

# CAPRELLIDS

(Skeleton shrimps)

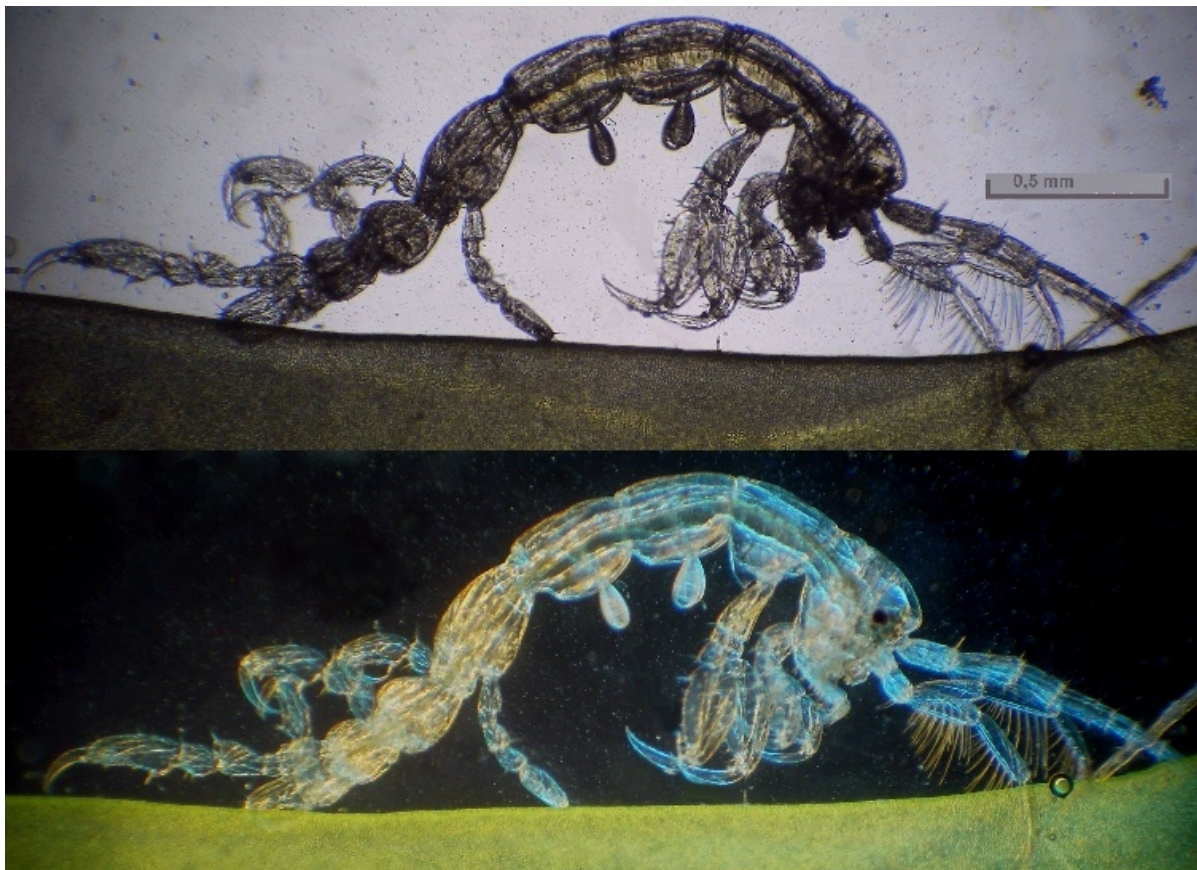
By J.M. CAVANIHAC - France

When I started to explore marine plankton, one of the first creatures I saw, were "Skeleton shrimp" or Caprellids . It's not at all a microscopic specimen: adults can reach one inch or more in length. Males are larger than females (sexual dimorphism). Another strange aspect is their attitude which mimics a praying mantis. Specimens are often attached to bryozoan colonies, and may feed on particles ejected by bryozoans..

Caprellids move rapidly when they are separated from their support and search rapidly for a new one to grip onto.

