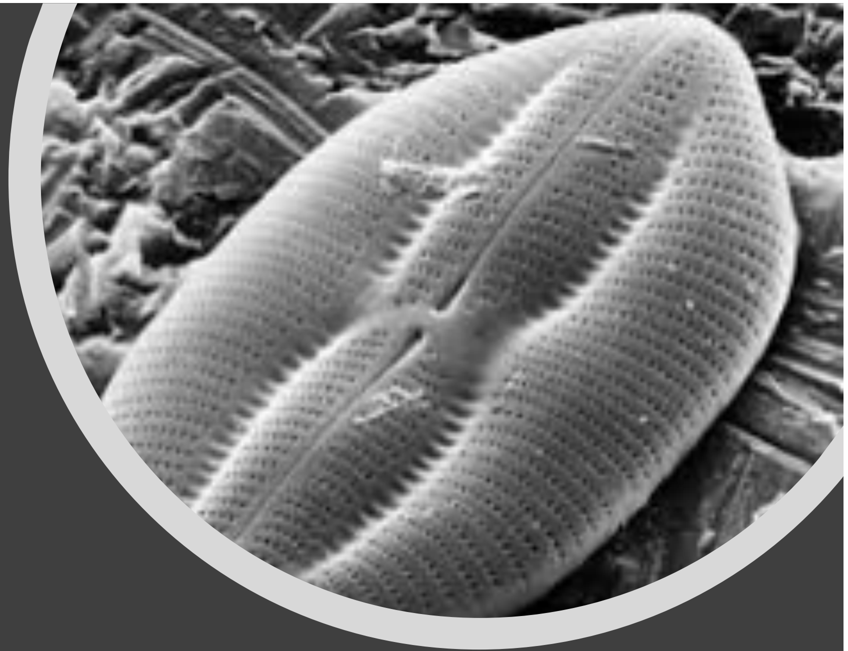
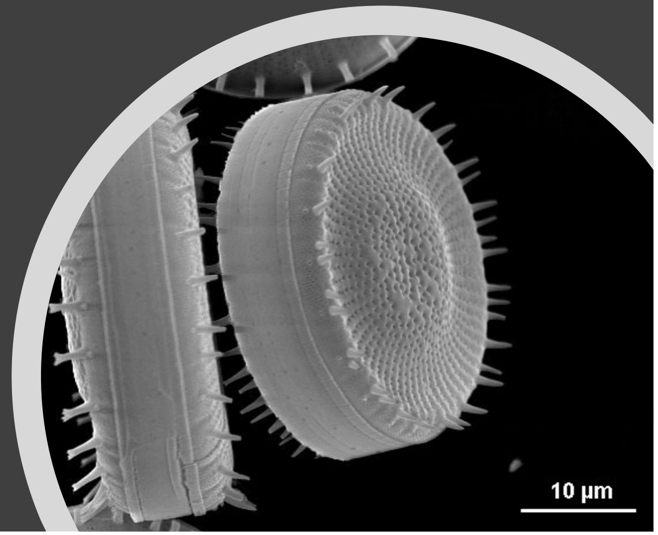
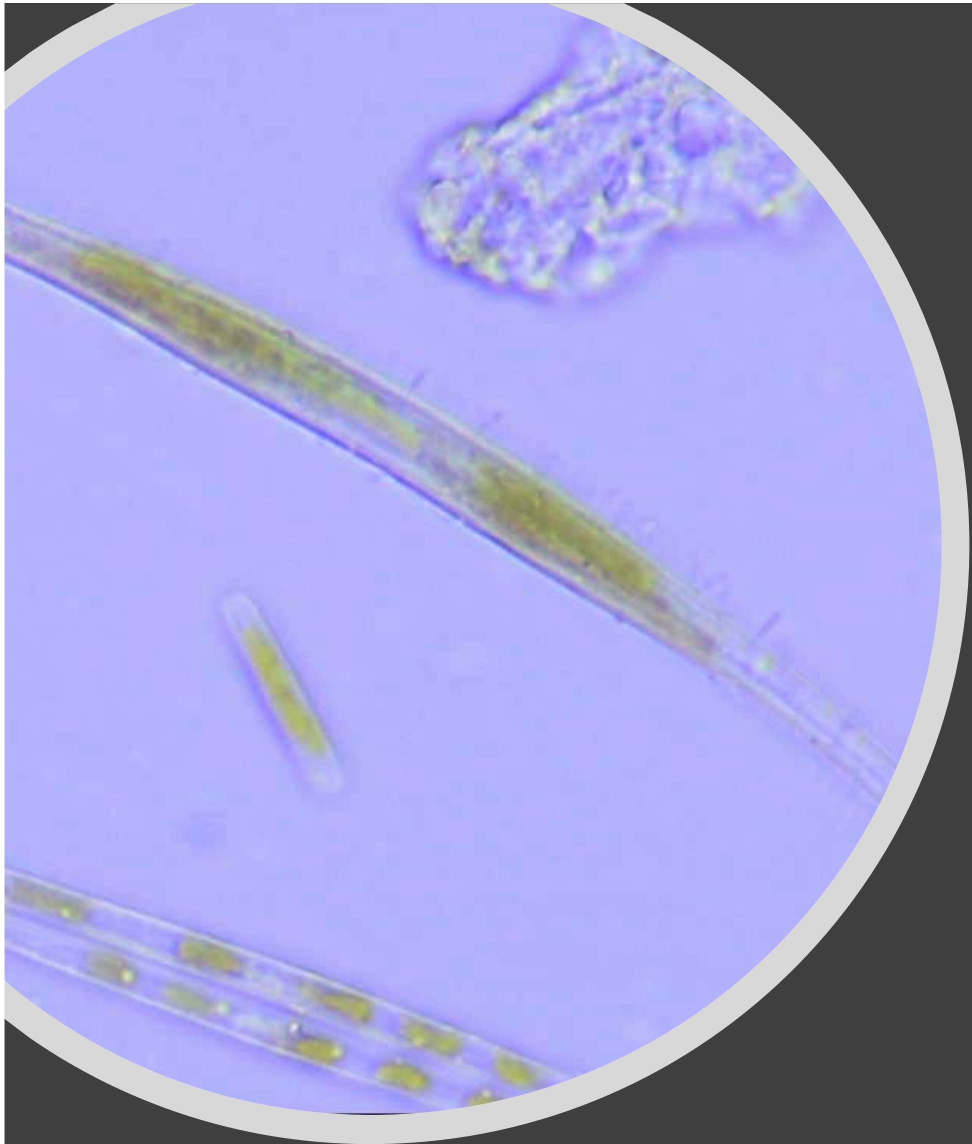
Porovnání životních forem a funkční diverzity rozsivek v planktonu a bentosu

Obecná charakteristika *Bacillariophyceae*



- SAR
- dominanta mořského fytoplanktonu
- dvojdílná křemičitá frustula





Cíle práce

Porovnání rozdílných ekologických adaptací fytoplanktonu a fytobentosu

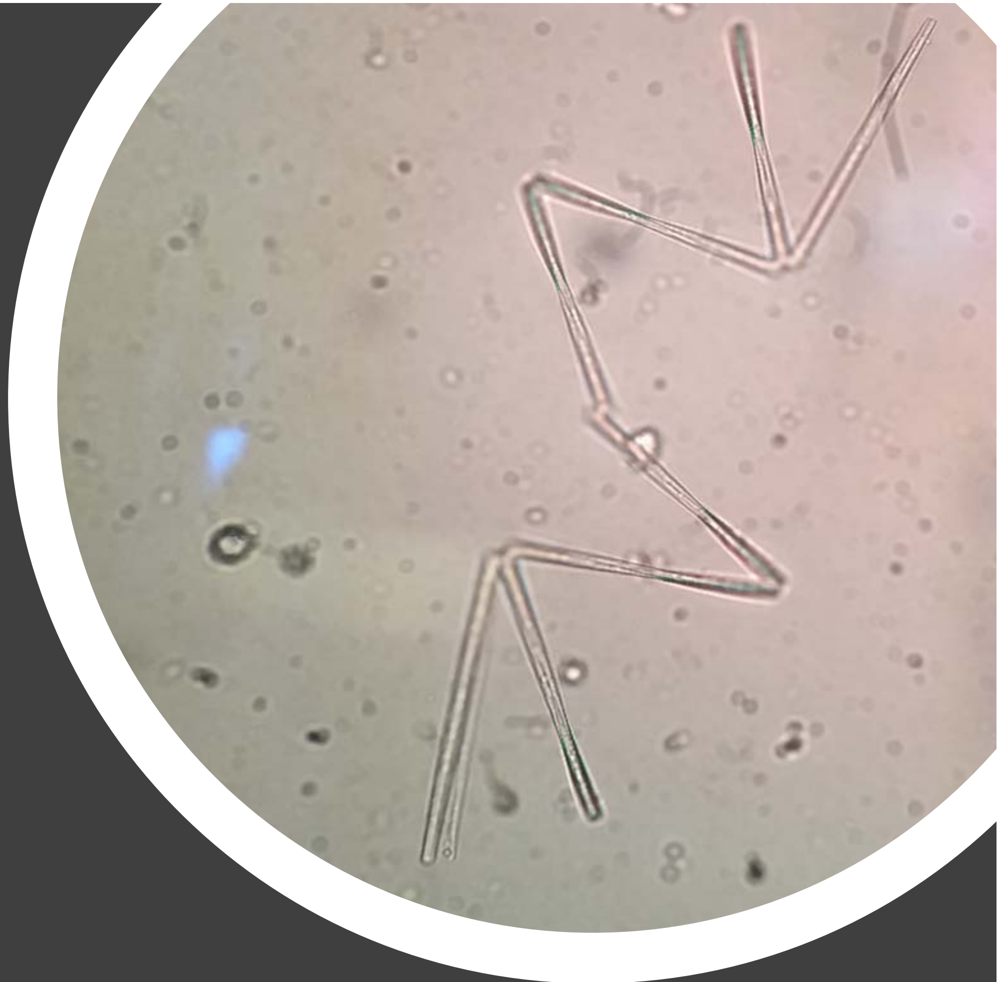
Odbery

Vrstva bez názvu

- Izola bentos
- Izola planktón
- Izola bentos
- Izola bentos
- Strunjan bentos
- Strunjan planktón
- Koper planktón
- Terst planktón
- Secca planktón
- Ankaran Bentos

PLANKTON

-

Thalassionema sp.

Rhizosolenia sp.

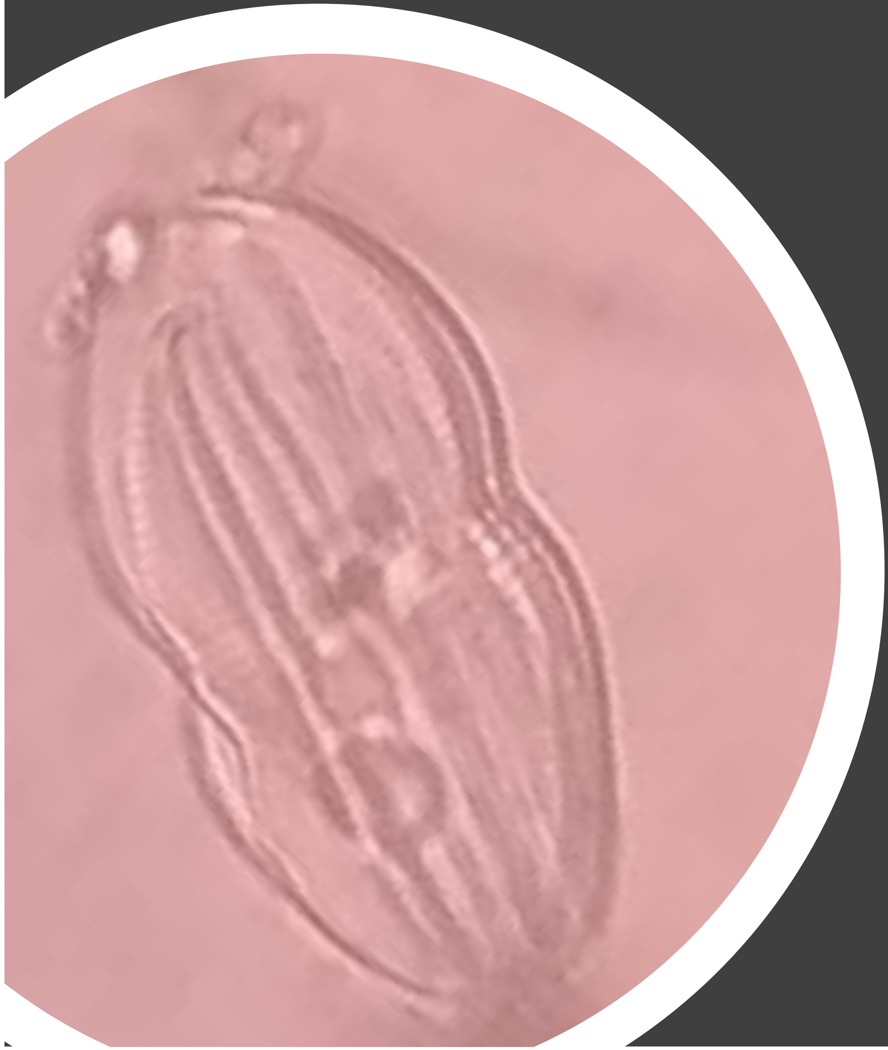
Hemiaulus sp.

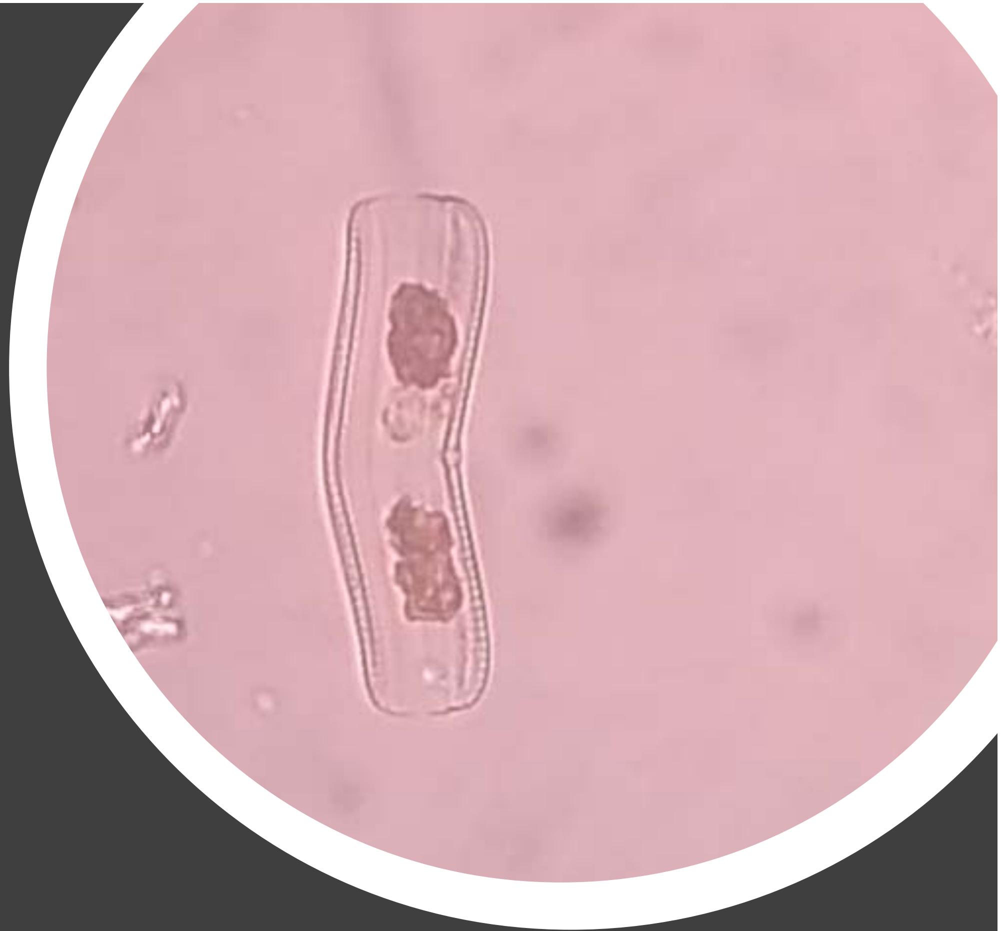
Pseudo- nitszchia sp.

Coscinodiscus sp.

