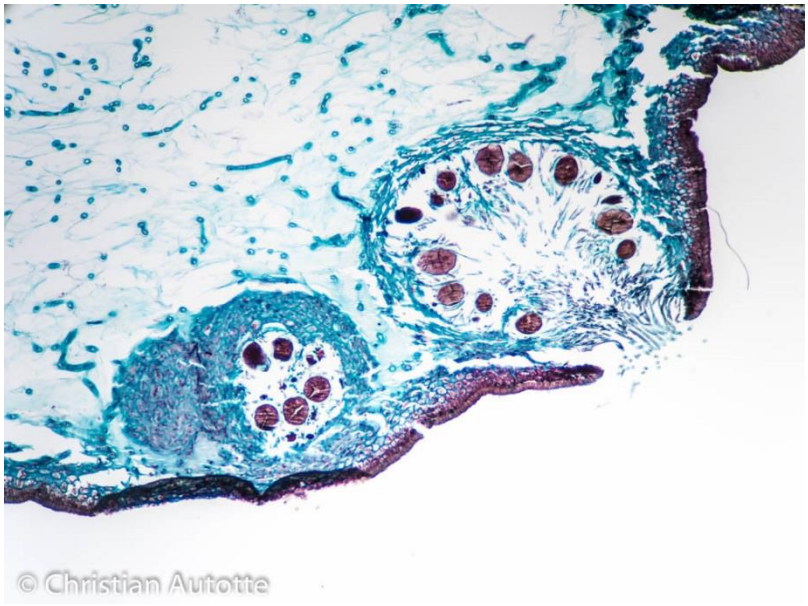
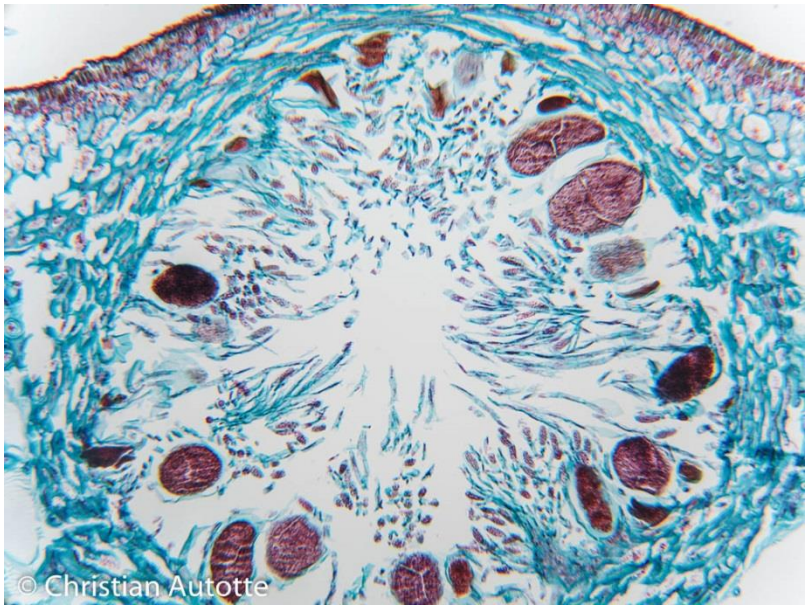
# FUCUS REPRODUCTION

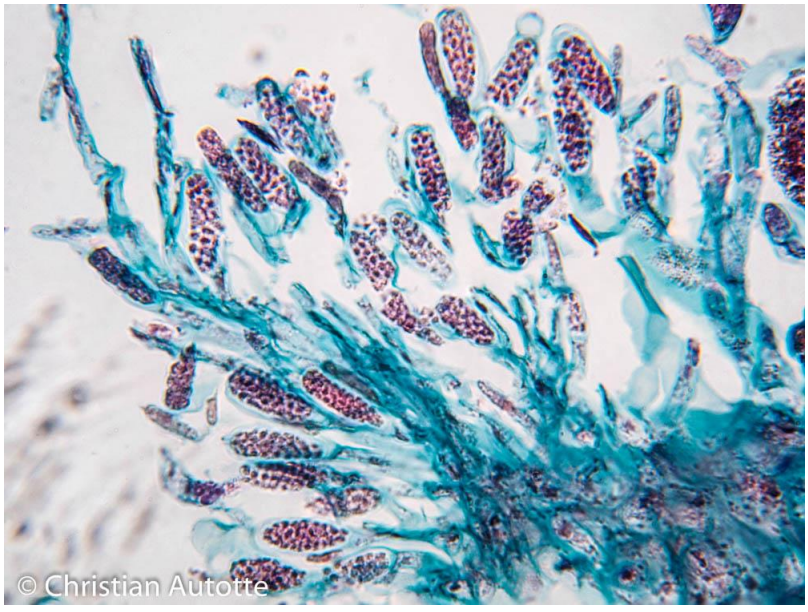
I find fucus fascinating, and the more I learn about them, the more fascinating they become. The nearby beaches are home to 6 species of fucus, 5 of the genus *Fucus* and one *Ascophyllum*. Fucus are found on rocky beaches that are often exposed at low tide. That's when children love to walk all over them to pop their floats as they would bubble wrap! But some of these floats are not quite what they seem to be.




