asian shore crab is highly reproductive with a breeding season from May to September. The females are capable of producing 50,000 eggs per clutch with 3-4 clutches per season. The larvae are suspended in the water for approximately one month before developing into juvenile crabs. Because of this, the larvae have the ability to be transported over great distances, a possible means of new introductions.

The carapace of the Asian shore crab can be confused with that of the European green / shore crab.



Distribution

Worldwide distribution

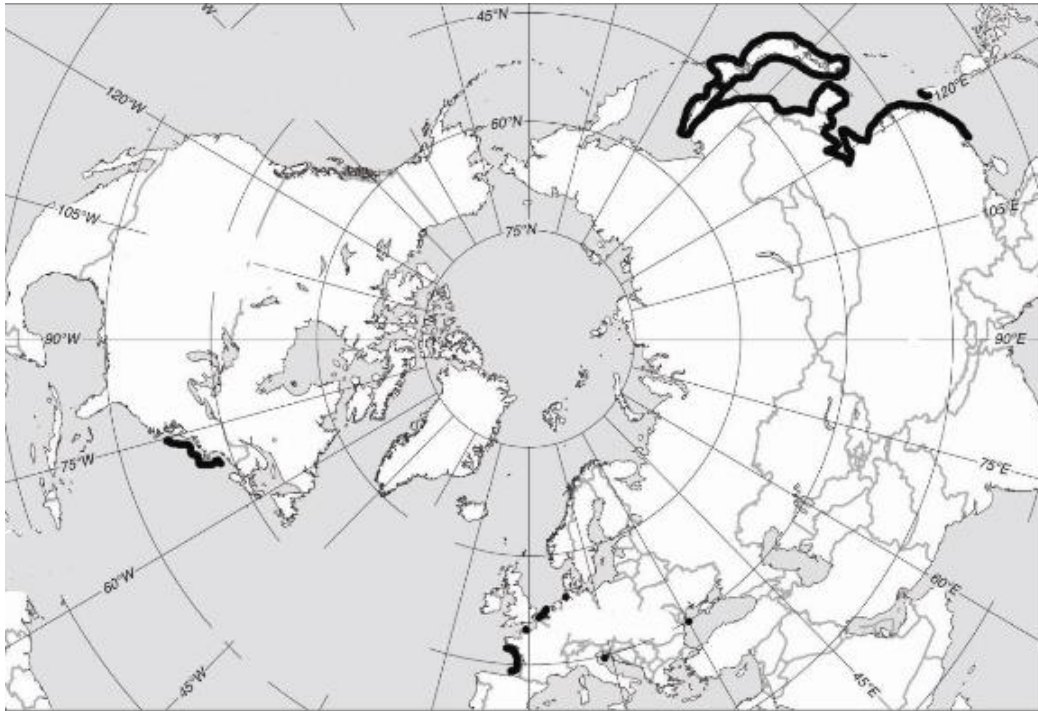
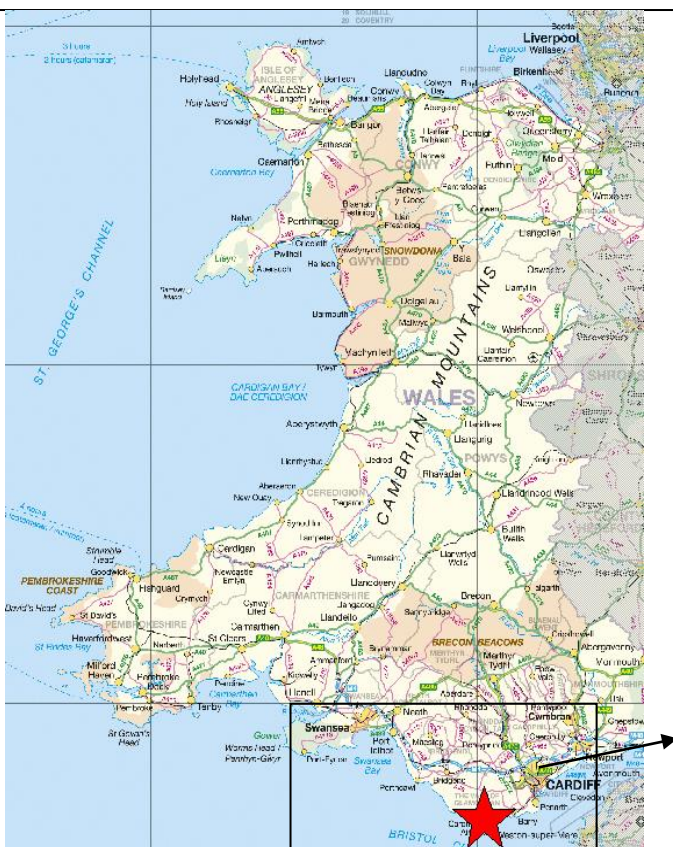


Figure taken from Klassen G (2012). Worldwide distribution of *Hemigrapsus sanguineus* before the record in Wales was found.