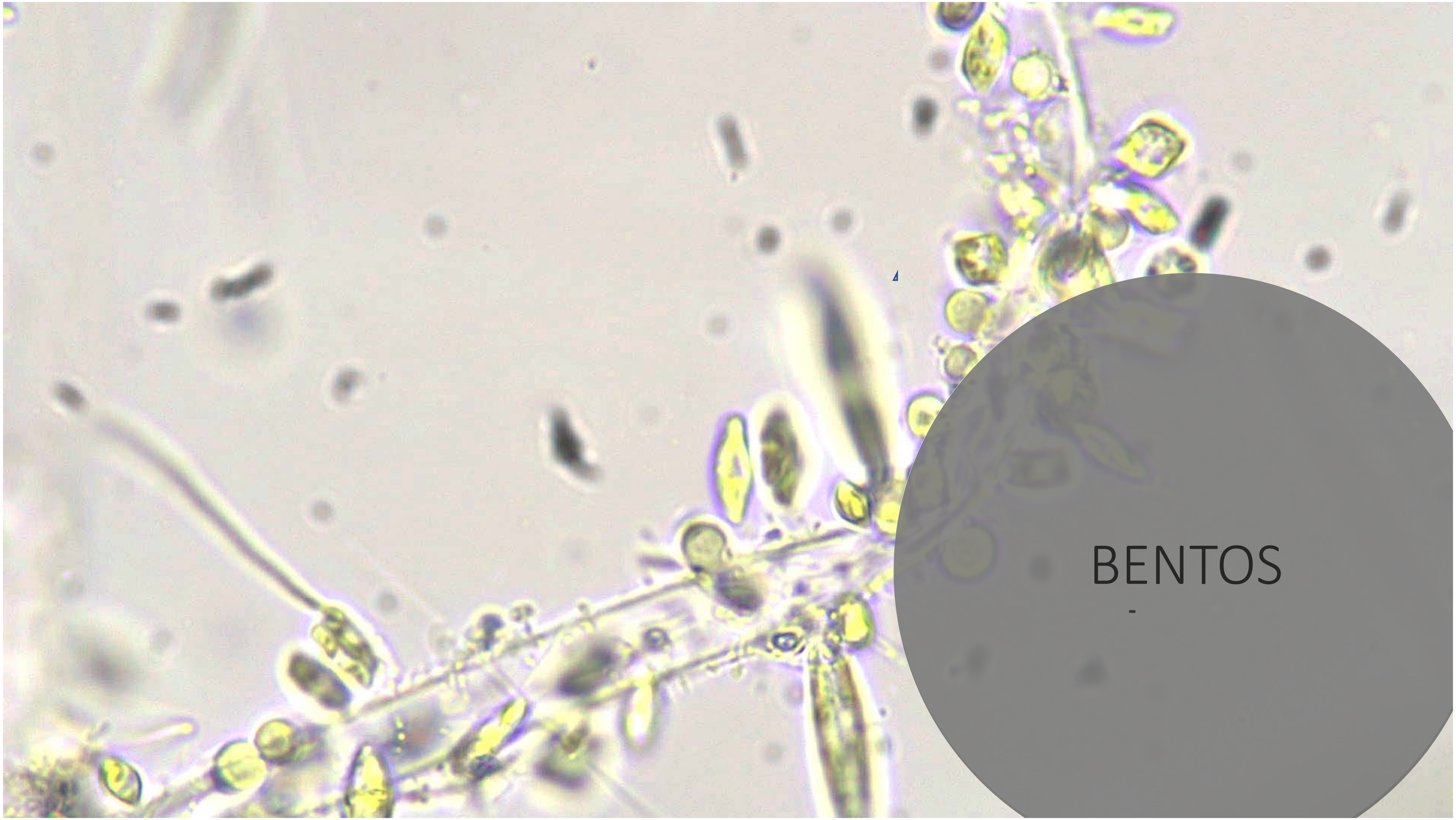
Bacillaria sp.

Diploneis sp.

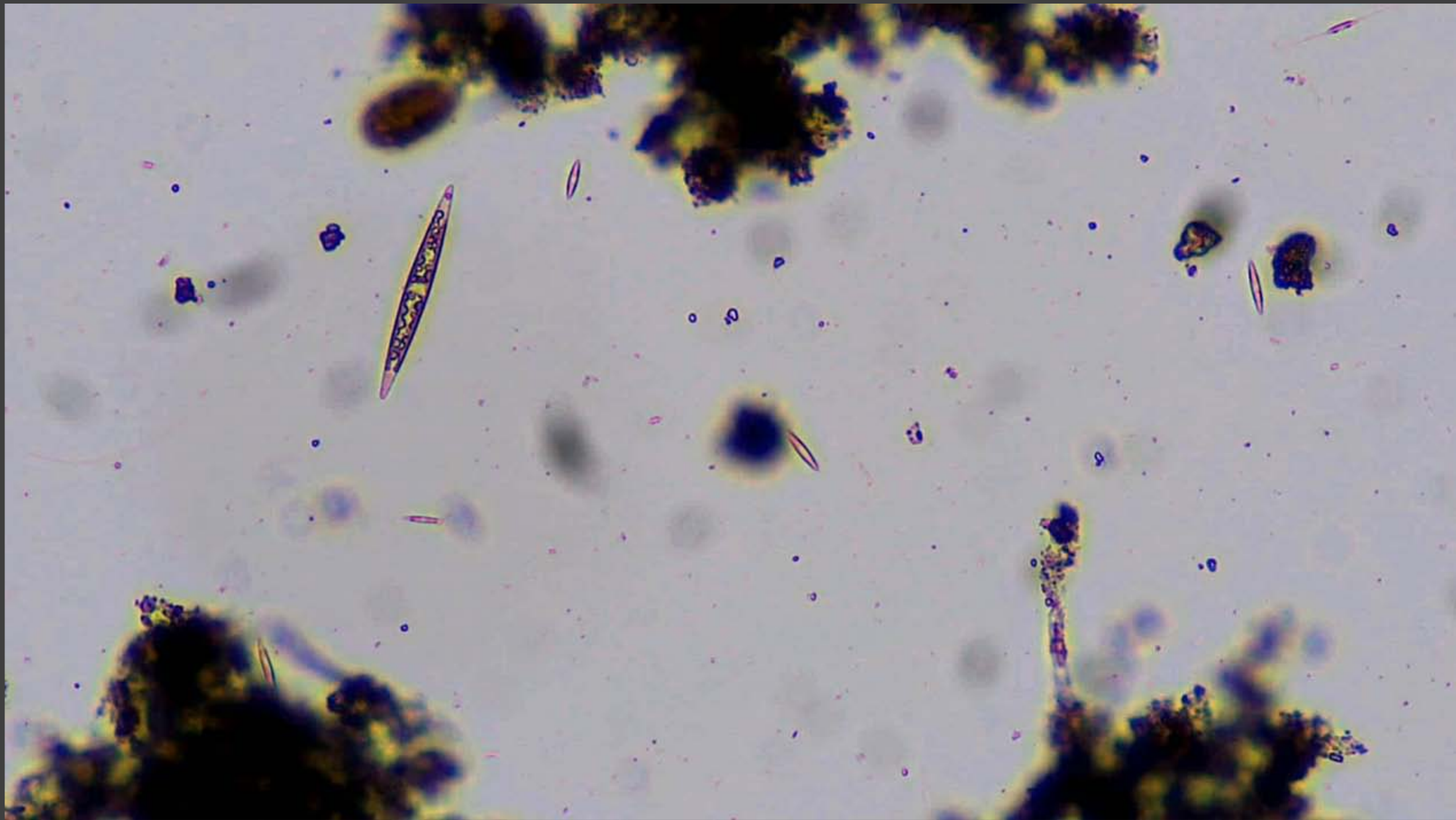




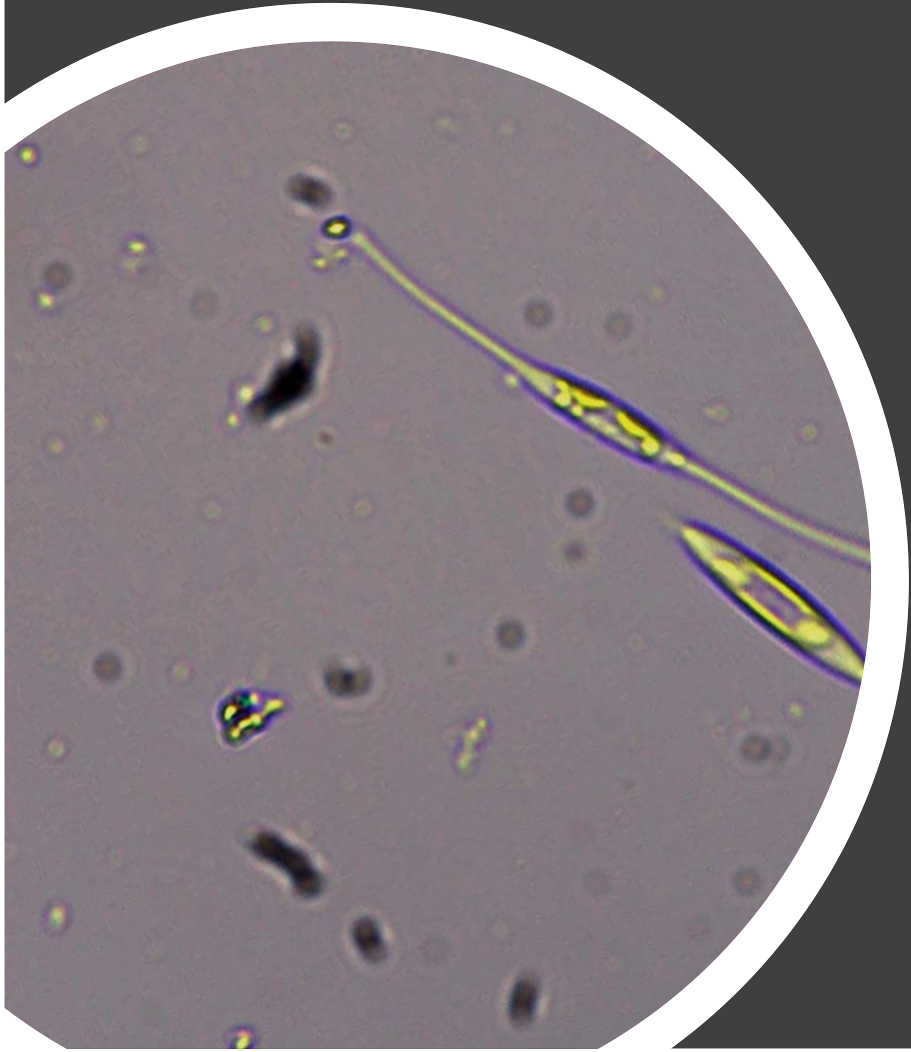
Achnanthes sp.

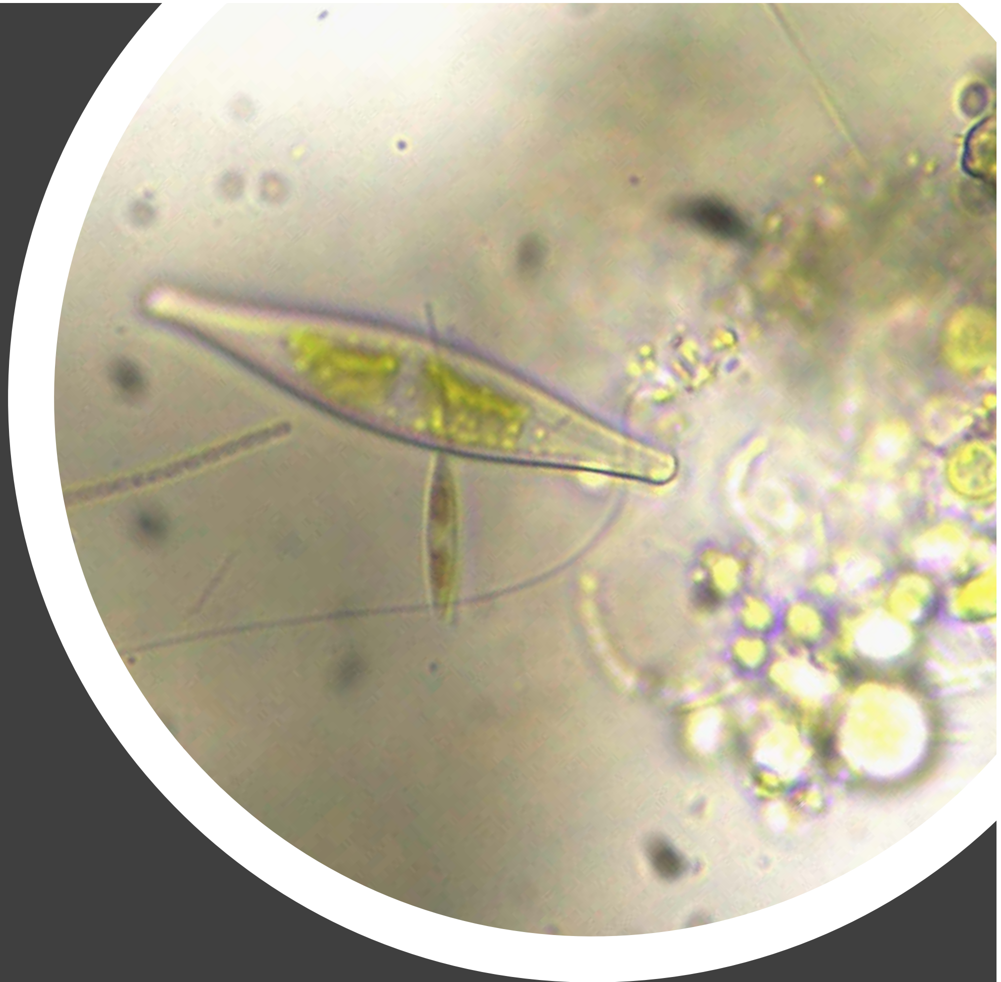


BENTOS



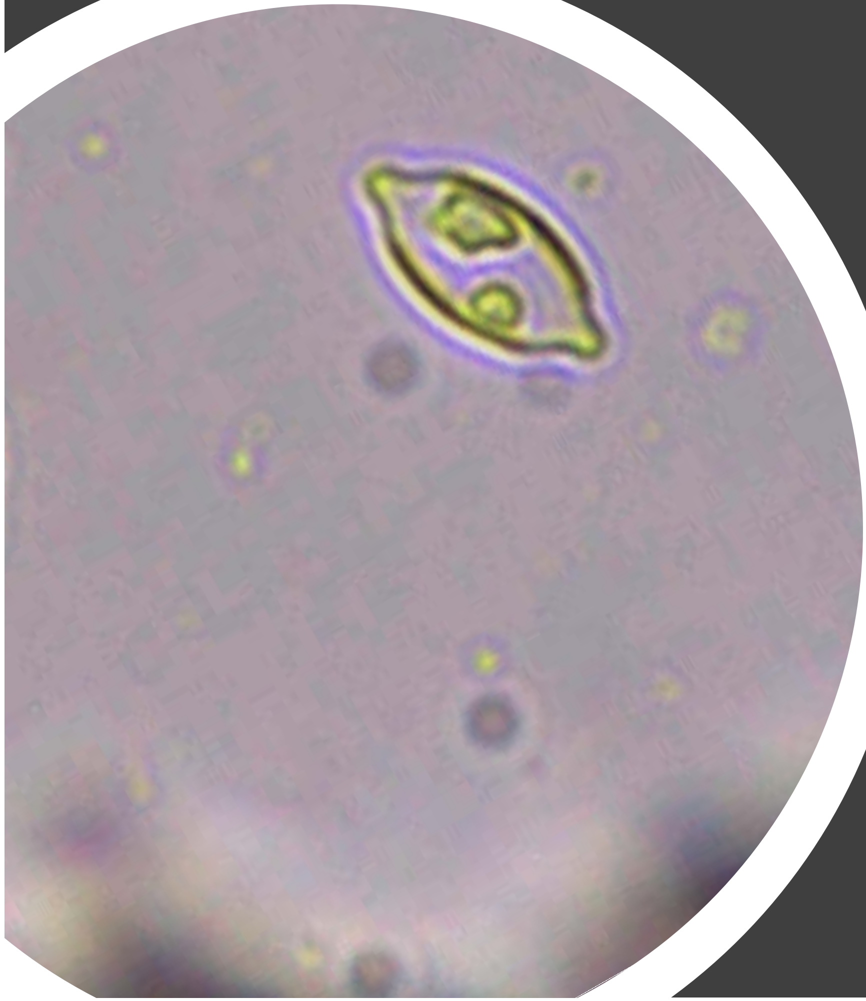
Cylindrotheca sp.