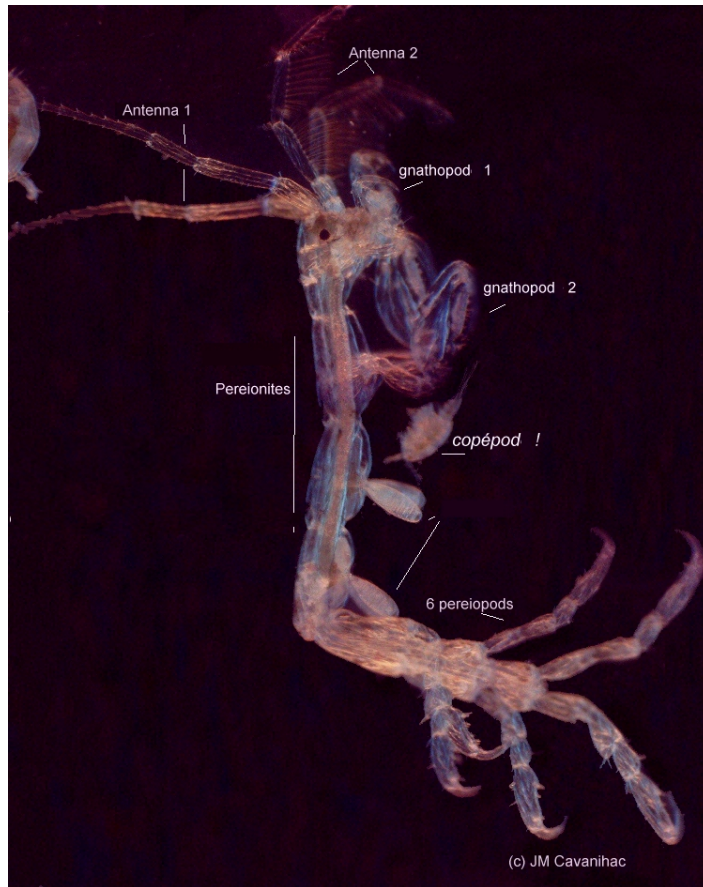
Caprellids are amphipods. Phylum: Arthropoda / Class: Malacostraca / Order: Amphipoda / Family: Caprellida but known as " skeleton shrimps".

Here is a picture of the same specimen in bright field and dark field. The caprellid is alive between slide and coverslip in a well slide:

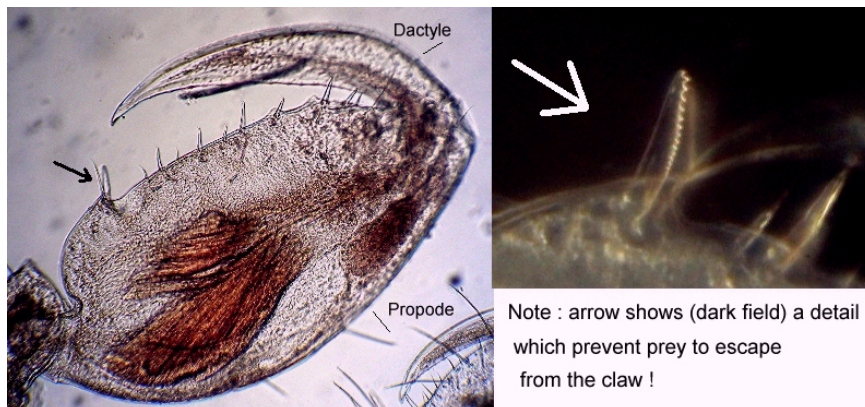


The size is around 4 mm but I have encountered specimens measuring one centimetre and more.

The picture below describe the different parts of the body. (Living specimen in dark field). The second pair of antennae (2) is covered with hairs and probably useful to catch nutriment particles.

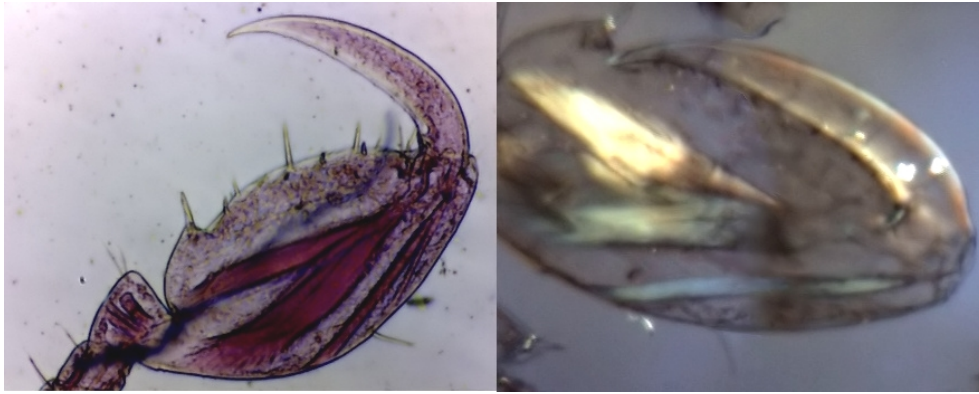


Another element of the body is intriguing: there are gnathopods, which look like anterior legs of the prayer mantis! But they move less rapidly when they catch prey.



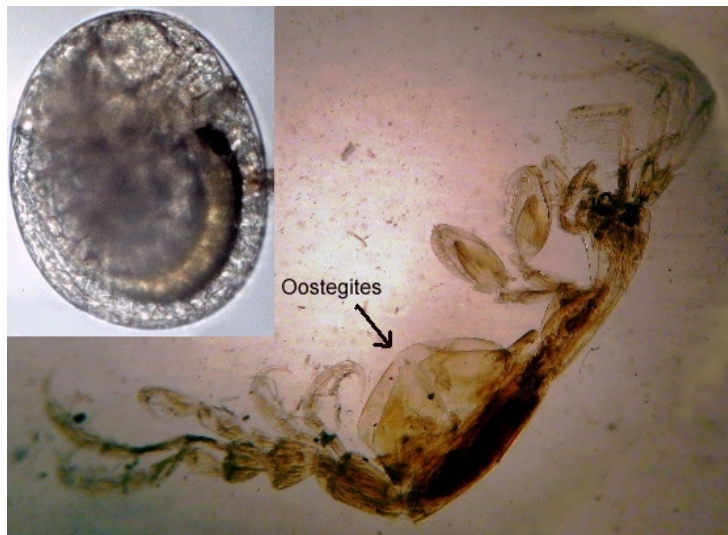
I have found a specimen preserved in glycerin gelly (Very well preserved after 10 years!). It's stained with eosin (not the best stain for a such subject!) With time, stain has only diffused on the muscles and they are still very well seen. The right picture shows the same muscles but in polarized light on a living subject: they are more brilliant. Note: Muscles are not of the same size because the dactyle is closed in the right picture.



