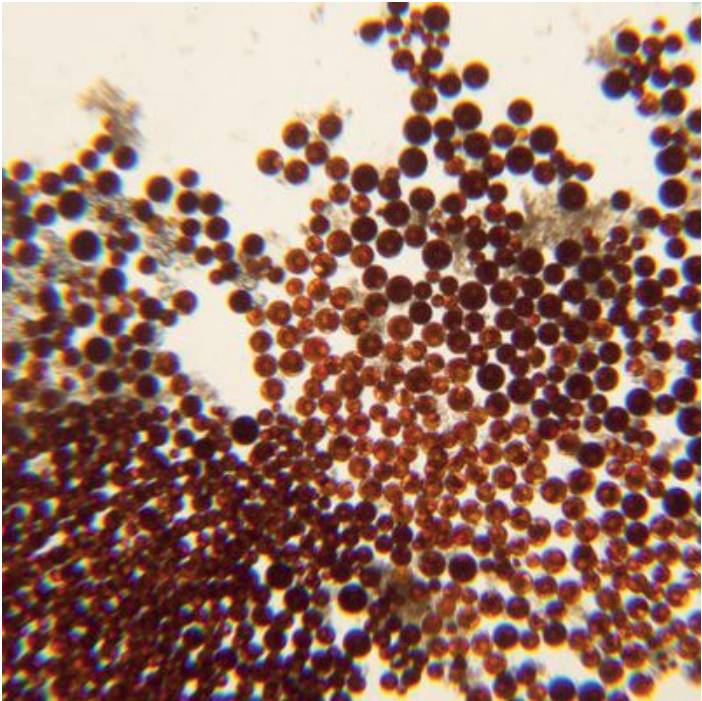
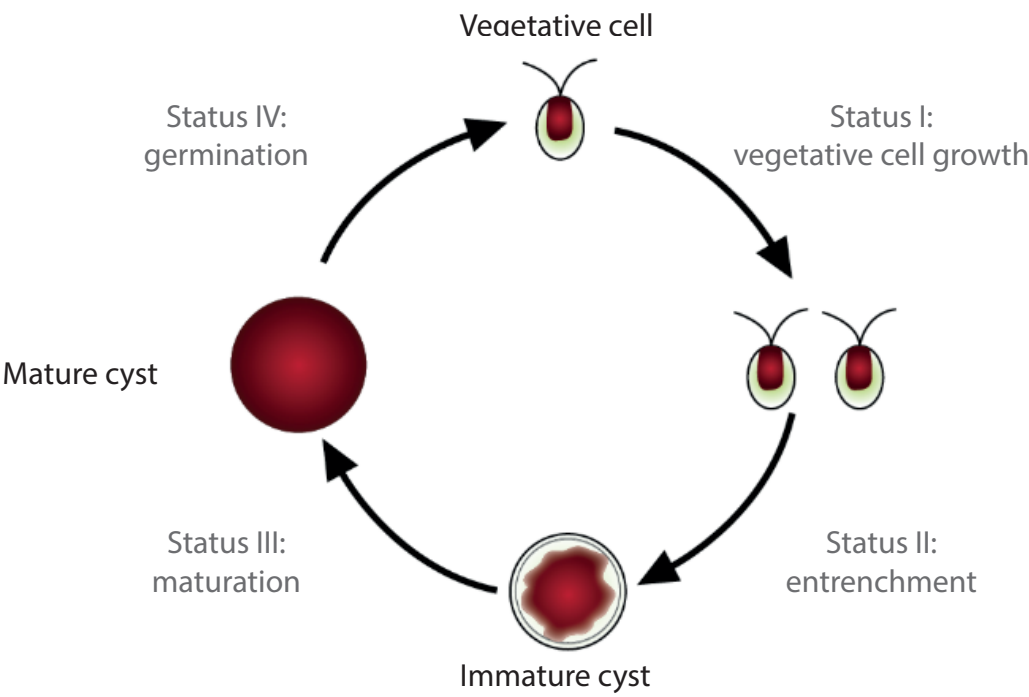


Haematococcus Pluvialis



Observation under the microscope. (01.12.2018)

SPECIMEN INFORMATION

Haematococcus: Is a generic name composed of two parts, Haemato- which refers to its blood red color and -coccus which refers to the spherical shape of it cysts.

This specie is known for its high content of a strong antioxidant with the name of astaxanthin, which is use in aquaculture, and cosmetics. This antioxidant can be found in the resting cells. Wich get into this state when the environmental conditions are not ideal for their growth, like for example bright light, high salinity, or low availability of nutrients. It is believed that the resting cysts stage of the cell, protect it from the detrimental effect of UV-radiation, when is exposed to direct sunlight.

When the cell is active, it have a couple of flagels that help it to move. It have asexual reproduction by the division of plant cells into zoospores in a number of 4 to 8. It also have sexual reproduction, an isógama, quadriflagellate planozigota loses its flagella and secretes a thickened wall at the end of the cycle and its meiosis is zygotic. This specimens is included in the Chlorophyta family because it has chlorophyll a and b, although it may be masked by other pigments.

SPECIMEN ADOPTION - GENERAL CONCLUSIONS

For more than two months I addopted this specimen. For technical reasons the use of vinasse in the preparation of the medium was not possible, so instead I used another bioproduct of the sugar to prepare the medium “Malz extract”: (brennwert: 1.216kJ, fett 0.2g, kohlenhydrate 65g, Zucker 45g, Eiweiss 5g, Salz0.02g.). After three weeks the specimen didn’t change of color because the environmental conditions for the Haematococcus-pluvialis were not ideal, in order for it to get out of it hibernation state. My first hypothe-sis is that it doesn't have the ideal conditions in terms of light and temperature (the specimen was cultivated in winter time in a temperature under the ideal 25°C), and my second hypothesis is that it doesn't have the ideal medium in order to growth properly.