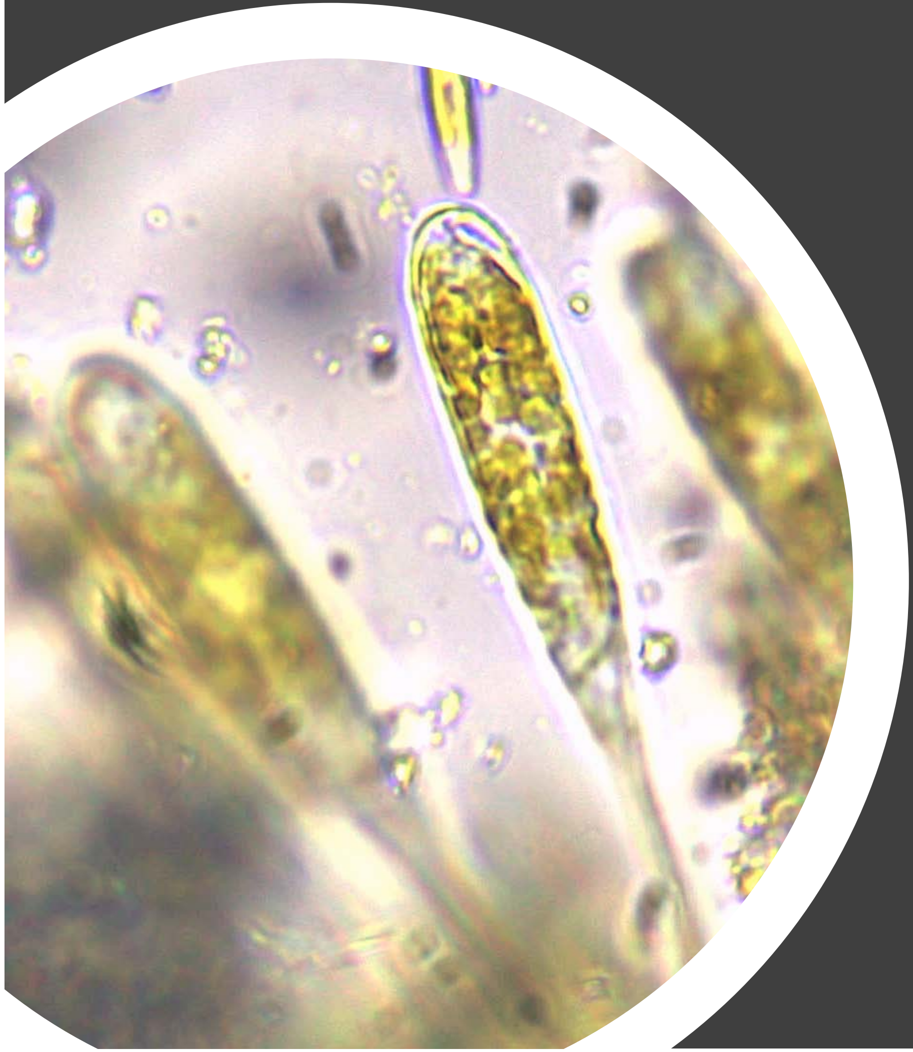


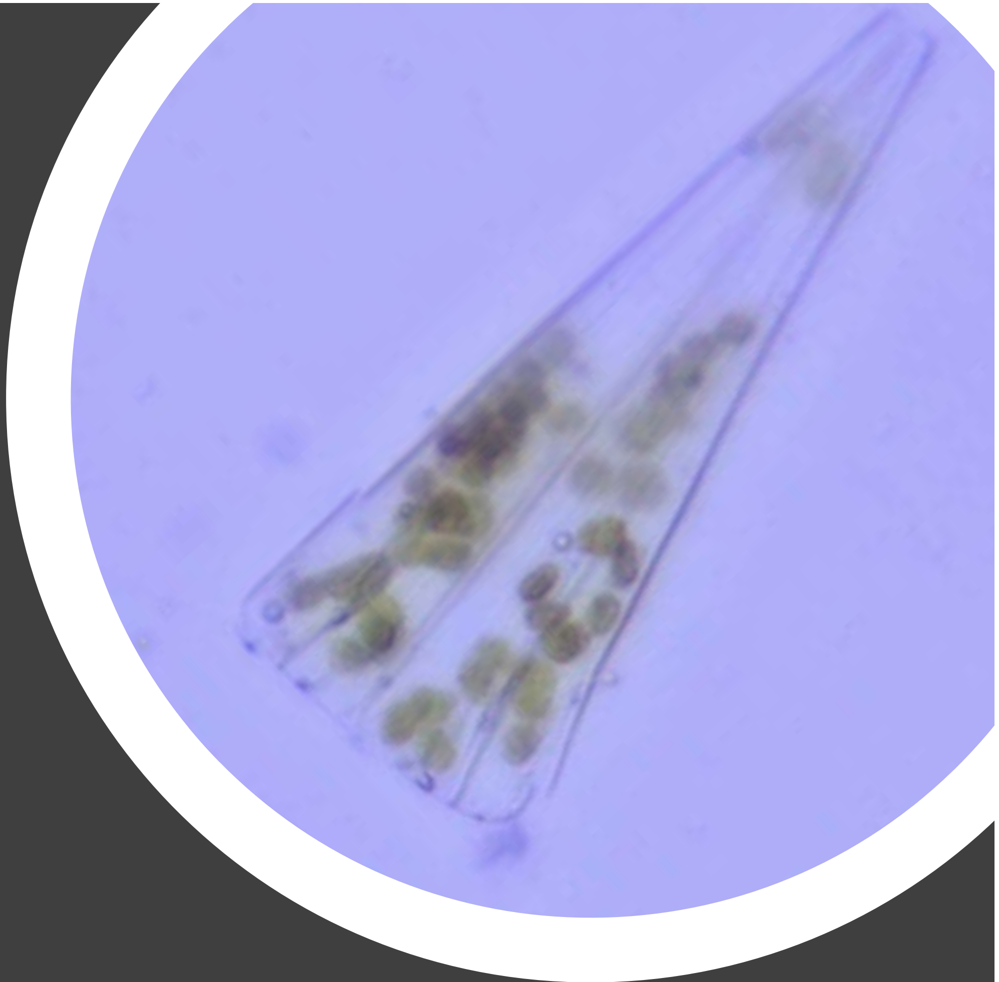
Navicula sp.

Petroneis sp.

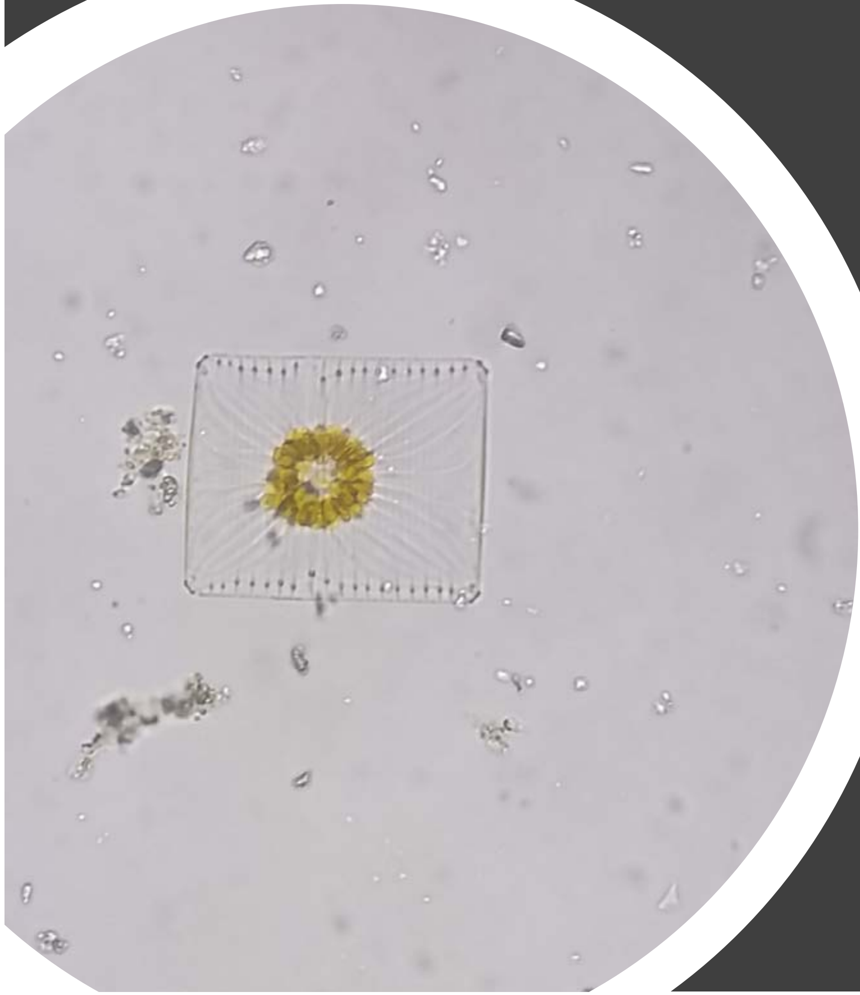


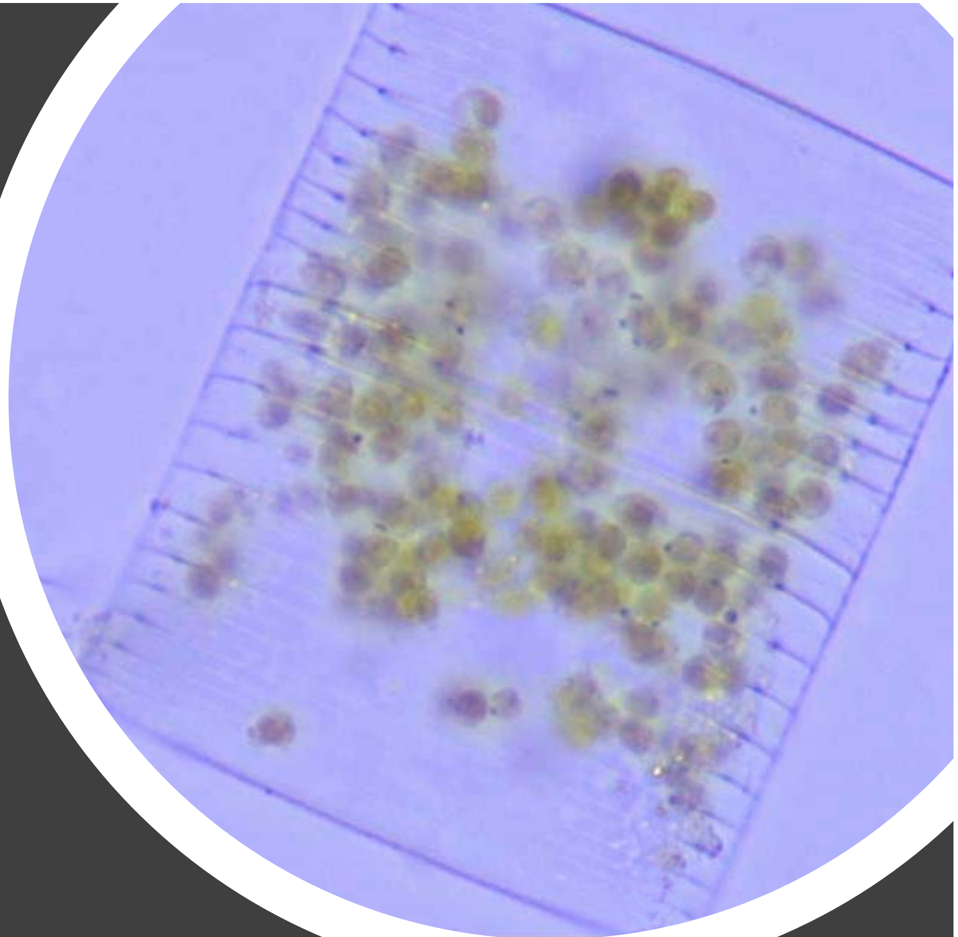
Pleurosigma sp.





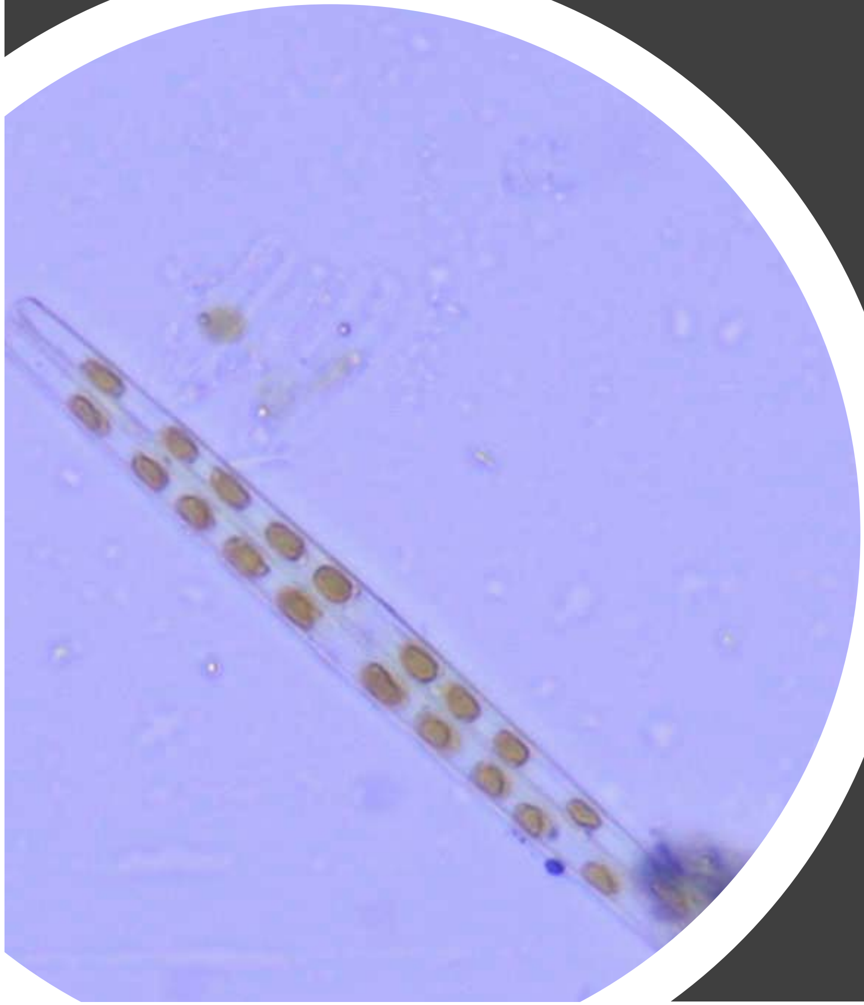
Licmophora sp.

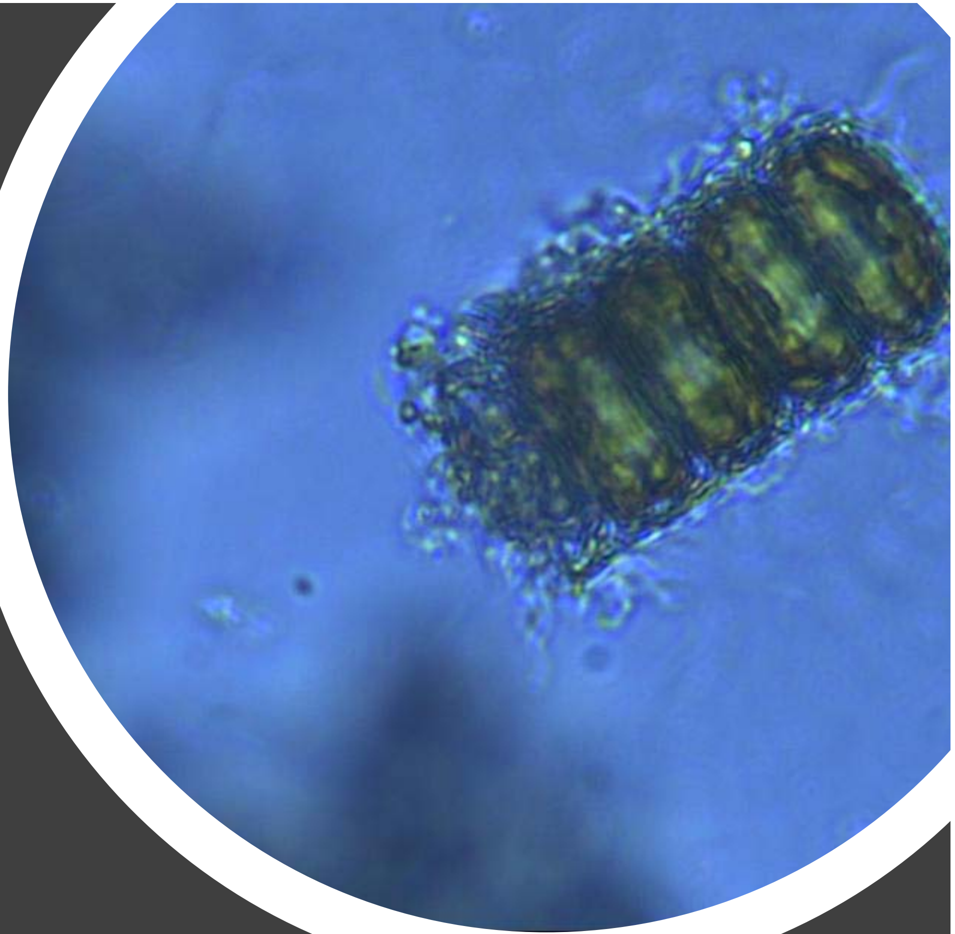




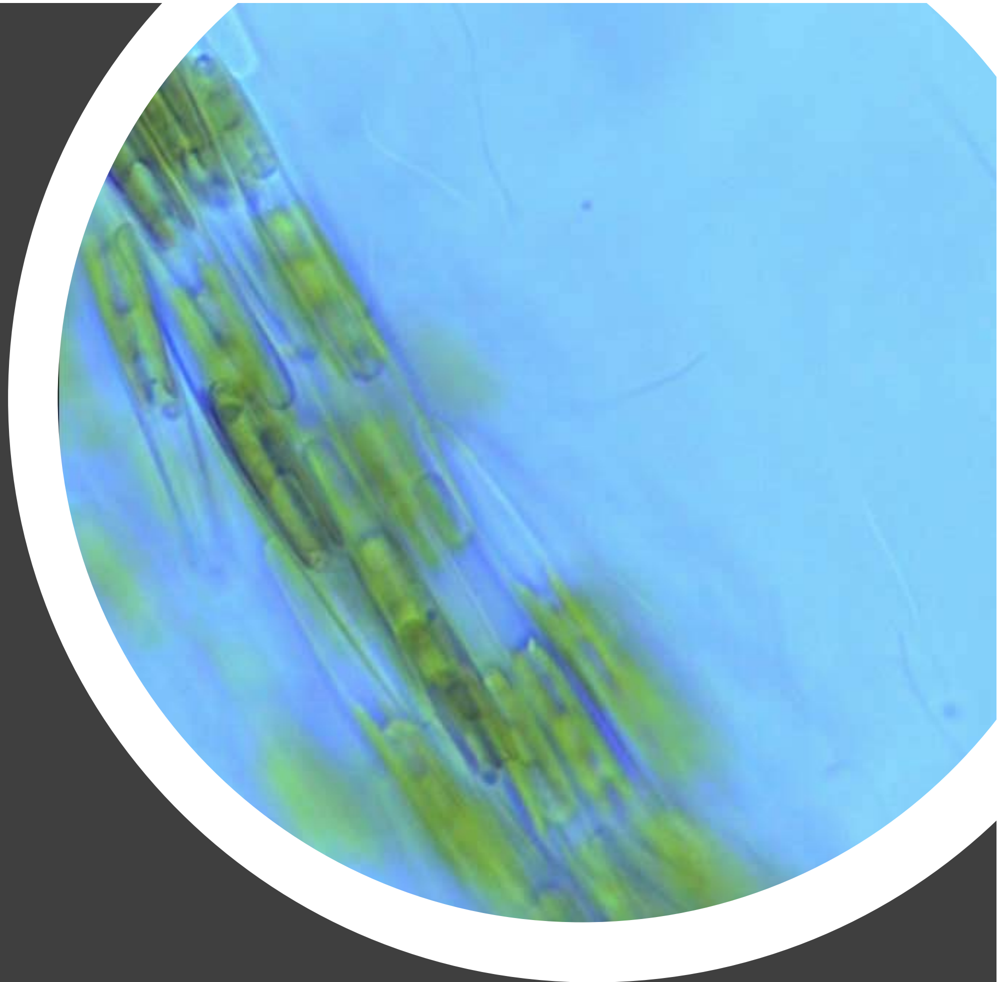
Striatella sp.

