

The Common Shore Crab

The Common Shore Crab (*Carcinus maenas* (L.)) may be found on all coasts around the British Isles, on rocky, sandy and muddy shores including estuaries and subtidally down to 200m. It is a decapod crustacean, having 10 appendages including two pincers (chelae). The head and thorax are fused to form a cephalothorax and the abdomen is reduced. The main body is protected by a hard shell known as a carapace. Its geographical distribution extends southwards to Morocco and north to the Faeroes and Iceland.



Life History

Information that exists has been mainly obtained from rocky open coast situations. Copulation is thought to occur between July and September and females must be soft shelled, having just moulted. Females with eggs attached to the abdominal segments are known as 'in berry' and are found occasionally on the shore between January and April. The eggs hatch in to planktonic larval phases, the first being known as Zoea. Zoea larvae occur between April and June and moult three times before becoming a Megalopa. These occur between June and July. In the literature studied, settlement is presumed to occur between July and August, however data obtained from the Medina Estuary in 1997, which was a warm year, suggested that it began earlier during May and June. Elsewhere there are records of berried females present during late spring and August, which may account for some observations of a light winter settlement. Factors which are known to affect breeding are temperature and salinity. At a salinity of 26ppt (close to mean salinity at Medina Valley Centre), eggs will only develop above a water temperature of 10°C, which is usually reached by April. In UK waters crabs live up to about 4 years and are both predatory on other invertebrates and scavengers, feeding on carrion and detritus.

Feeding and Adaptation

At distance, potential prey is detected using antennae. When close, funnel canals on the tips of the legs and chelae respond quickly to the touch of any food substance and the crab jumps on its prey. The crab tears the prey with its chelae, or if absent the maxillipeds. The other eight appendages are walking legs which also enable the crab to burrow in soft sediment. Crabs are able to cast off appendages voluntarily by muscular action, a process known as autotomy. This may enable the trapped crab to escape a predator or rock. Providing the crab is not fully grown i.e. is still moulting, limbs may regenerate.

Gaseous Exchange

Crabs have nine pairs of gills. The openings of the gill chambers are at the bases of each walking leg, a larger hole at the base of each chela (called the Milne-Edwards opening) and through the mouth. Water is drawn into the crab via these openings and flows over the gills and out through the mouth.

References

- Crothers, J.H. (1967) The Biology of the Shore Crab *Carcinus maenas* (L.). *Field Studies* 2, No. 4 :407-434.
- Crothers, J.H. (1968) The Biology of the Shore Crab *Carcinus maenas* (L.). The life of the adults crab. *Field Studies* 2, No. 5 : 579-614.