The bigger "floats" are really part of the reproductive system of the plant; they are called receptacles and are not filled with gas but with mucus. Upon close examination, we notice small nodules which are called conceptacles; these contain the reproductive cells of the plant. Contrary to many plants, most species of fucus are either male or female. To reproduce, they somehow synchronize the release of eggs and what is usually referred to as "sperm", a reproductive cell equipped with a pair of flagella.




A quick search of my slide collection database revealed that I had one slide of fucus. While very interesting, it left me a bit puzzled. The information printed on the slide states that it includes both male and female specimens. While there are indeed two specimens mounted side by side, they appear similar. Could it be why someone gave it to me?

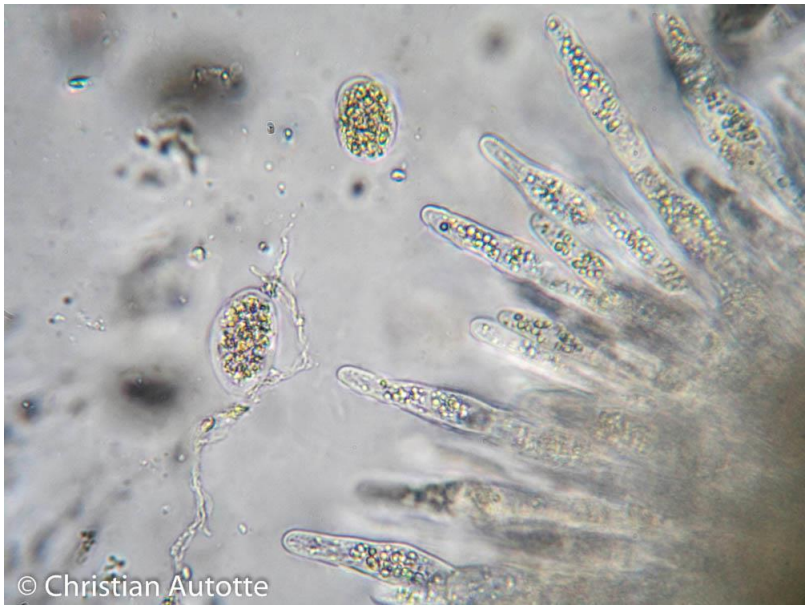
I did a bit of research both in an old biology class book and over the Web, trying to figure out what it is that I'm looking at. Eventually, I found that some species of fucus (ex: *Fucus spiralis*) are "monoecious", which means that they have both male and female cells in the same conceptacles. That might be the case here.

The round cells (here colored red) would be the eggs, and (I guess…) the long filaments would be topped by the male cells. At least, that's the way I interpret what I see based on a few web sites. Otherwise, the two specimens on that slide are female.

Making sense of what you're looking at is not always easy in microscopy. I wish I had a biology teacher at my beck and call; where's your old high school biology teacher when you need him? Incidentally, mine was named Larry; he retired from teaching and is now the mayor of a small village in Quebec…

(from top to bottom: 40x, 100x, 400x)






Late spring, I picked up some receptacles from the species *Ascophyllum nodosum*), which I know to be either male or female.

Working with a binocular, I tried to make a cross section with a pair of razor blades, but without success. So I isolated one of the conceptacles and then squashed it with the scalpel blade to release its content. What I saw through the microscope was fascinating. If I'm not mistaking, the specimen I collected is female; we can see the round masses of a few eggs nestled in what is identified as "sterile fibres". I will try to collect a few more receptacles to see in I can identify both male and female specimens. If I succeed, I will let you know in the future.

(From top to bottom: 200x, 200x, 400x)

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