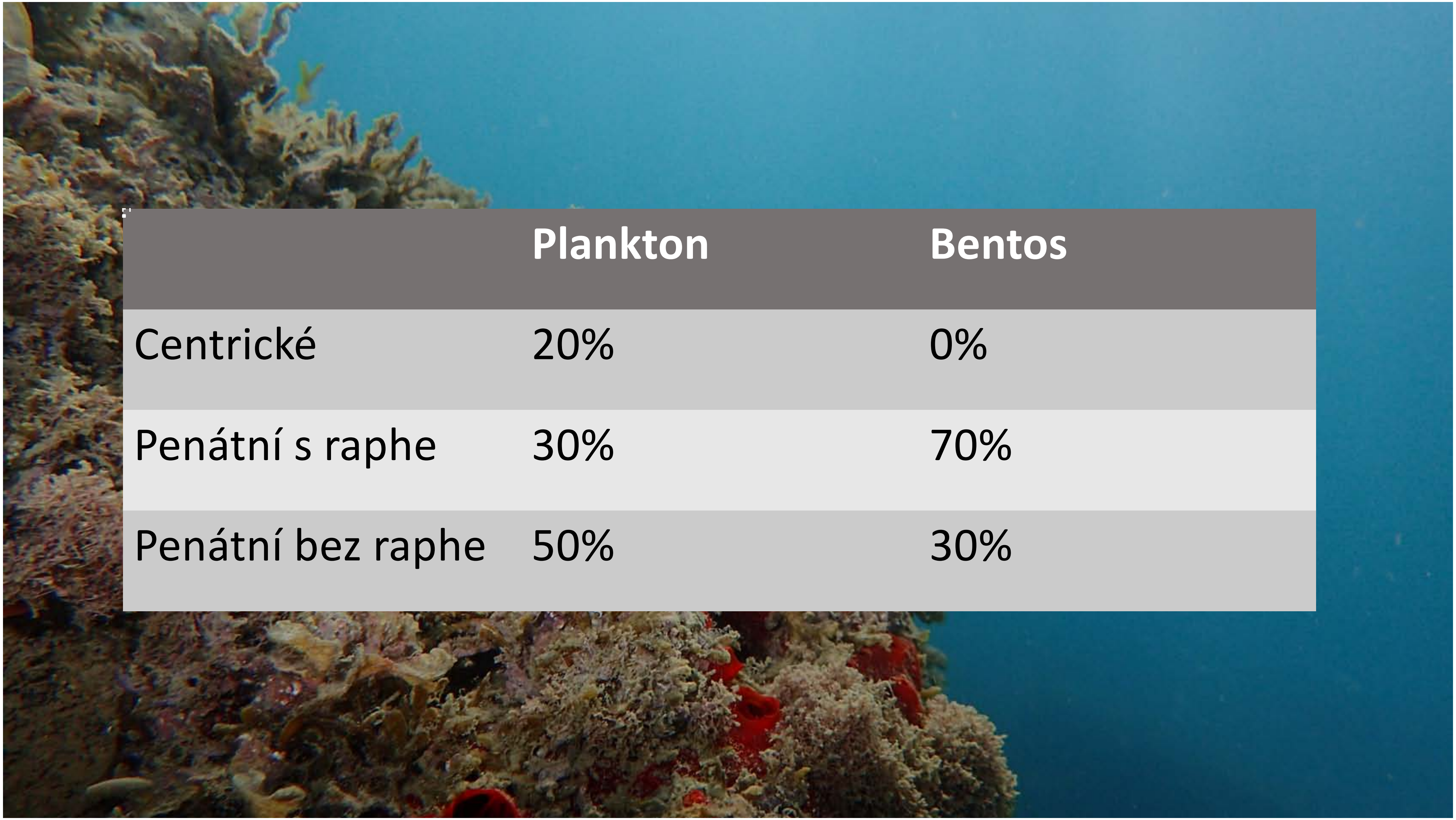
Fragilaria sp.





Paralia (Melosira) sp.



	Plankton	Bentos
Centrické	20%	0%
Penátní s raphe	30%	70%
Penátní bez raphe	50%	30%




KRABI
Aneta, Káča, Mája a *Maja*

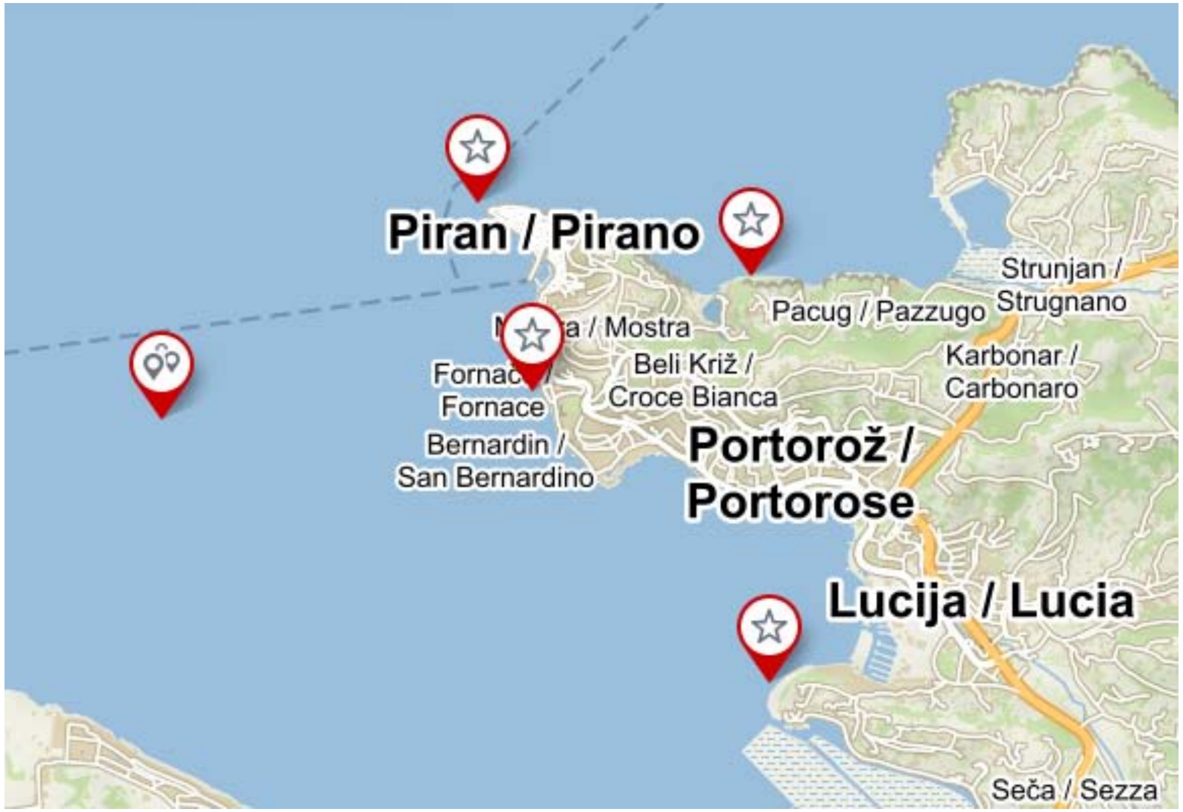
Lawrence M. Jones (1938)

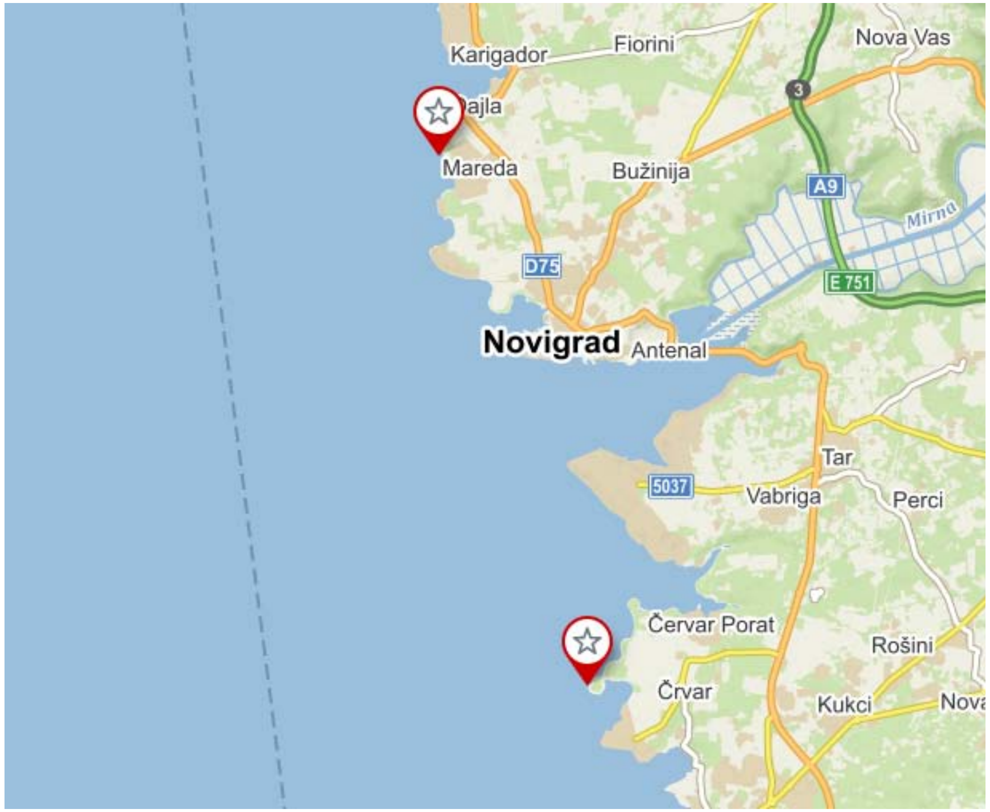
Epibiosis and masking material in the spider crab *Maja squinado* (Decapoda: Majidae) in the Ría de Arousa (Galicia, NW Spain)

Julio PARAPAR, Luis FERNÁNDEZ, Eduardo GONZÁLEZ-GURRIARÁN & Ramón MUÍÑO
Departamento de Bioloxía Animal, Bioloxía Vexetal e Ecoloxía,
Universidade da Coruña, Campus da Zapateira s/n, E-15071 A Coruña, Spain
Julio Parapar Vegas - Fax: 34-81-167065 - E-mail: jparapar@udc.es

Abstract: Majid crabs present a marked masking behaviour, which, in addition to the phenomenon of epibiosis on their exoskeleton, constitutes a complex camouflage system to ward off predators. This paper presents a study on the floral and faunal composition of the epibiont and masking material of the decapod *Maja squinado* in the Ría de Arousa (Galicia, NW Spain). A total of 309 taxa were identified. Seaweeds (87 species), cnidarians (48), polychaetes (46), crustaceans (36) and molluscs (30) were the groups with a higher number of species. The frequency of occurrence of these groups was about 70%. Ascidians, poriferans, bryozoans and echinoderms were less important in number of species and frequency of occurrence. The quantitative impact of each of these groups and their species composition varies considerably, and depends on the area of the ría where *M. squinado* was found and the time that had elapsed since the terminal moult. The pre-pubertal spider crabs found in shallow water areas showed strong masking behaviour, while epibiosis was very scarce. Once individuals have undergone the pubertal moult, epibiosis begins, while the masking behaviour decreases and finally disappears.


Kde jsou?


Piran / Pirano
Pacug / Pazzugo
Strunjan / Strugnano
Beli Križ / Croce Bianca
Fornace
Karbonar / Carbonaro
Bernardin / San Bernardino
Portorož / Portorose
Lucija / Lucia
Seča / Sezza

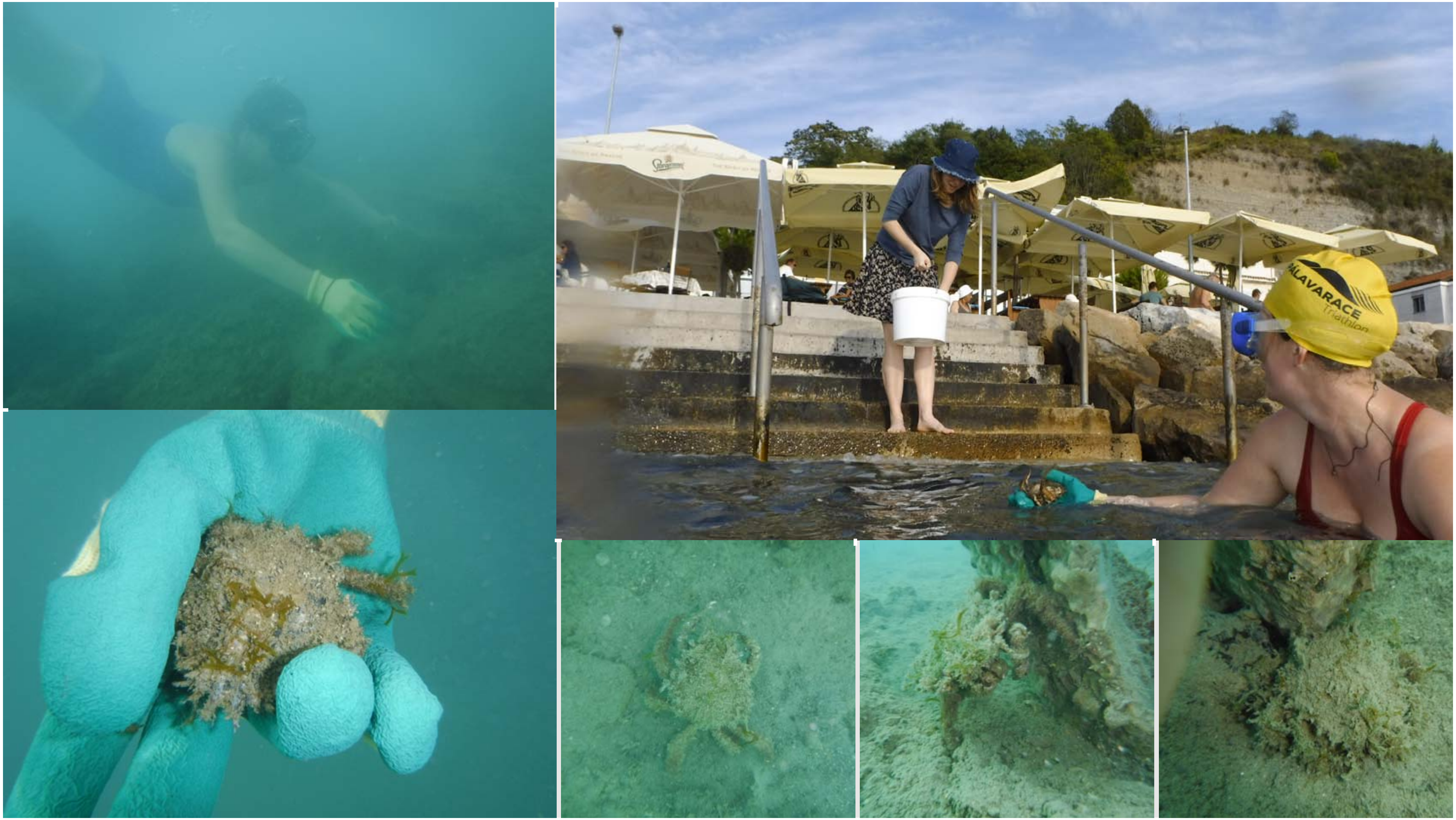

Karigador
Fiorini
Nova Vas
Mareda
Bužinija
A9
Mirna
D75
E 751
Novigrad
Antenal
Tar
5037
Vabriga
Perci
Červar Porat
Rošini
Črvar
Kukci

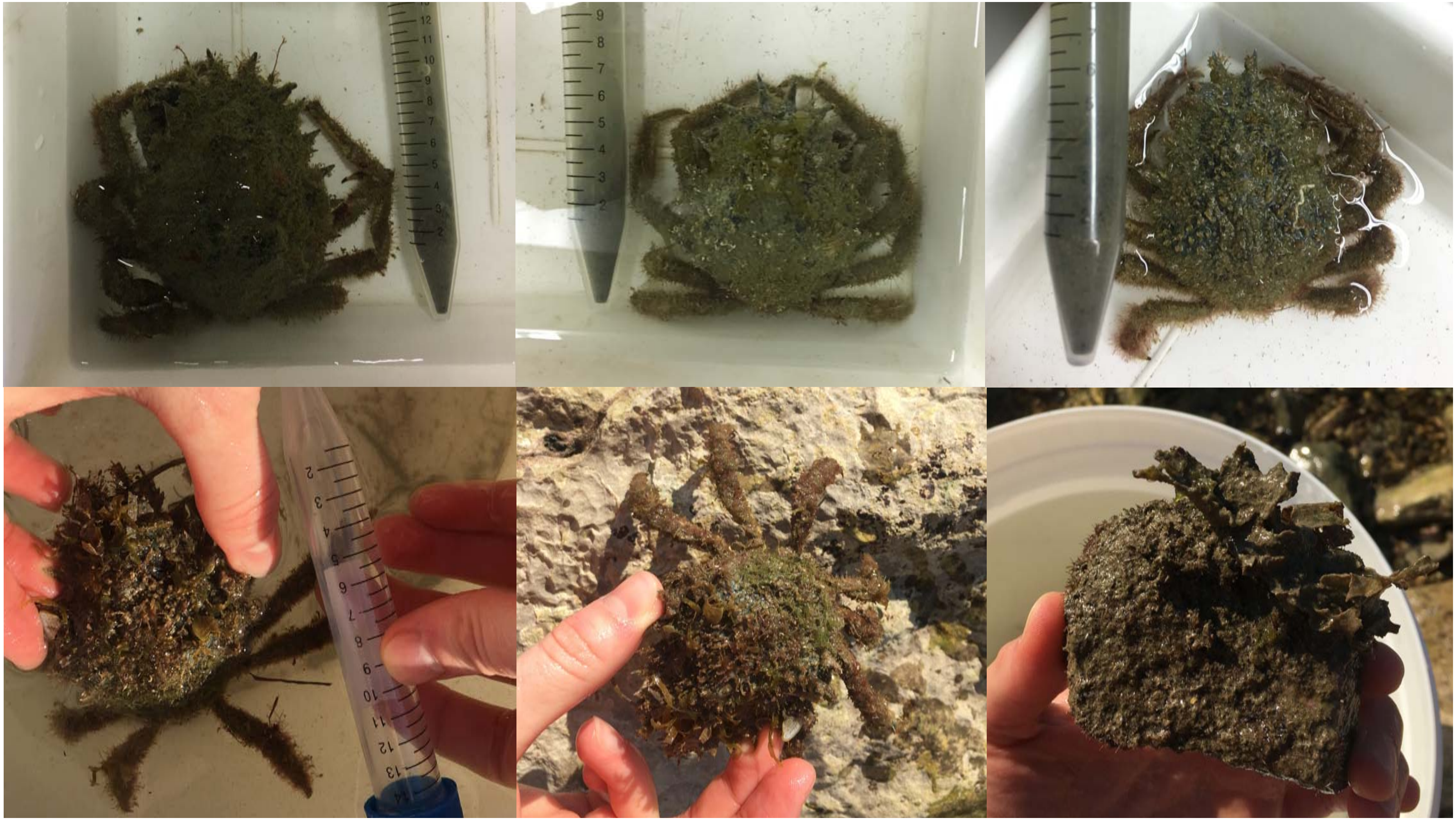

Dromia sp.


