Fall's Plankton - 2024

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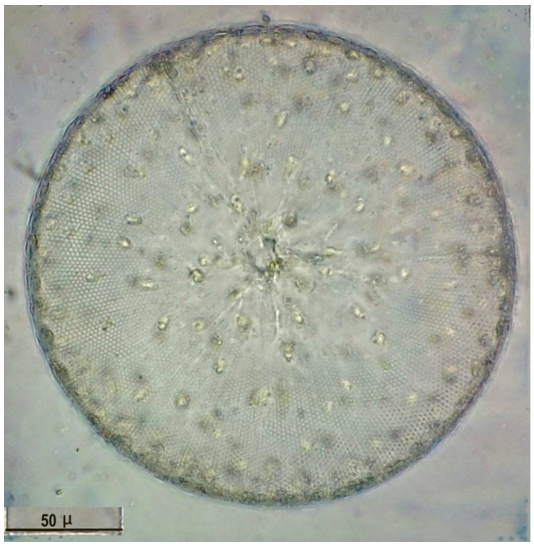
This is a recurring theme for me and this time I added vintage to it! In fact these are samples observed between the end of August and the end of September, therefore rather late summer. The etymology of "plankton": in Greek = « that which wanders », that is to say which does not have its own means of locomotion, and follows the sea currents, which also includes jellyfish.

But first a few details on how to collect it and this time we are going to replace the plankton net with two very common accessories:
A soft coffee filter (approximately 200 µm mesh) and a bucket (this one holds 6 liters but you can take a smaller one which will be less heavy when full)

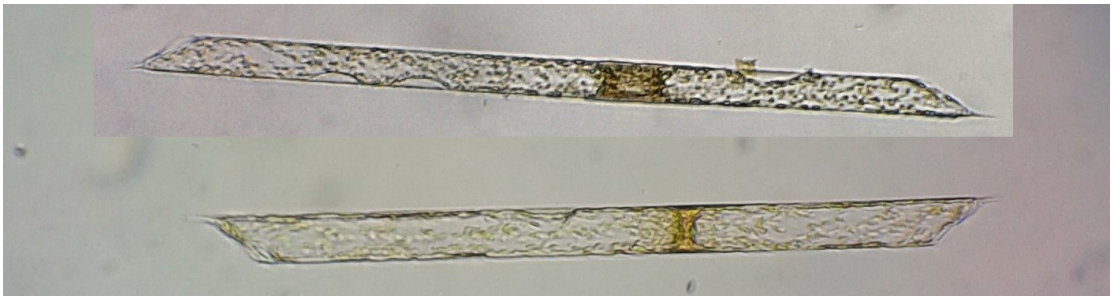
The principle is to fill the bucket and slowly empty it into the filter. We repeat the operation several times then we turn the filter upside down (interior part become exterior: image on the right above) in the sampling jar, we pour a little water to rinse the filter and remove the organisms and we start again many times. You can fill the bucket by hand when you get to the water level, or use the rope you see in the bucket to throw it into the water.

The samples were observed in the hours following collection and returned to the water. We will present the most original species, but the inventory is not exhaustive...There are also: pleurosigma, licmophora, ardissiona, cylindrotheca, striatella, amphora...for the most represented diatoms, copepods at various stages of development, snail veligers...few or no larvae at this time. See here for other Mediterranean species:
http://www.microscopy-uk.org.uk/mag/z_artapr24/jmc-diatoms.pdf

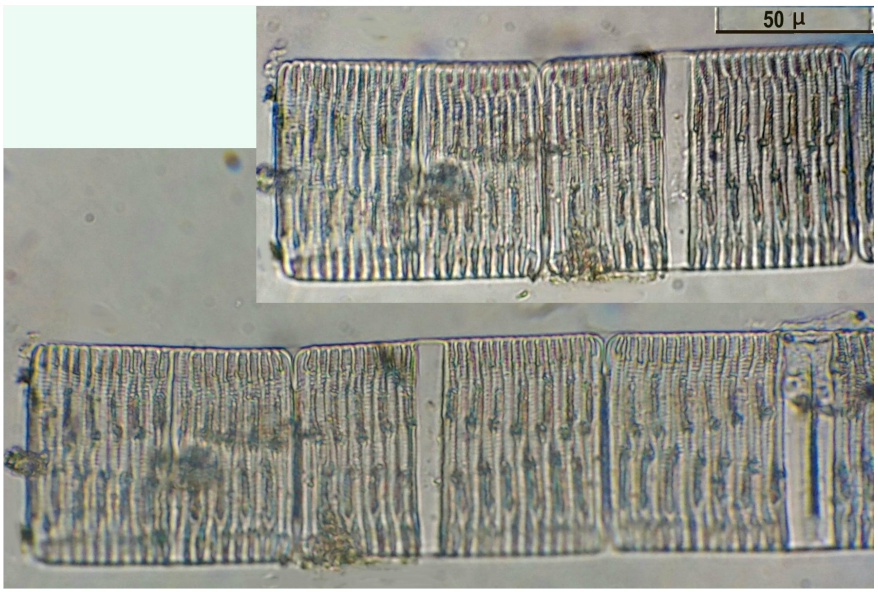
Here is what could be observed: for **phytoplankton**:
diatom *Coscinodiscus*: A large specimen: the surface is not flat but rounded and exceptionally I used Combine Z on 4 images. Diameter 210 µm: visible to the naked eye on a well-lit slide.