With this experiment I got an aproximation of the technique of how to cultivate Haematococcus Pluvialis , and learnt how to see specimens under the microscope, and also I get familiar with the use of the instruments inside the laboratory.

More information of this specimen can be found in: https://en.wikipedia.org/wiki/Haematococcus_pluvialis

All the information that I developed around the project can be found in: www.uni-weimar.de/kunst-und-gestaltung/wiki/Paola_S._Calderón/Specimen_adoption_1:_%27%27Haematococcus_Pluvialis%27%27.

MEDIUM

Vinasse diluited to 3% and supplemented with 0.7%NaCl. The culture must be perform- med with 0.5 vvm air at 25°C.

NATURAL ENVIRONMENT

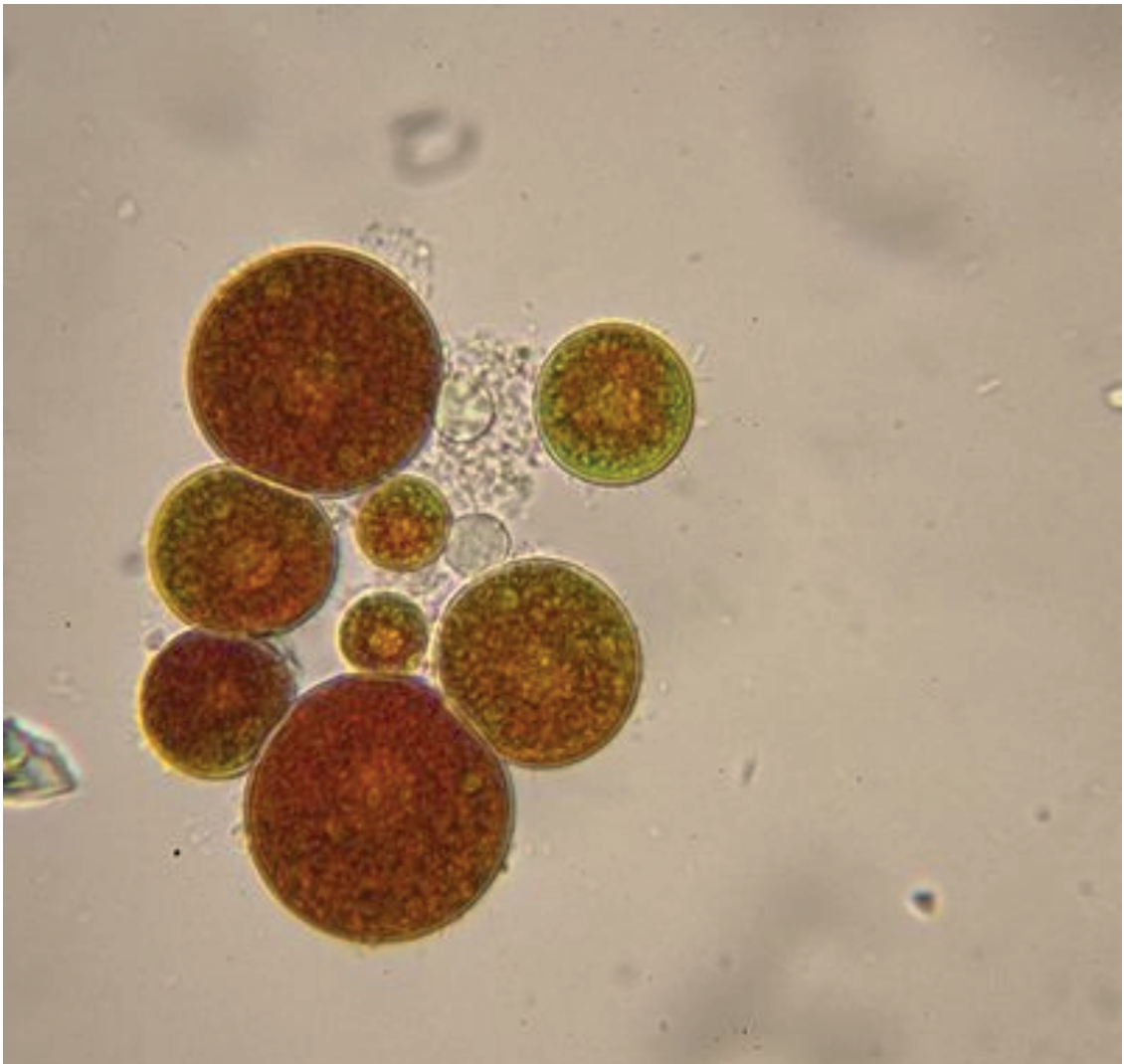
It is found in temperate freshwater almost in all places around the world, except in the antarctic.

SCIENTIFIC CLASSIFICATION

Division: Chlorophyta
Class: Chlorophyceae
Order: Chlamydomonadales
Family: Haematococcaceae
Genus: Haematococcus
Species: H. pluvialis
Binomial name: Haematococcus pluvialis

DESCRIPTION

Is a green alga with mixotrophic growth. It has chlorophyll a and b, and has the ability to synthesize carotenoids such as Astaxanthin that can accumulate in a proportion of even 5% of its dry weight.



Observation under the microscope. (01.12.2018)