Pachygrapsus sp.


Eriphia verrucosa

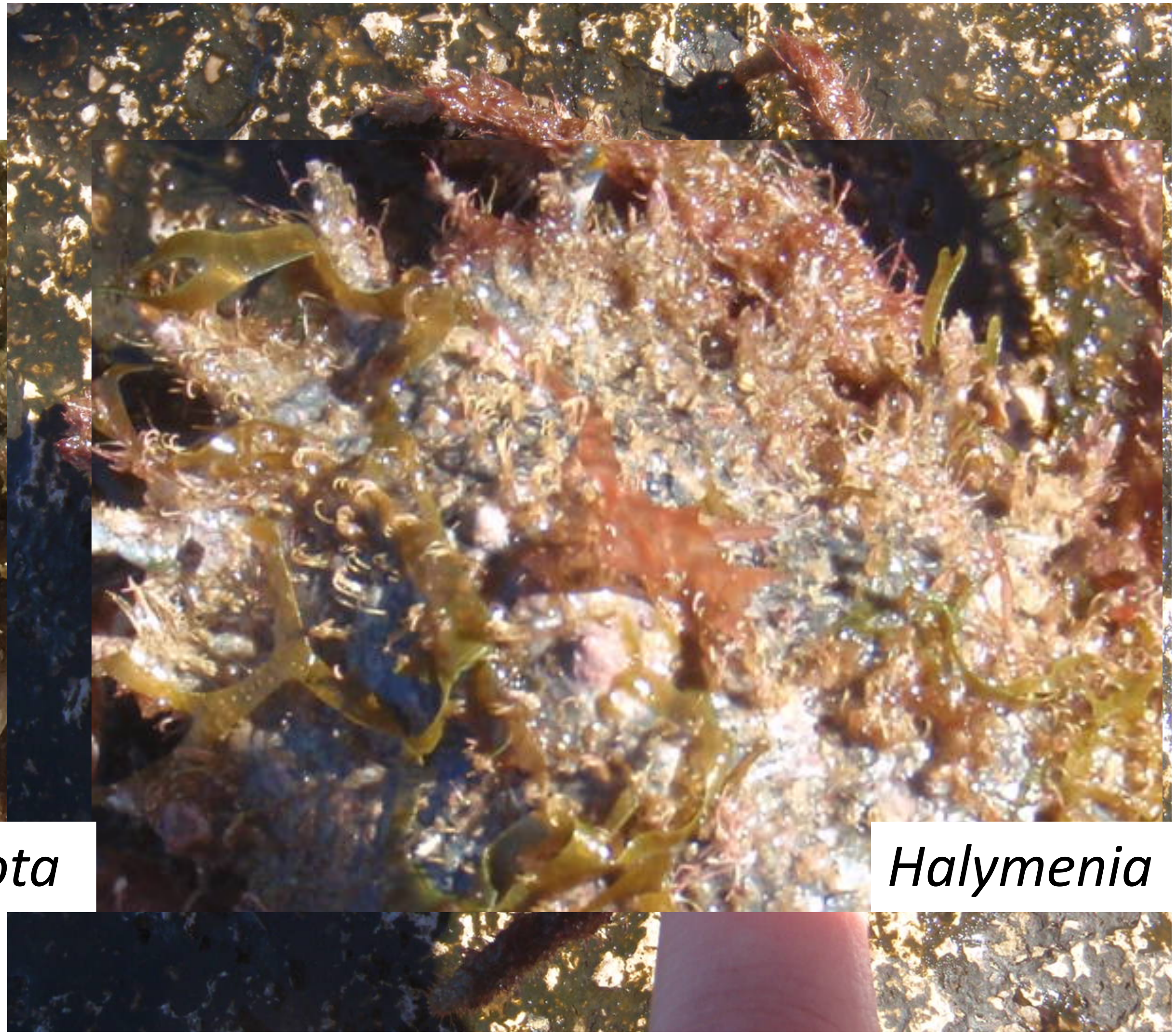

poustevníček


Triathlon




Ha! *Halimeda*

Dictyota



Halymenia

MASKING SPECIES

Phylum PHYCOPHYTA

Div. Chlorophyta

Cladophora albida
Cladophora cf. hutchinsiae
Cladophora cf. rudolphiana
Cladophora laetevirens
Enteromorpha clathrata
Enteromorpha crinita
Enteromorpha prolifera
Ulva rigida

Div. Phaeophyta

Bifurcaria bifurcata
Cystoseira baccata
Cystoseira usneoides
Desmarestia aculeata
Dictyopteris sp.
Dictyota dichotoma
Ectocarpus fasciculatus
Halopteris filicina
Himanthalia elongata
Hincksia granulosa
Laminaria ochroleuca
Saccorhiza polyschides
Sargassum muticum
Sphacellaria sp.

Div. Rhodophyta

Acrosorium venulosum
Ahnfeltia plicata
Apoglosum ruscifolium
Asparragopsis armata
Boergensienella martensiana
Bonnemaisonia asparragoides
Bonnemaisonia sp.
Bornetia secundiflora
Calliblepharis jubata
Callithamnion tetricum
Callophillis laciniata
Callymenia reniformis
Ceramium echinotum
Ceramium rubrum
Ceramiun ciliatum
Champia intrincata
Chondria dasyphylla
Chondria scintillans
Chylocladia verticilata
Corallina officinalis
Dasya sp.
Delesseria sanguinea
"Falkenbergia rufolanosa"
Gastroclonium ovatum
Gelidium attenuatum
Gelidium latifolium
Gelidium sesquipedale
Gigartina acicularis
Gigartina falcata
Chondracanthus teedii
Gracilaria verrucosa
Griffithsia sp.
Halarachnion ligulatum
Heterosiphonia plumosa
Hypoglosum hypoglosoides
Jania cf. corniculata
Jania cf. rubens
Laurencia obtusa
Laurencia pinnatifida
Lomentaria articulata
Lomentaria clavellosa
Microcladia granulosa
Monosporum pedicellatus
Nitophyllum punctatum
Ophidocladus simpliciusculus
Pleonosporium borreri
Plocamium cartilagineum
Polyneura hilliae
Polysiphonia bodriaei
Polysiphonia elongata
Polysiphonia ferulacea
Pterocladia capillacea
Pterosiphonia complanata
Rhodymenia holmesi
Rhodymenia pseudopalmata
Sphaerococcus coronopifolius

Phylum PORIFERA

Class Demospongia

Fam. Callyspongiiae

Siphonochalina sp.

Phylum CNIDARIA

Class HYDROZOA

Fam. Aglaopheniidae

Aglaophenia acacia
Aglaophenia kirchenpaueri
Aglaophenia octodonta
Aglaophenia parvula
Aglaophenia pluma
Aglaophenia tubulifera
Gymnangium montagui
Lytocarpa myriophyllum

Fam. Haleciidae

Halecium beanii
Halecium halecinum
Halecium labrosum

Fam. Lafoeidae

Lafoea dumosa

Fam. Plumulariidae

Kirchenpaueria pinnata
Nemertesia antenina
Nemertesia ramosa
Plumularia setacea
Polyplumaria flabellata
Thuiaria thuja

Fam. Sertulariidae

Abietinaria abietina
Abietinaria filicula
Amphisbetia operculata
Diphasia attenuata
Diphasia nigra
Salacia desmoides
Sertularella ellisii
Sertularella fusiformis
Sertularella gayi
Sertularella mediterranea
Sertularella polyzonias
Sertularia argentea

Fam. Tubulariidae

Tubularia larynx

Class ANTHOZOA

Order Gorgonacea

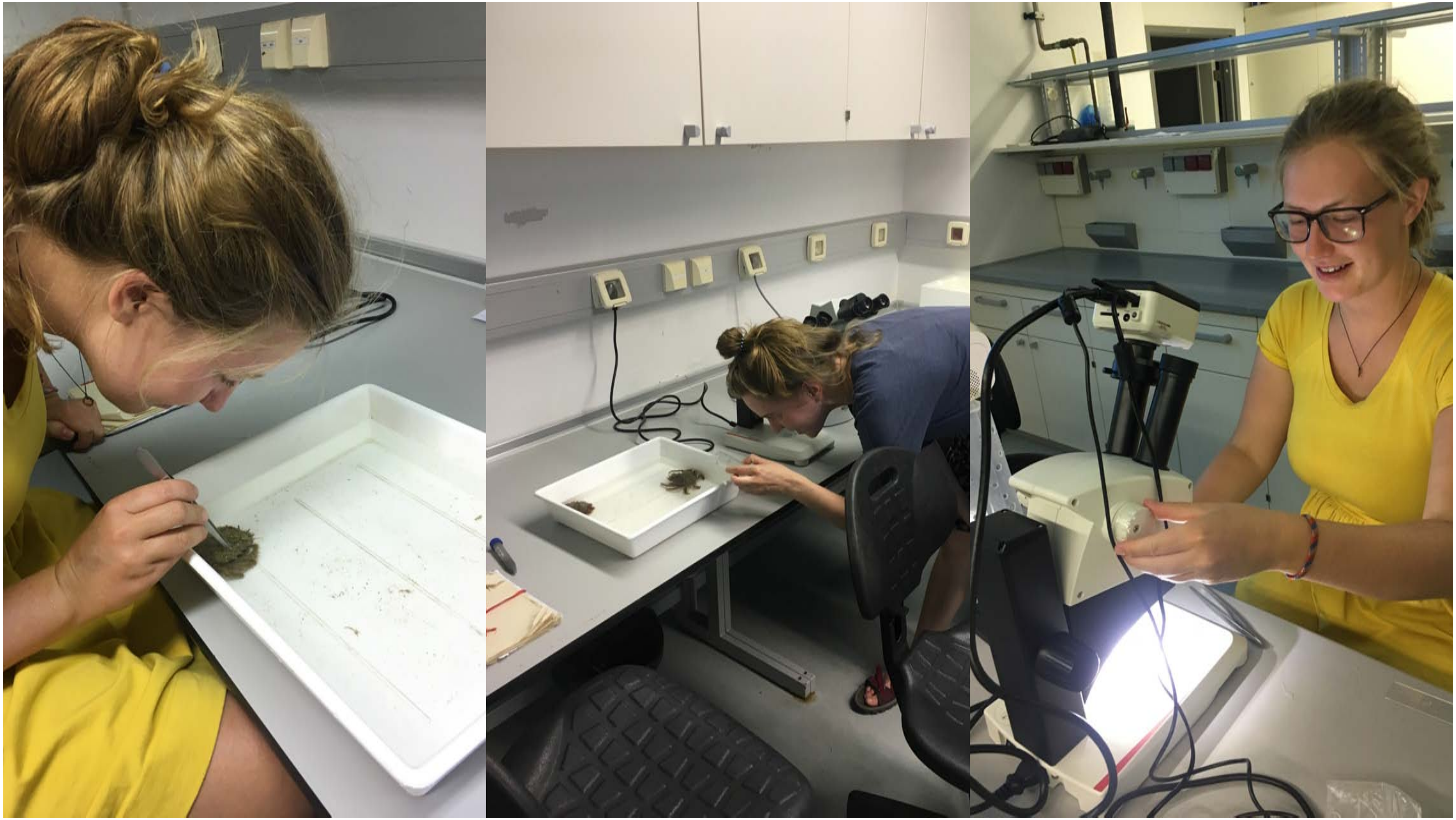
Lophogorgia sp.