Rhizosolenia styliformis: When they reproduce they form long chains of sometimes 5 or 6 individuals.

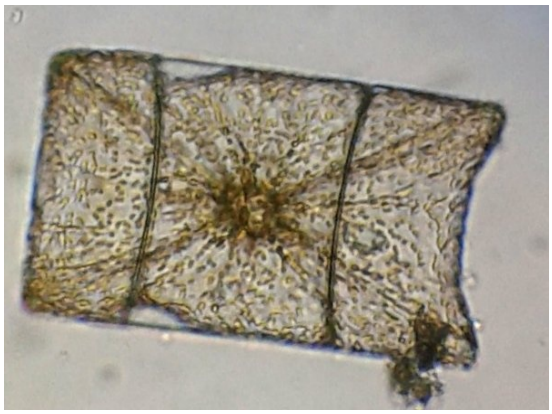


Rarer: with two levels of focus: *Rhabdonema adriaticum* which I had confused with *Fragilaria*.

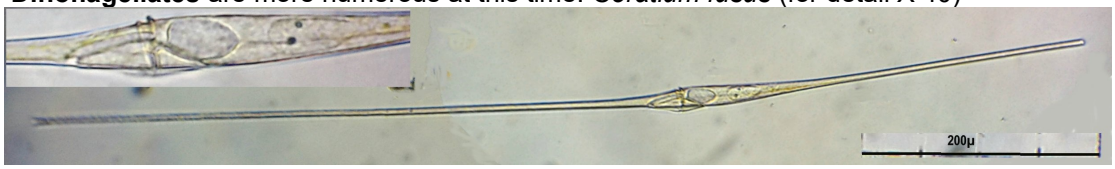


Rare species too: *Bleakeleya notata* from Fragilariaceae family.

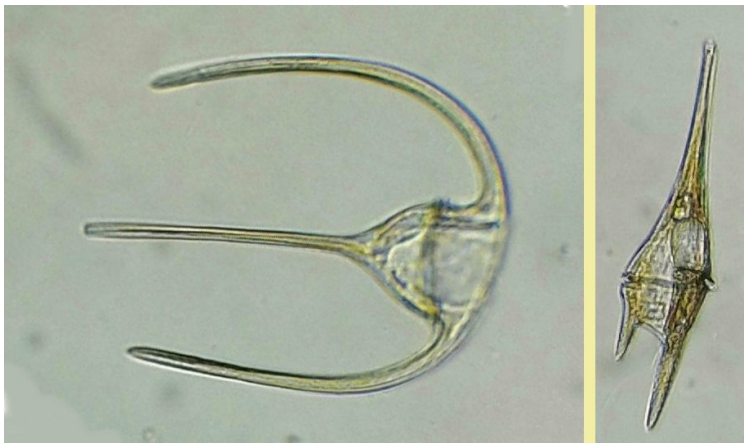
Another unusual diatom: B*iddulphia challengerii* which is not flat but has the shape of a pillow.



D**inoflagellates** are more numerous at this time: C*eratium fusus* (for detail X 40)

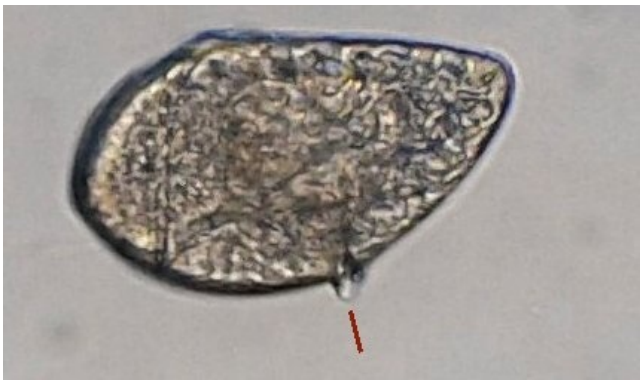


Ceratium symétricum et *ceratium furca* right picture.