The map shows no record of *Hemigrapsus sanguineus* in the UK. The Asian shore crab is native to the western Pacific Ocean from Russia, along the Korean and Chinese coasts to Hong Kong, and the Japanese archipelago. The latitudinal native range in the north-western Pacific is approximately 22°N to 50°N.



Distribution in Wales – First UK record

Non-native Asian crabs have established reproducing populations on the north-western and north-eastern shores of the Atlantic Ocean. Inoculations (but no evidence of establishment) have also been reported for the Black Sea and the northern Adriatic Sea.

The first sighting in the UK was on the shore in front of the power station near Barry, Vale of Glamorgan on 2nd May 2014 by 2 independent observations.



Impacts

Hemigrapsus sanguineus can potentially cause significant changes in the inshore marine and estuarine environments. Predation by *H. sanguineus* on several species important to the structure of rocky intertidal communities provides the strongest evidence to date that *H. sanguineus* has the potential for significant ecological impact in its introduced range. It is considered invasive because it is able to achieve extremely high densities, with apparent negative impacts on small recruits and juveniles of several native species (barnacles, littorinid snails, brachyuran crabs, rocky shore bivalves).

The intertidal distribution of this species overlaps with that of juvenile common shore crab, *Carcinus maenas*. *C. maenas* has become uncommon under rocks in some areas since the arrival of the Asian shore crab. It is debatable whether there is evidence that *H. sanguineus* is negatively impacting on native crabs. Laboratory studies have shown that *H. sanguineus* readily consumes three species of commercial bivalves including blue mussels, *Mytilus edulis*, soft-shell clams, *Mya arenaria*, and oysters *Crassostrea virginica*. According to Colbath (2013), "recent trends show numbers of Asian shore crab are steadily increasing while native crab populations are declining" (Richerson 2006). The Asian shore crab is becoming the dominant species in many intertidal ecosystems on the NE coast of North America, due to the suitability of the habitat and competitiveness with other crabs. The Asian shore crab has the potential to "bring other crabs to extinction" (Colbath 2013).

Recording

As this species has only been recently found in the UK a high level of vigilance is important. Therefore for identification assistance and for reporting a sighting go to:

Non-native Species Secretariat: nnss@fera.gsi.gov.uk.

Marine Biological Association: <http://www.mba.ac.uk/recording/>

If possible, take photos of this species and forward them with the observation.

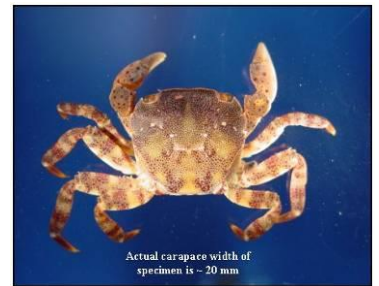


Image taken from USGS Science Center for Coastal and Marine Geology

Potential management

Preventative measures: Ballast water management is being researched to reduce or eradicate new introductions from occurring. Scientists are monitoring changes in native species, tracking the shore crab's spread along the US Atlantic coastline, and conducting experiments to increase their knowledge of basic biology and ecology of this species (Benson, 2005).

No successful eradications of this species have been completed but future management measures such as the ballast water management above are being implemented.

References and further reading

Benson, A. 2005. Nonindigenous Species Information Bulletin: Asian shore crab, Japanese shore crab, Pacific crab, *Hemigrapsus sanguineus* (De Haan) (Arthropoda: Grapsidae). USGS-FISC: Center for Aquatic Resource Studies.

Colbath R (2013) Invasion of the Asian shore crab: Its effect on the local ecosystem

<http://prezi.com/7y0hzxh8s4cw/invasion-of-the-asian-shore-crab-its-effect-on-the-local-ecosystem/>

Invasive Species Compendium: <http://www.cabi.org/isc/datasheet/107738>

Klassen G (2012) Biological synopsis of the Asian shore crab, *Hemigrapsus sanguineus*. Fisheries and Oceans Canada

Richerson, M.M. 2014. *Hemigrapsus sanguineus*. USGS Non-indigenous Aquatic Species Database, Gainesville, FL.

<http://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=183>

Revision Date: 4/6/2006

USGS Science Center for Coastal and Marine Geology

http://fl.biology.usgs.gov/Nonindigenous_Species/Asian_shore_crab/asian_shore_crab.html