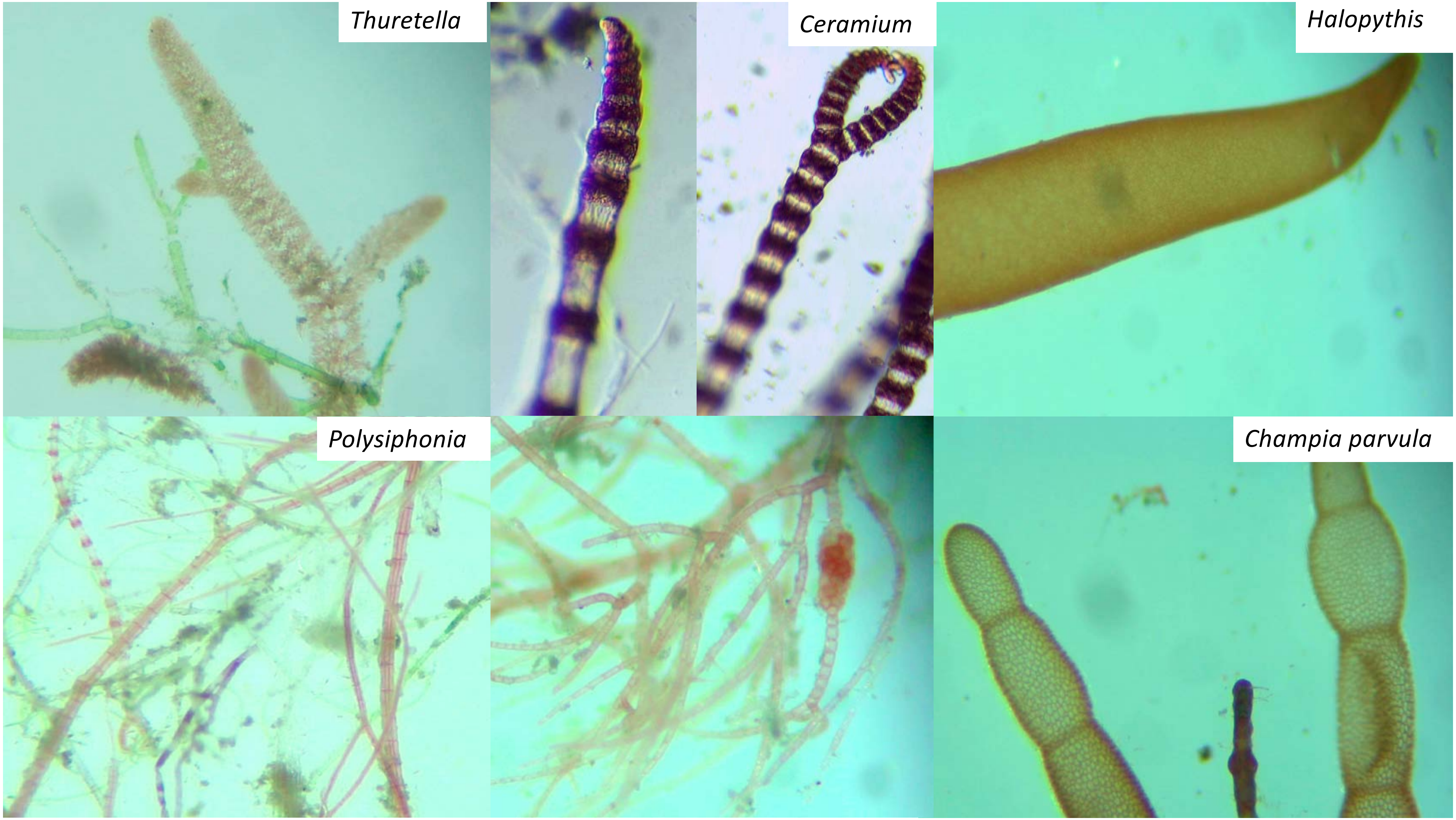
Order Pennatulacea

Virgularia mirabilis

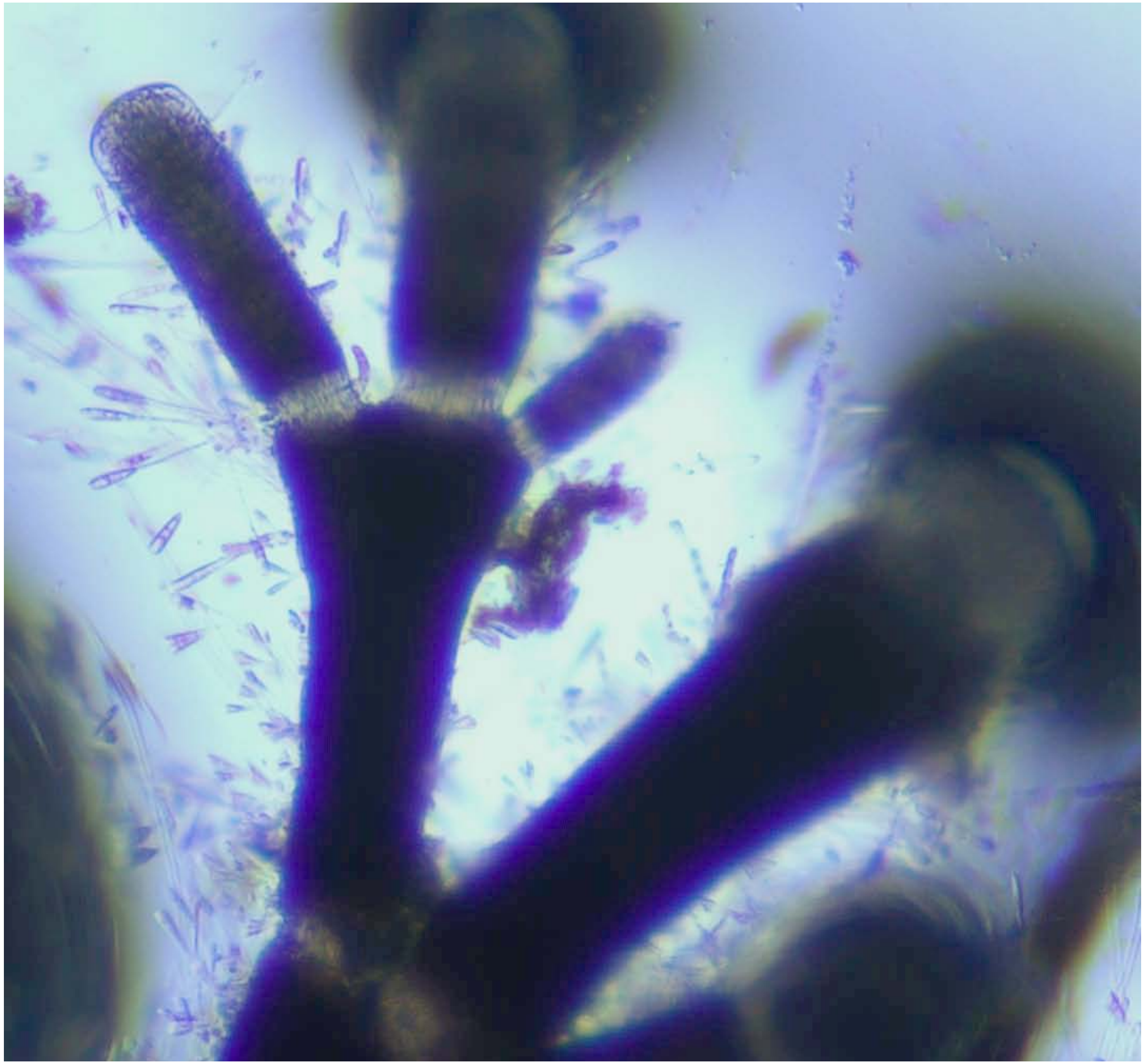
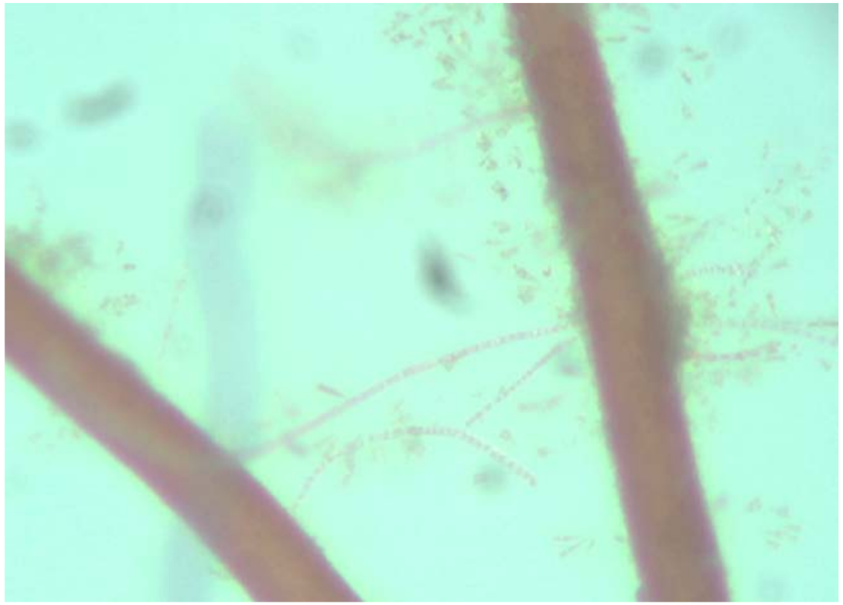
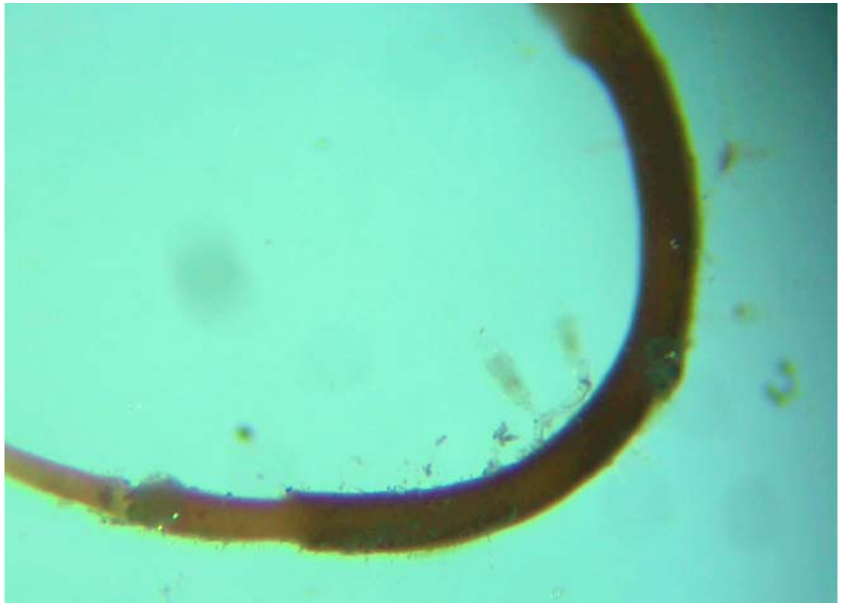
Phylum BRYOZOA

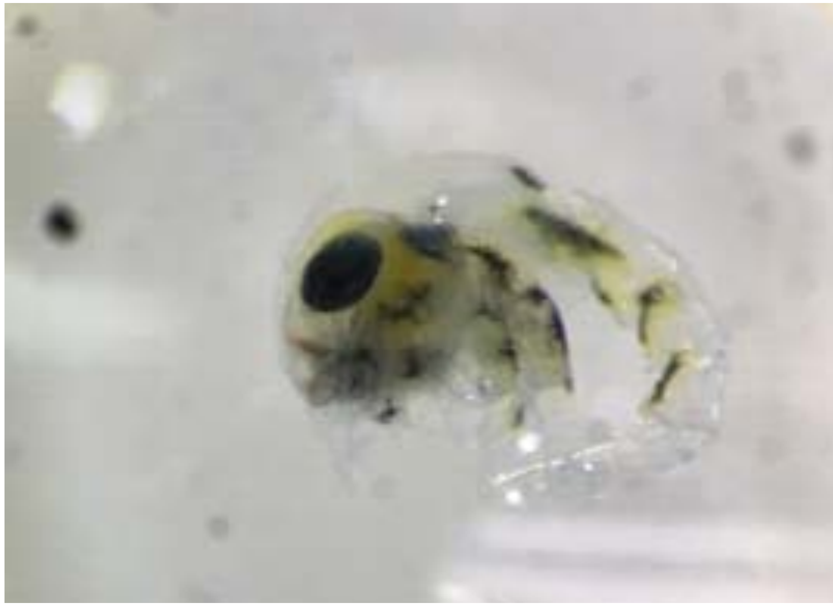
Cellaria salicornioides
Crisia eburnea
Filicrisia geniculata
Scrupocellaria reptans





Thuretella
Ceramium
Halopythis
Polysiphonia
Champia parvula




©Zuzka

Regenerační schopnost rodu Valonia

aneb praskání bublinkové fólie

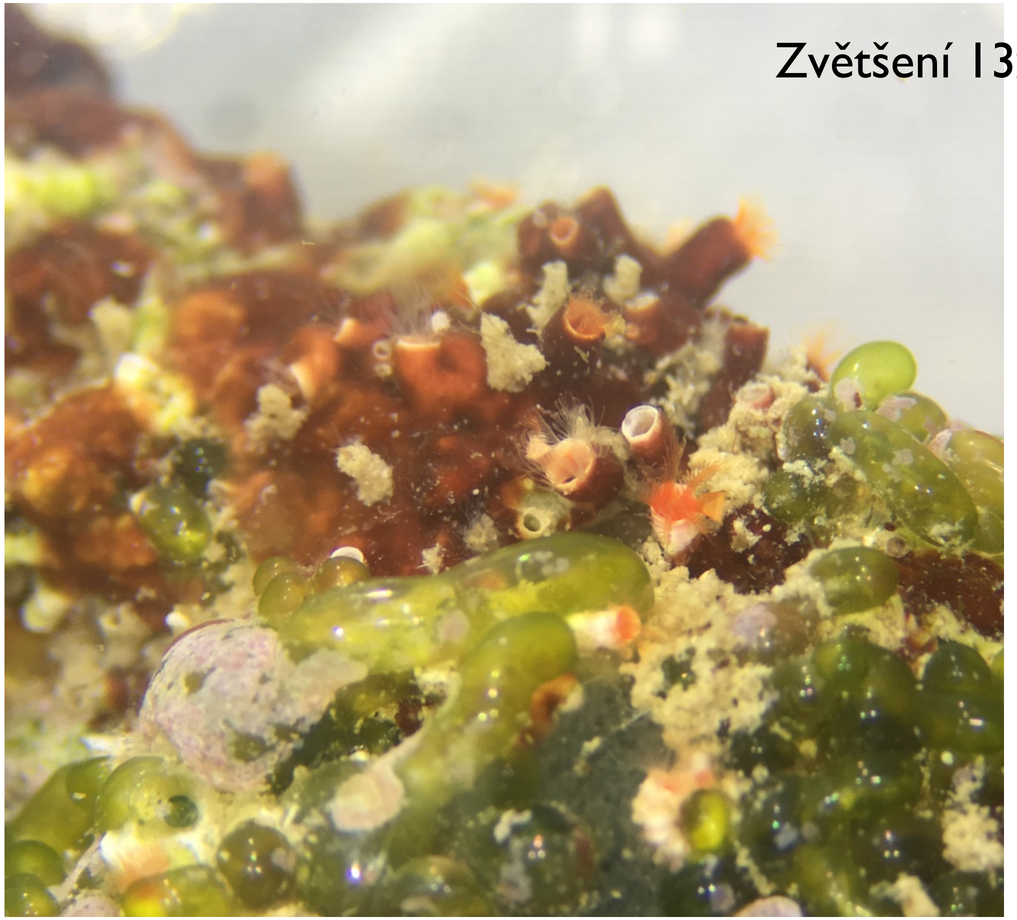
Adéla Karhanová & Eliška Konečná & Eliška Havlíčková

Cíl projektu

- Zjistit reakci coenocytické řasy (Valonia) na mechanické poškození různé míry

Valonia utricularis

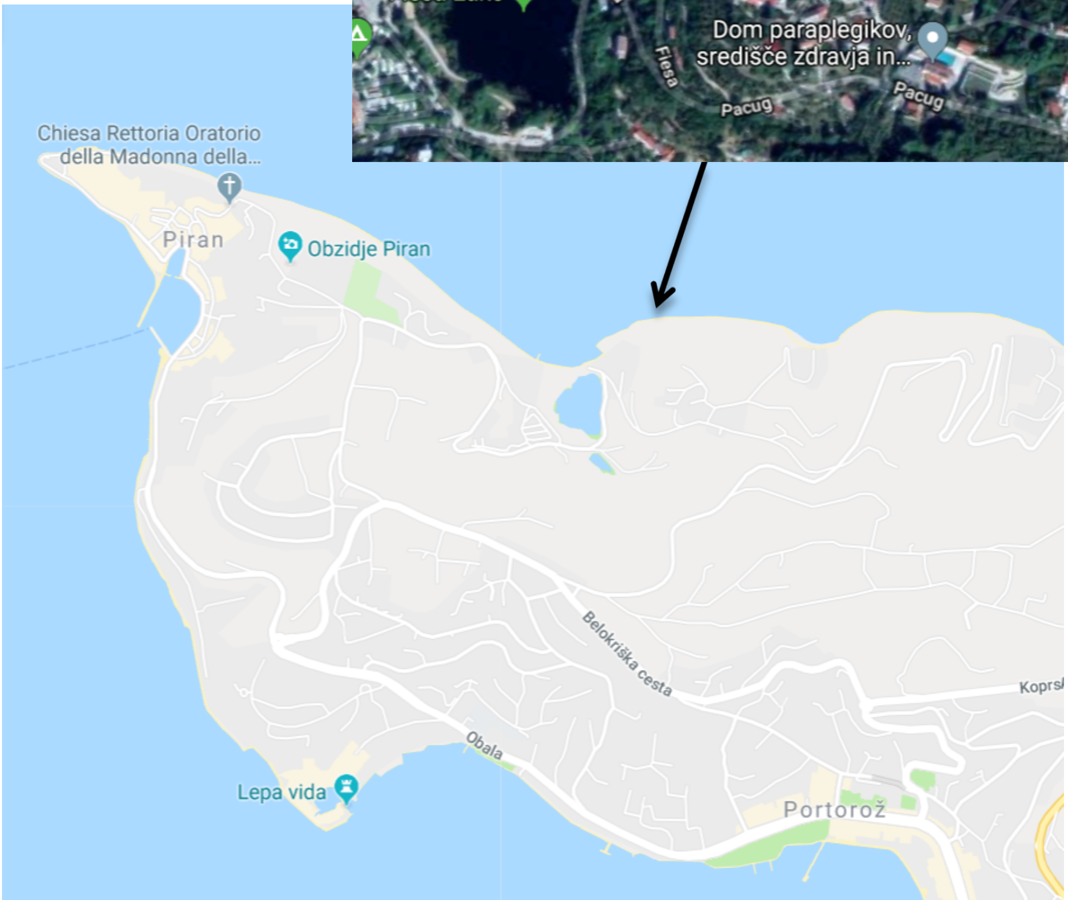
- Chlorophyta – Ulvophyceae – Cladophorales
- Coenocytická řasa