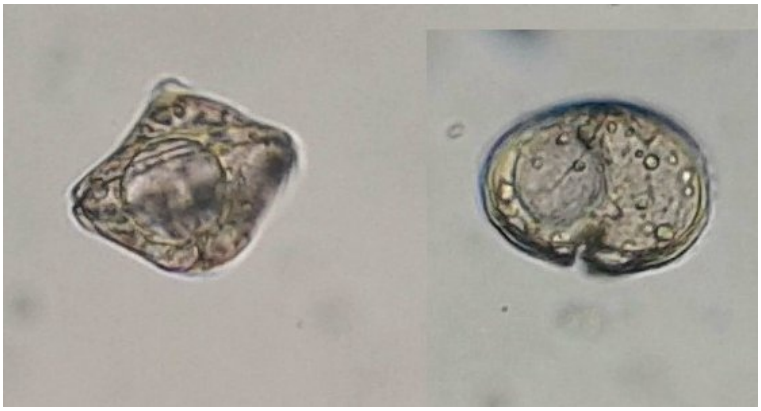


A more detailed image where we see the flagellum in movement (blurred) which pulls the specimen (movement to the right).

Gymnodinium: the arrow shows a loop of the transverse flagellum coiled in the spiral groove.

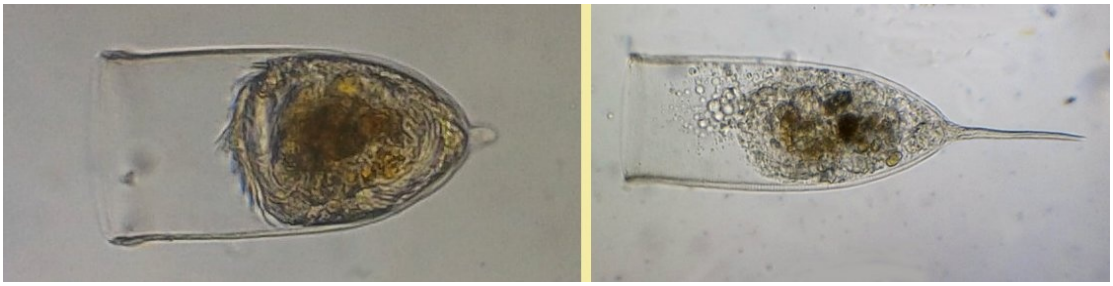


Protoperidinium: side view and top view form the same specimen (x 15 objective).



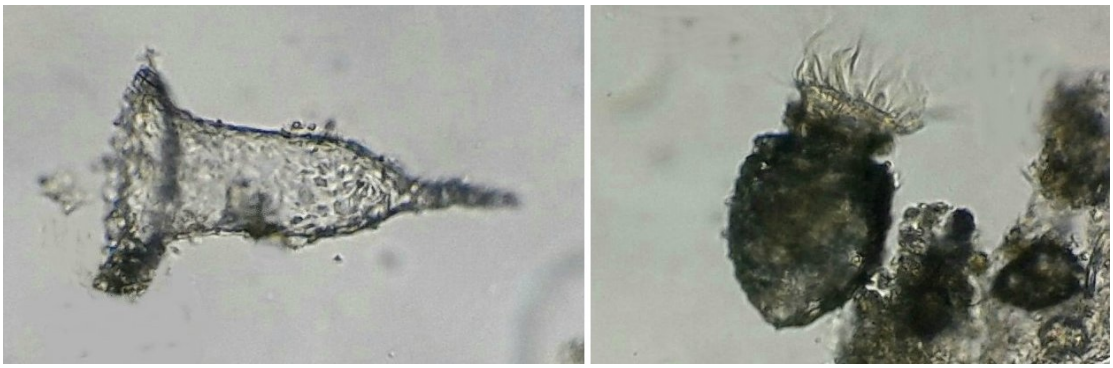
Protopéridinium (divergens?) x40 objective: the arrow indicates the flagellum: one may wonder how these specimens without chlorophyll can feed... It seems that a protoplasmic extension comes out through the notch next to the flagellum and encompasses the organism to be captured.

