Asian shore crab, *Hemigrapsus sanguineus*

**Overview**

Short description of *Hemigrapsus sanguineus*, Asian shore crab

A small crab with a square carapace (shell) up to 4.5 cm, variable in colour from orange-brown to greenish-black. Three distinct 'teeth' on each side of the carapace and banding on the walking legs are distinguishing features, as is a fleshy bulb at the pincer base of larger males. The teeth on the carapace are more acute than those of *H. takanoi* a closely related species.

Description of *Hemigrapsus sanguineus*, Asian shore crab status in GB

First recorded in South Wales and Herne Bay, Kent in spring 2014. Specimens have been reported from Jersey and Guernsey since 2009.

Habitat summary: *Hemigrapsus sanguineus*, Asian shore crab

The Asian shore crab inhabits estuarine and marine habitats and occurs within the intertidal or shallow subtidal zones. It is typically found on more exposed rocky shores but also occurs in soft sediments under the shelter of rocks or shells, artificial structures, mussel beds and oyster reefs.

**Overview table**

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<th>Environment:</th>
<th>Marine</th>
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<tr>
<td>Species status:</td>
<td>Non-Native</td>
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<td>Native range:</td>
<td>Northwestern Pacific</td>
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<td>Functional type:</td>
<td>Predator</td>
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<td>Status in England:</td>
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<td>Status in Scotland:</td>
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<td>Status in Wales:</td>
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<td>Location of first record:</td>
<td>Barry South Wales</td>
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**Invasion history:** *Hemigrapsus sanguineus*, Asian shore crab

**Origin**

The Asian shore crab is native to the western Pacific Ocean from Russia along the Korean and Chinese coasts to Japan. It is one of the most common crabs found intertidally along the Japanese shoreline.

**First Record**

The Asian shore crab was first recorded in the British Isles on the north-west coast of Guernsey in April 2000; since then several more specimens have been positively identified on various shores in Guernsey and Jersey.

In April and May 2014, specimens were found on the coast of South Wales (1 individual) and Kent (3 individuals).

**Pathway and Method**

Asian shore crab larvae are thought to have been introduced to European waters through discharge of ships’ ballast water. The Asian shore crab has since extended its range through natural larval dispersal by water currents. It is unclear how it reached the Channel Islands, but given the proximity of the abundant populations on the French coast, natural larval dispersal, hull fouling and association with oyster transportation are possibilities. Pathway to GB mainland is unclear, natural dispersal to South Wales from known populations is unlikely.

**Species Status**

Since initial reports of the Asian shore crab in New Jersey in 1988, its spread has been rapid along the east coast of the USA, covering over 1500 km from North Carolina to Maine. Asian shore crab densities in rocky intertidal habitats are now extremely high and usually exceed those of the previously dominant green crab *Carcinus maenas*. In France the Asian shore crab was first recorded in 1994 at La Rochelle, and is now present along an 1100 km stretch of the Atlantic coast from France to Germany, occurring abundantly in many areas. Given the Asian shore crab’s relatively long planktonic
Ecology & Habitat: Hemigrapsus sanguineus, Asian shore crab

Dispersal Mechanisms
Asian shore crab larvae spend between 16 and 55 days in the water column before developing into juvenile crabs, during which time they may be transported considerable distances by currents. Larvae may also be transported in ships’ ballast water, being released into harbours or bays.

Reproduction
Females typically copulate several times during the mating season and can store sperm to fertilize more than one brood. They can produce up to 50,000 eggs several times during the spawning season and produce two broods within 40 days. Once hatched larvae are planktonic for up to one month, and growth and maturation are rapid, with juveniles reaching a mean carapace width of 20 mm within two years. The reproductive period may be longer than that of native crabs, and this combined with such high fecundity may contribute to the species’ invasive success.

Known Predators/Herbivores
Little is known about the Asian shore crab’s role as prey for native species, but it is likely that potential predators would include certain fishes, shore birds and other crabs.

Resistant Stages
None known.

Habitat Occupied in GB
Limited records from rock pools on the lower shore in Guernsey and Jersey since 2009. Specimens have been found in mid-upper shore rocky substrates similar to those already occupied on the European continent. Suitable habitats are, widespread throughout GB coastal waters.

Distribution: Hemigrapsus sanguineus, Asian shore crab
Native to the western Pacific Ocean from Russia along the Korean and Chinese coasts and Japanese archipelago. In GB, individuals have been recorded in South Wales and Kent (England). The species has been found in Guernsey and Jersey since 2009.

Impacts: Hemigrapsus sanguineus, Asian shore crab
Environmental Impact
Significant reductions in common shore crab abundance and mussel density have been reported where the Asian shore crab has achieved high densities in mainland Europe, and similar effects across the broader community may be expected. Common shore crab is also reported to have been displaced by the Asian shore crab in rocky shore habitats in several places in North America, including New England and New Jersey. Recruits and juveniles of other invertebrates including snails, barnacles and polychaetes may also be threatened due to increased predation.

Health and Social Impact
None known.

Economic Impact
It has been suggested that Asian shore crabs could pose a threat to mussel and oyster growing operations. Potential competition with species of economic value which spend their juvenile phase in the intertidal zone, including the edible crab Cancer pagurus may also present a concern.

References & Links: Hemigrapsus sanguineus, Asian shore crab

Identification

Biology, ecology, spread, vectors


Management and impact

General


Seeley, B; Sewell, J; Clark, PF. 2015 First GB records of the invasive Asian shore crab, Hemigrapsus sanguineus from Glamorgan, Wales and Kent, England.. Marine Biodiversity Records, 8 (102)