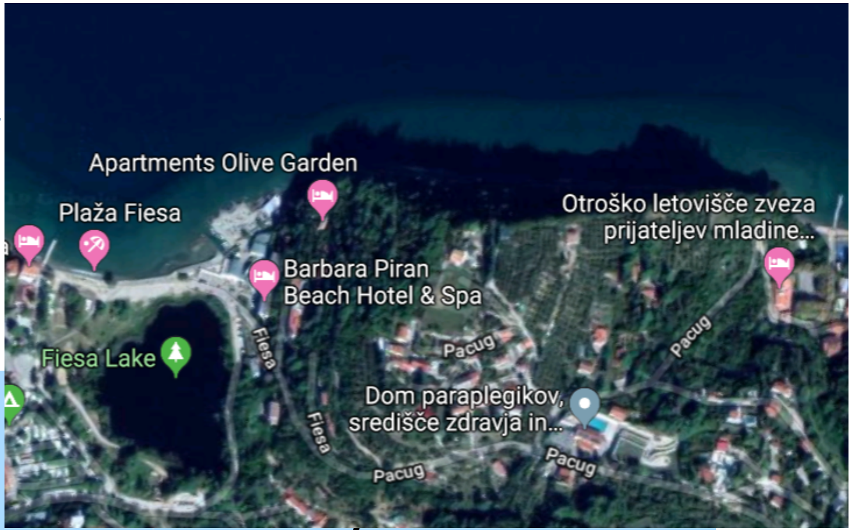


Zvětšení 13x

Postup

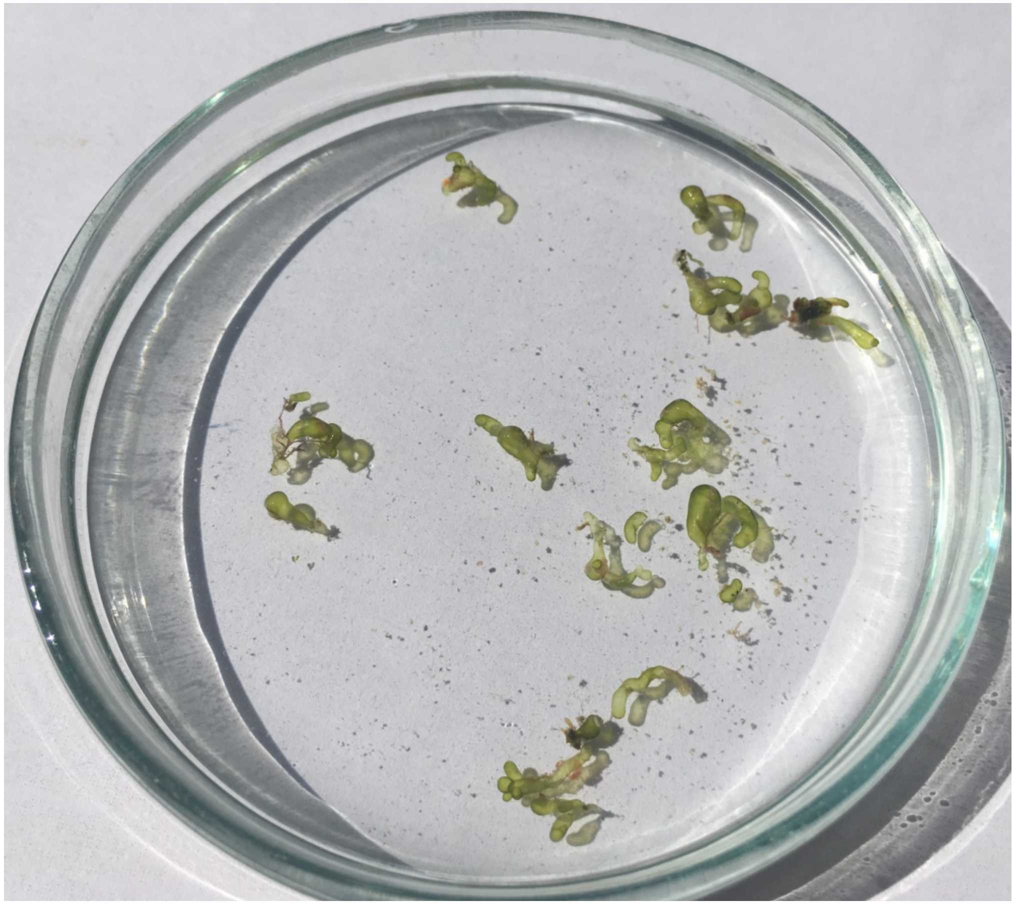
1) Sběr





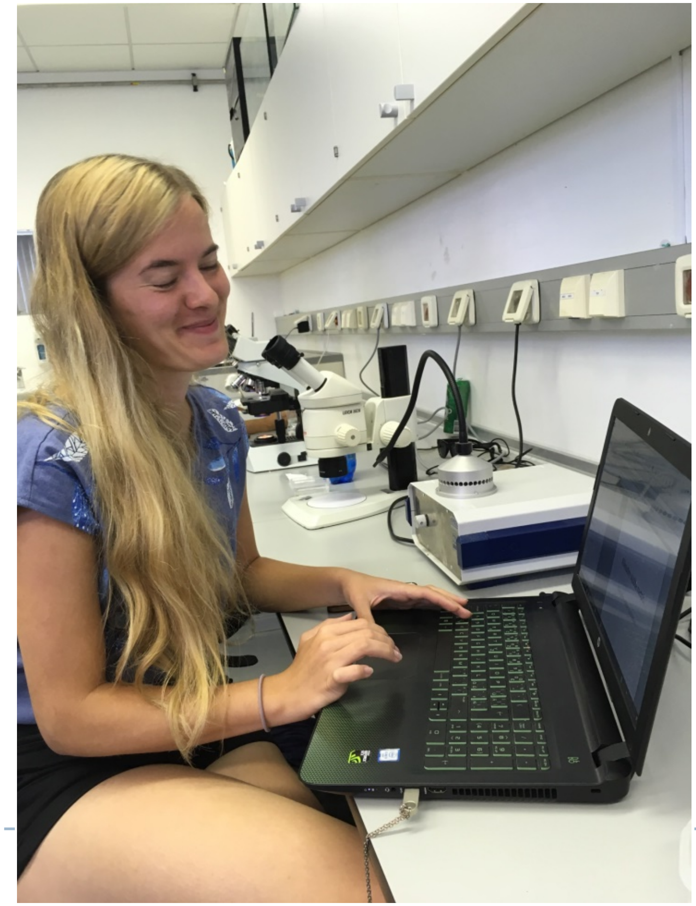
Postup

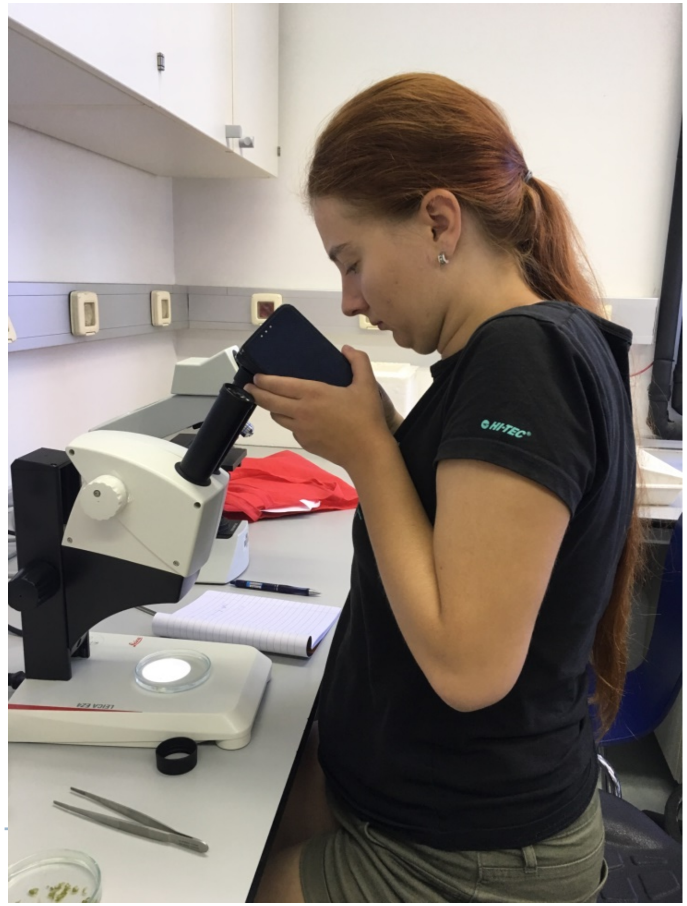
2) Výběr buněk



Metodika

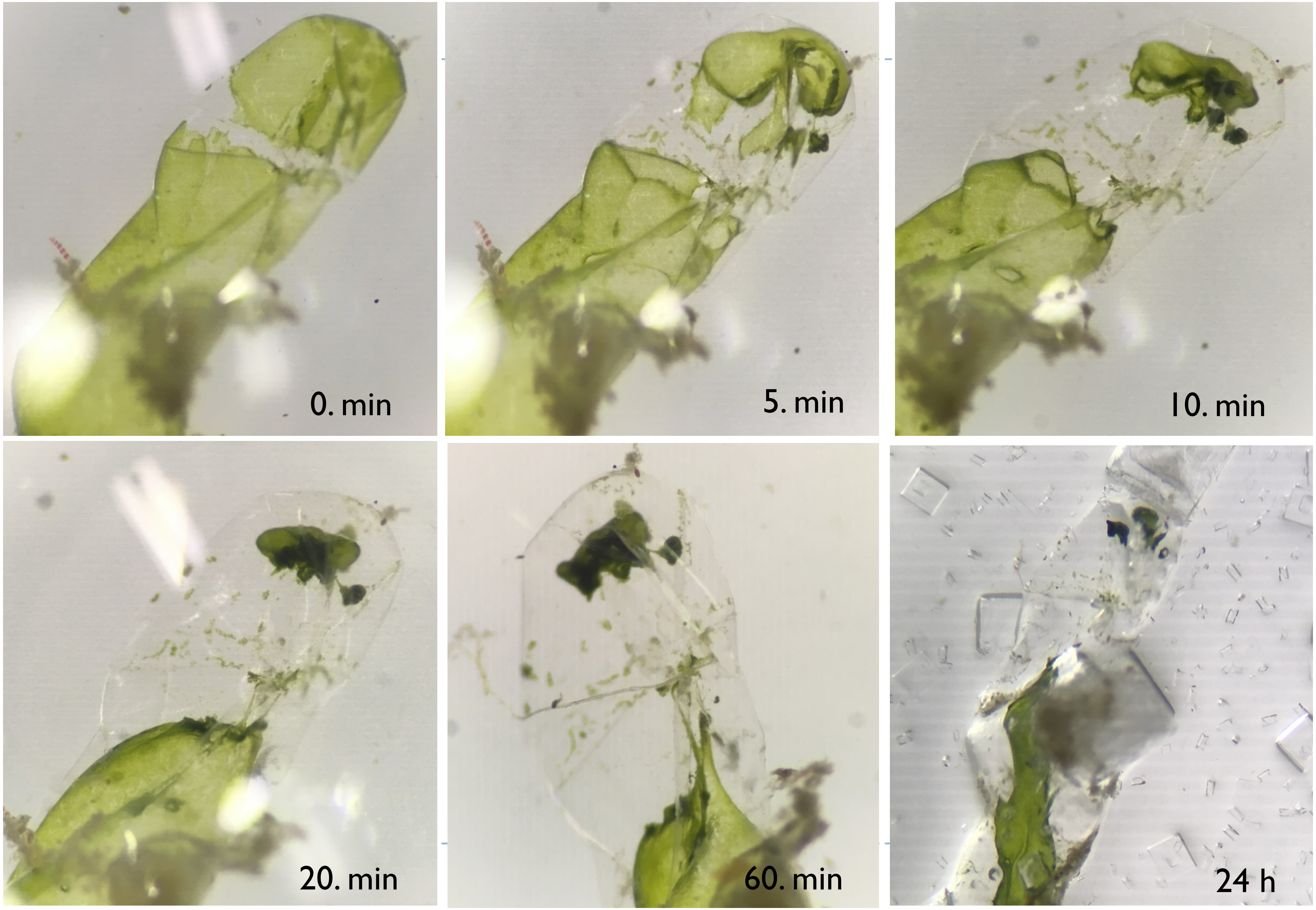
- 3 typy poranění:
  - Lehké poranění bez ztráty turgoru
  - Poranění se ztrátou turgoru
  - Řez
- Pozorování pod binolupou
  - 1. hodina: interval 10 min
  - 2. hodina: interval 20 min
  - Za 1 hodinu
  - Za 3 hodiny
  - 24 h
- 3 buňky + kontrola