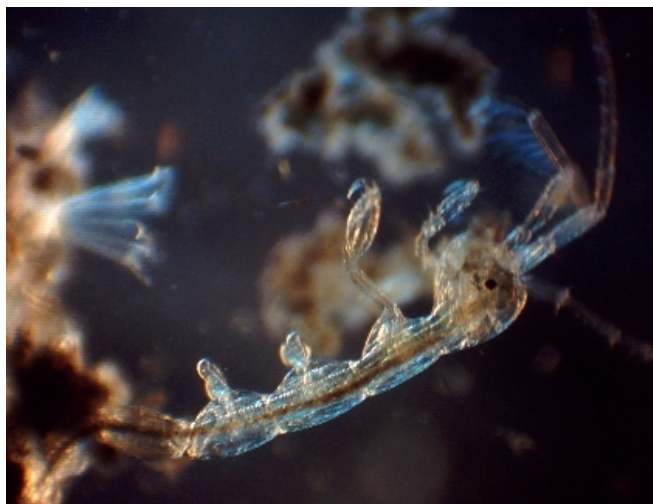


Caprellids seem to have diversified food preference: colonial diatoms, probably some larvae but principally rubbish. Their abundance in bryozoan or hydrozoan colonies may suggest a form of commensalism.

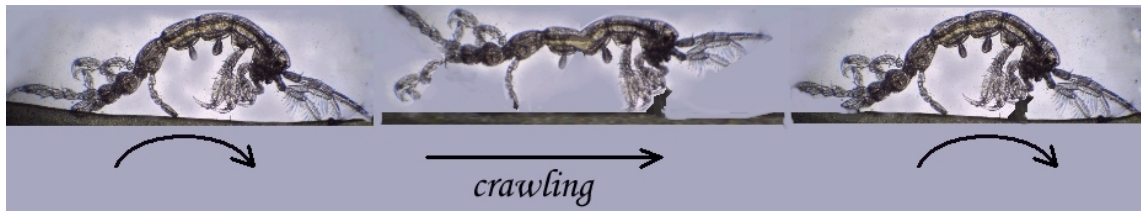
I have had the chance to observe hatching: eggs are located in a ventral pouch on the female (Oostegit): Arrow on picture below (preserved female specimen not stained). Note, in the lefthand image, detail of an egg and the young coiled up inside. (Scale of the egg is not the same scale as the main picture !).



Immediately after hatching, the young (which don't have a larval stage and are similar to adults) seek to grip an algae or other support with their pereopods and take the characteristic attitude waiting for prey! Probably their immobility is a good means to escape from predatory fish. Note on the left of the picture, there is lophophore of a bryozoan on the back .

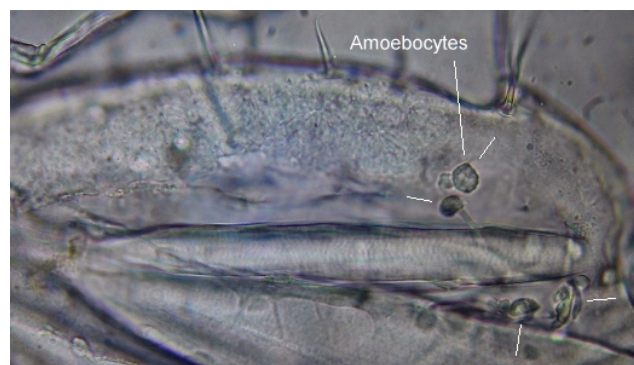


Their movements are a sort of crawling and pictured below (here on an algae) but swimming is the same but faster when a specimen is far from a support (sorry I have'nt a video!)



Another interesting observation can be made of the circulating hémolymph, (the blood of amphipods) seen in flat and transparent appendices like gnathopods or gills. You won't find red blood cells because hemolymph contains only amoebocytes which have the same function as our lymphocytes, (white blood cells).

An animated gif image of a caprellid showing circulating hemolymph into an appendice of caprellid can be seen at [www.microscopy-uk.org.uk/mag/imgdec11/hemo40.GIF](http://www.microscopy-uk.org.uk/mag/imgdec11/hemo40.GIF)



There is a dozen caprellid species but their taxonomy is very complex and my documentation is too shallow! Picture below shows another species, with very different pereopods. Note the "waiting attitude" and gnathopodes extended.



Comments to the author are welcomed. Email - micromars1 AT orange DOT fr

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