

When the concentration of the external medium increases, the water stored in the parenchymal cells moves out by exosmosis.

### Osmoregulation in Crustaceans

Crustaceans are aquatic arthropods.

They are marine or freshwater animals.

They are homeostatic animals because they maintain a constant concentration of their body fluid.

They are osmotically stable because they maintain a stable medium.

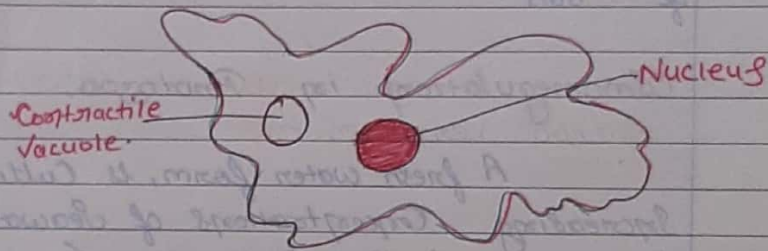


Fig:- Amoeba has Contractile vacuole to pump out excess water.

They are euryhaline animals. They can tolerate wide changes in salinity.

eg:- Astacus, Antenna palina, Cancer, etc.

### Astacus:-

It is a freshwater crayfish (Crustacean). The fresh water is hypotonic and the body fluid is hypertonic.

The excess water is removed by the green glands in the form of urine.

The salt loss is made good by absorption of salts from the surrounding water by the chloride cells present in the gills.

The cells of the green glands also have the capacity to reabsorb salts from the urine.

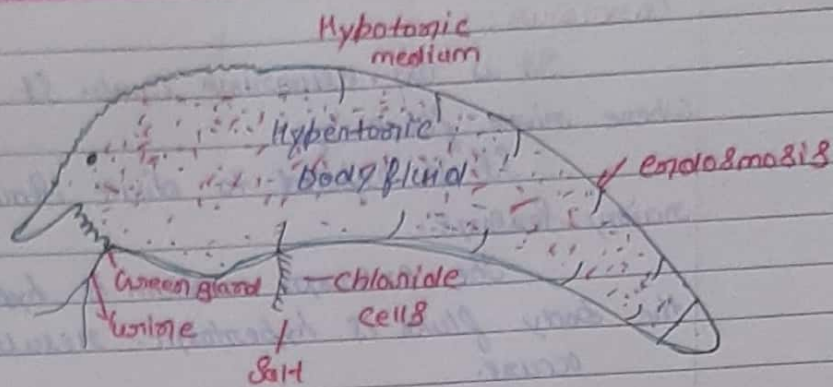


Fig:- Osmoregulation in Astacus.

### Artemia Salina:-

It is also called brine shrimp.

This crustacean lives in brackish water where the salt concentration is higher than that of sea water.

The external medium is hypertonic and the body fluid is hypotonic.

The animal loses water by exosmosis.

The excess of salt is secreted by special kind of cells present in the gills called chloride secretory cells.

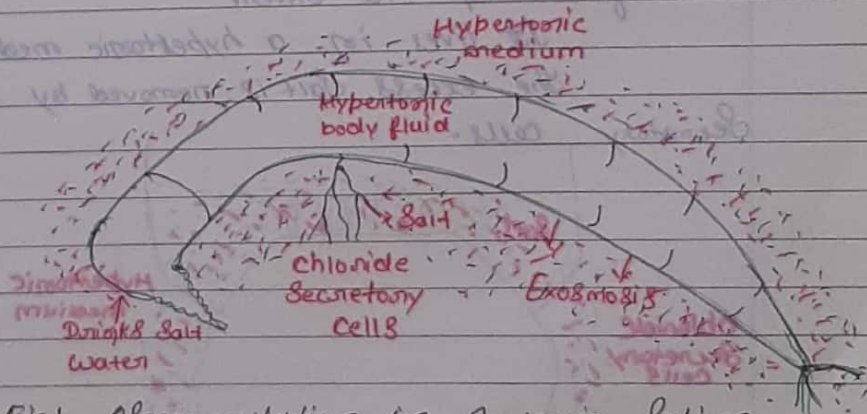


Fig:- Osmoregulation in Artemia Salina

Carcinus :- *amphihol*

It is an estuarine crab. It lives in sea where river flows in.

It is exposed to dilute seawater during rainy seasons.

The external medium is hypotonic and the body fluid is hypertonic. result exosmosis occurs.

The excess amount of water is removed in the form of dilute urine by the green gland.

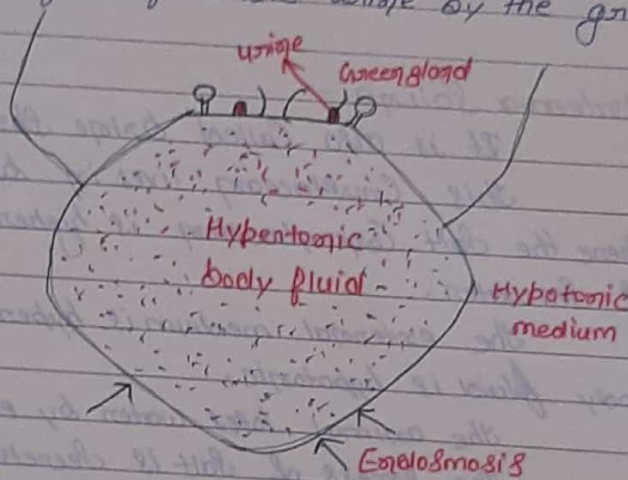


Fig:- Osmoregulation in Carcinus during rainy season. During summer season, there is no fresh water flow in the river.

It lives in a hypertonic medium.

The excess salt is removed by chloride secretory cells.

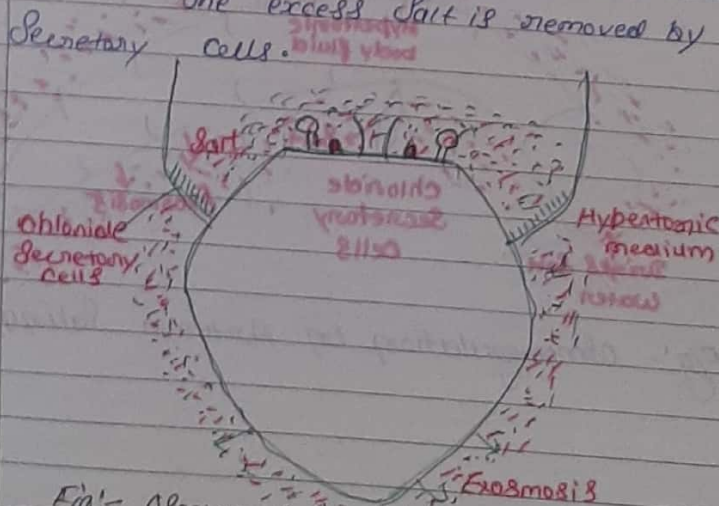


Fig:- Osmoregulation in Carcinus during summer season.