Protozoans : Several species of tintinids : here *Favela:*

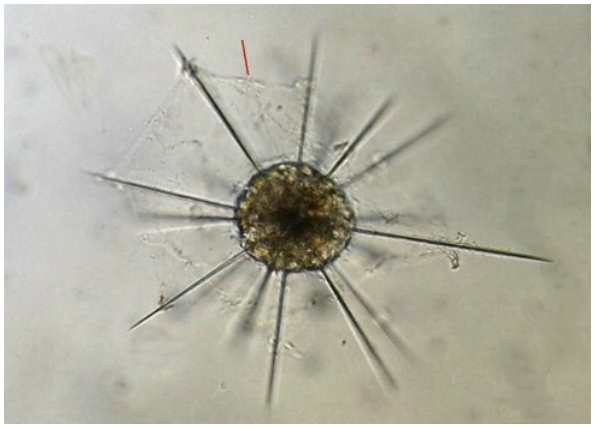


Hélicostomella and below *Tintinopsis radix.*

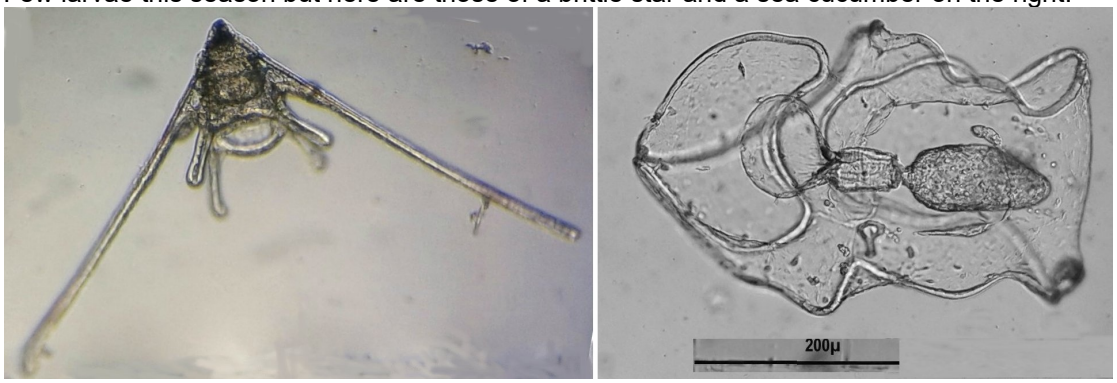
Tintinopsis campanula lorica and living *codonella*: we can clearly see the ciliae (difficult to photograph because they are very mobile).



Acantharia: we see the siliceous spines and the ectoplasm (red arrow).

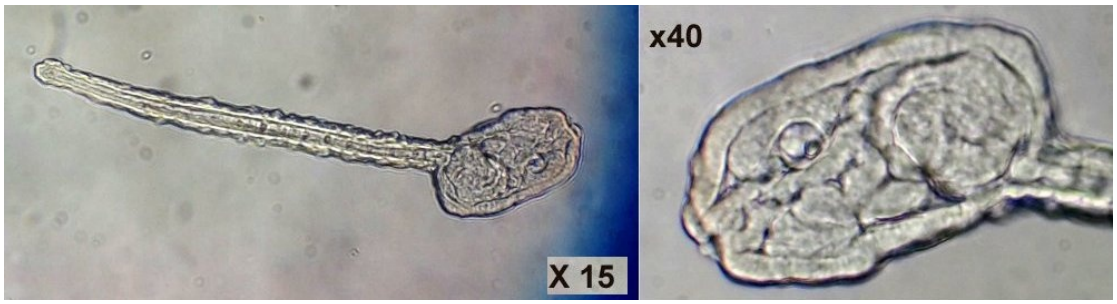


Few larvae this season but here are those of a brittle star and a sea cucumber on the right.



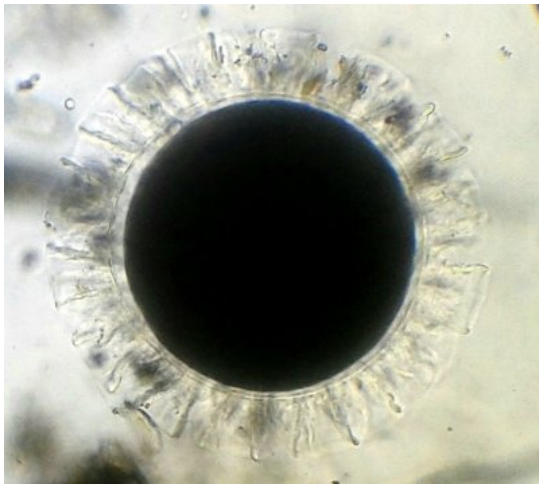
More common this larvacean: *Oikopleura.*

But something rarer is this juvenile which takes barely an hour to reach the adult form:



Even rarer (this is the second time in 20 years) this trematode C*ercaria pectinata* (?) probably parasitic on a mollusk:

Here I think it is a bryozoan statoblast:



And to conclude, another rare specimen: a pelagosphera stage larva of S*ipuncula* (peanut worm).

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