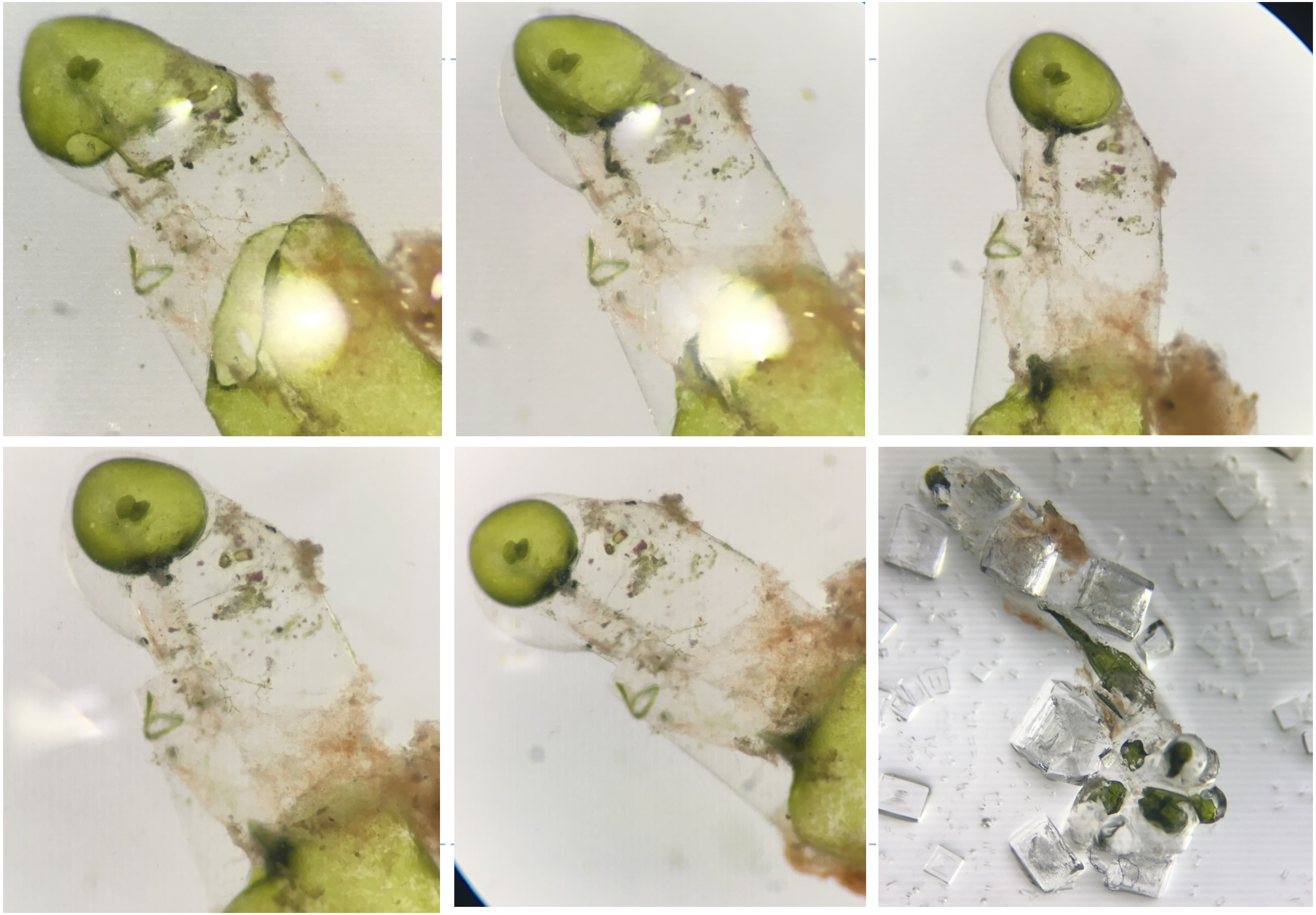


Výsledky

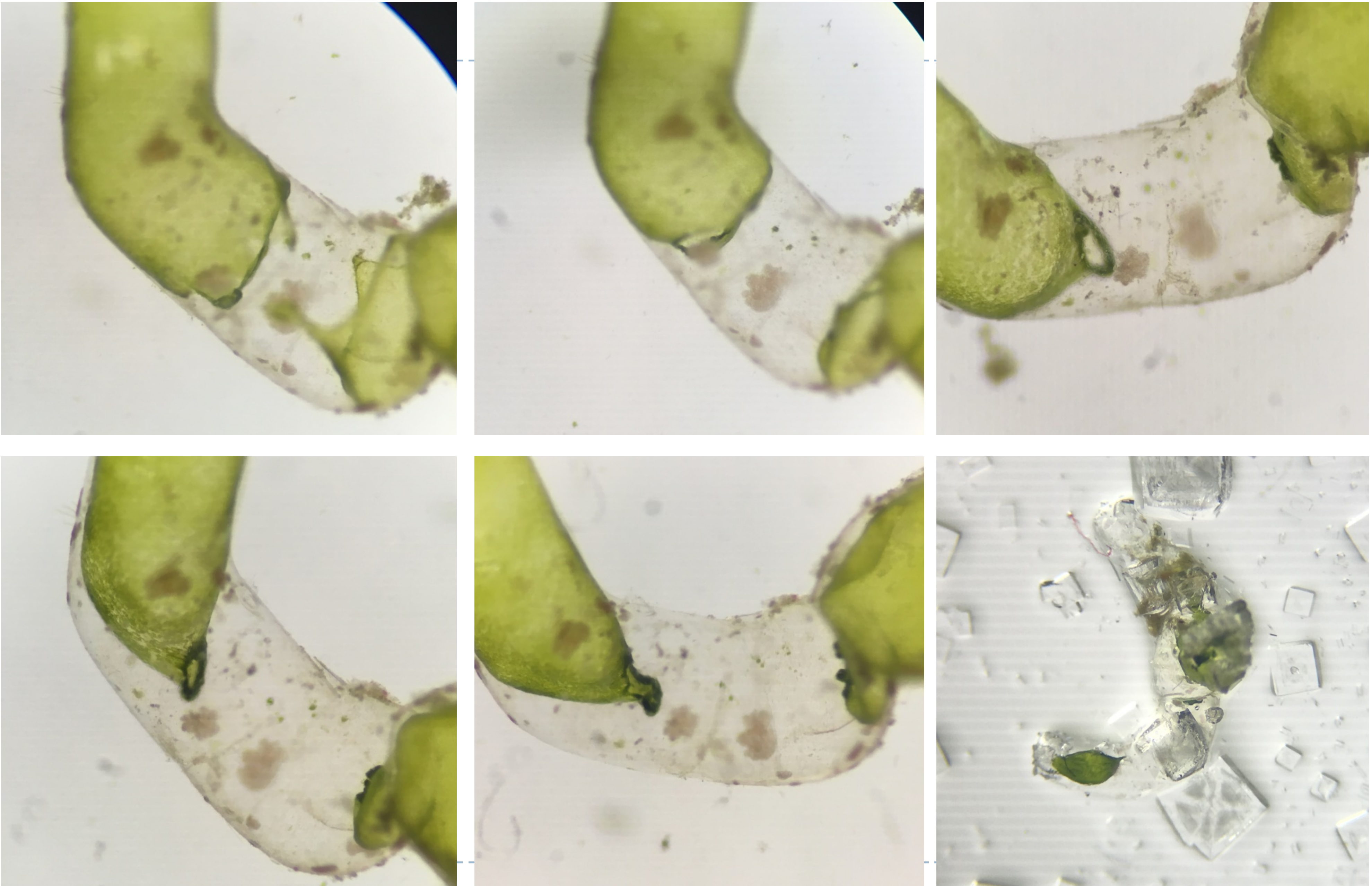
Zvětšení 56x



Výsledky

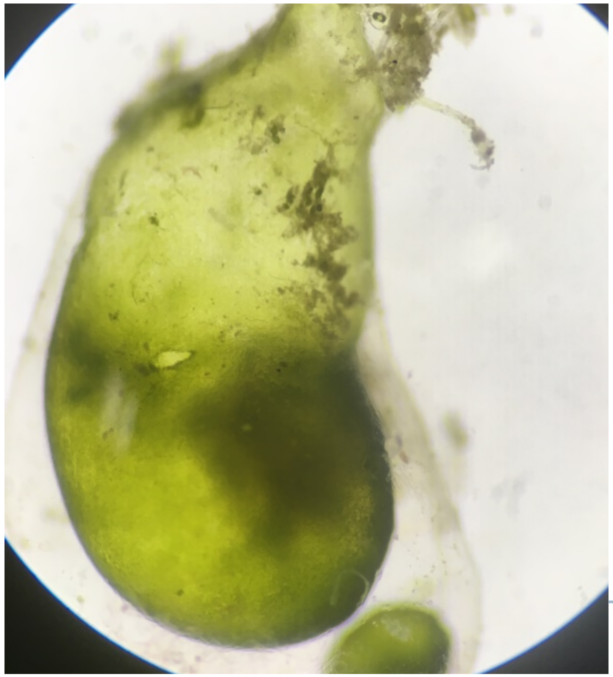


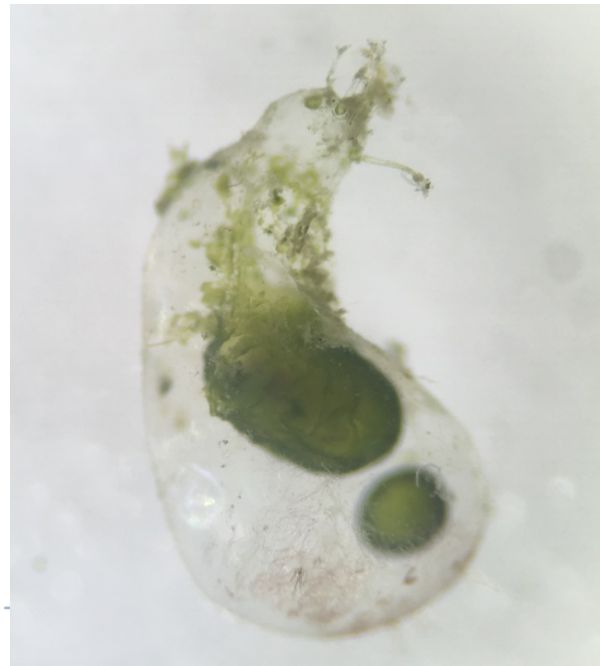
Výsledky



Výsledky





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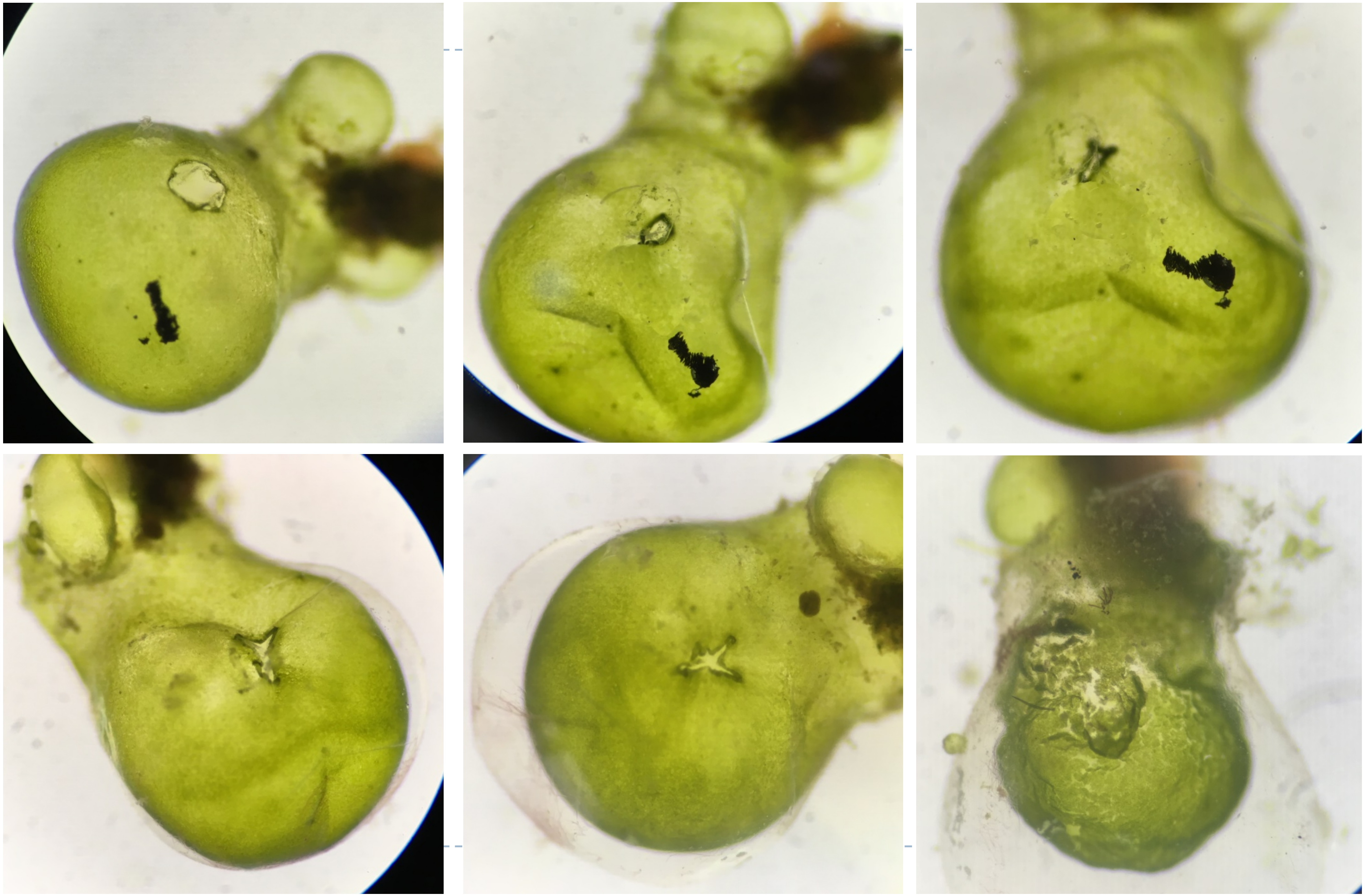

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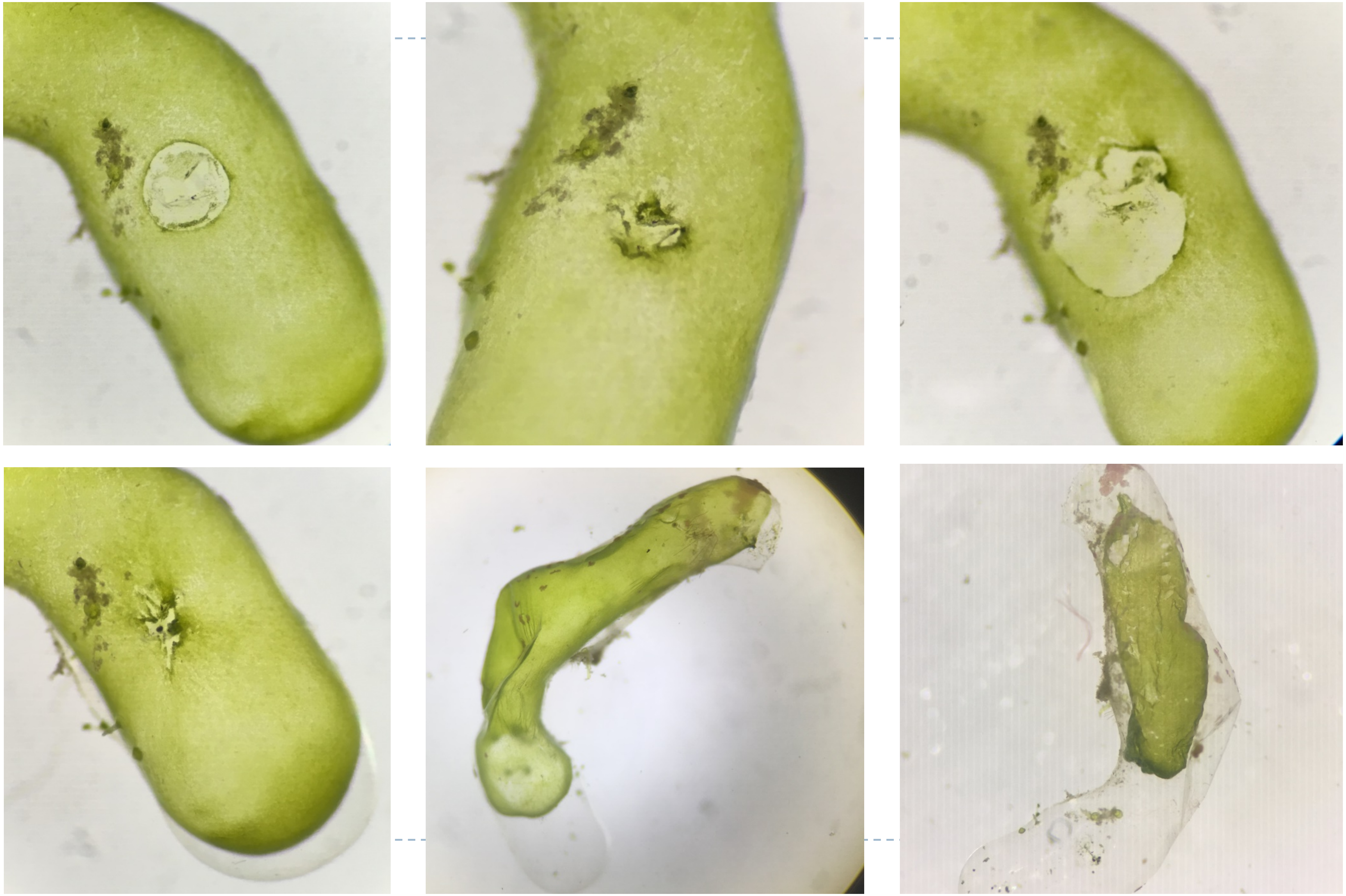

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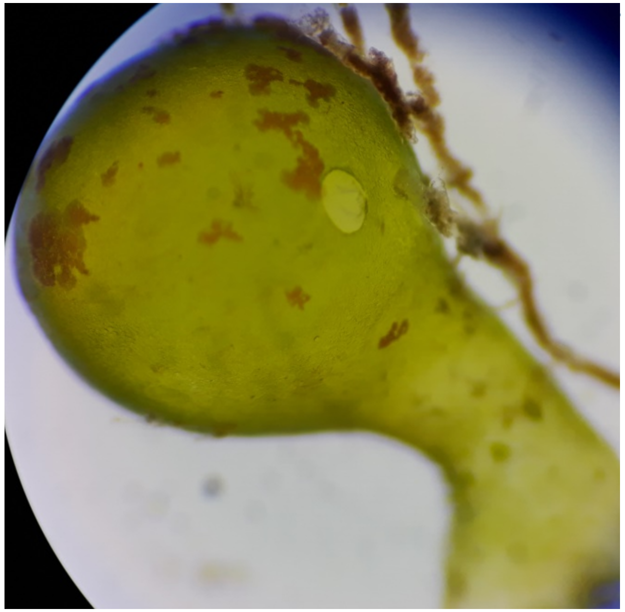
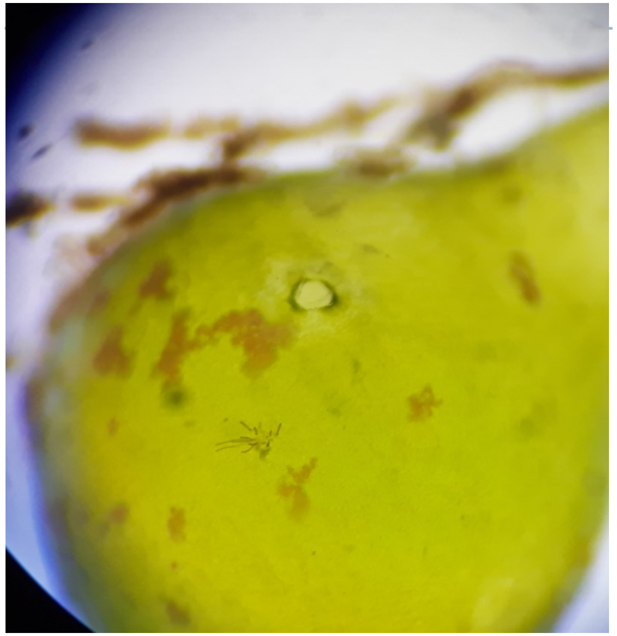
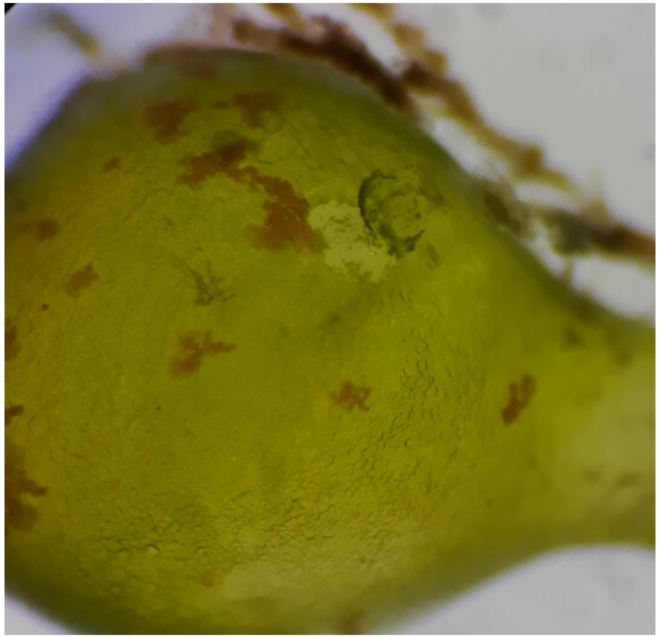
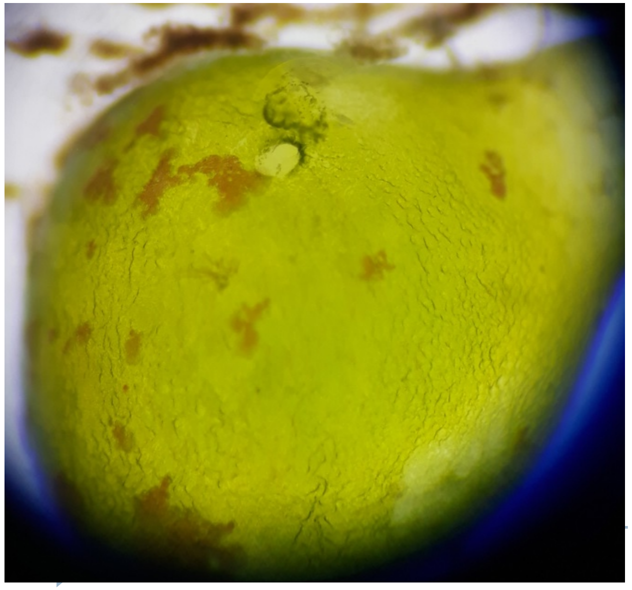
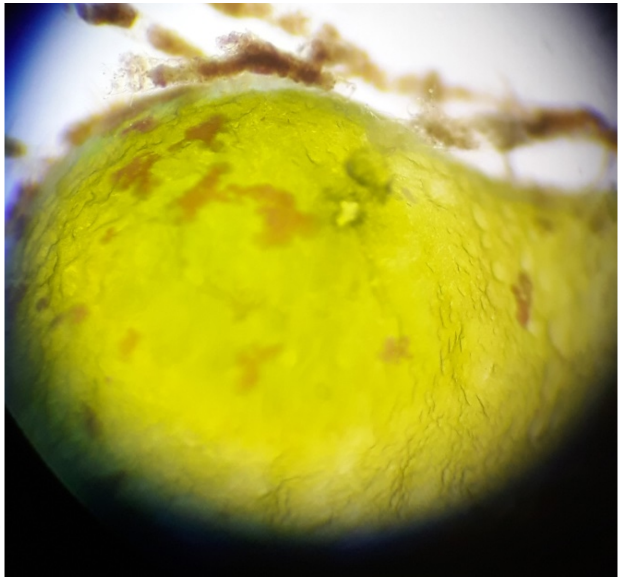
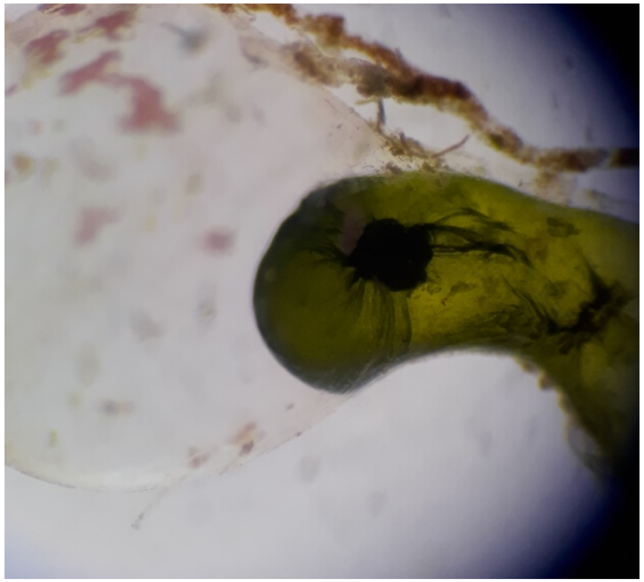
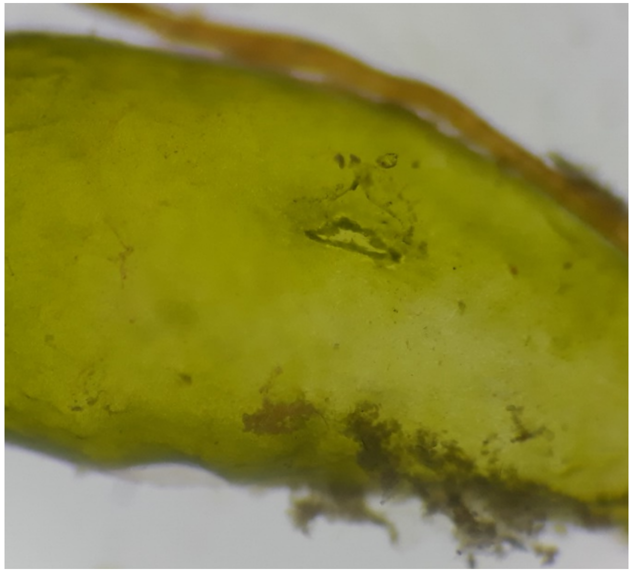
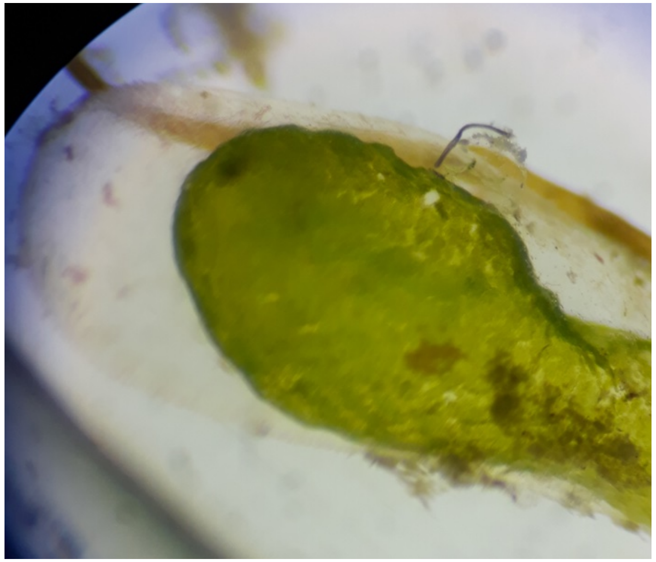







Výsledky

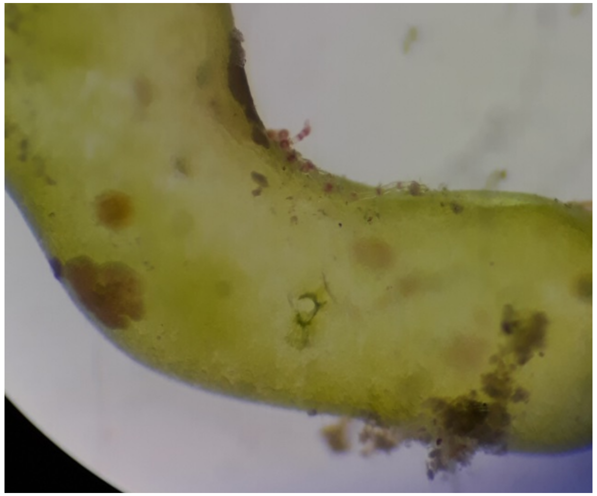
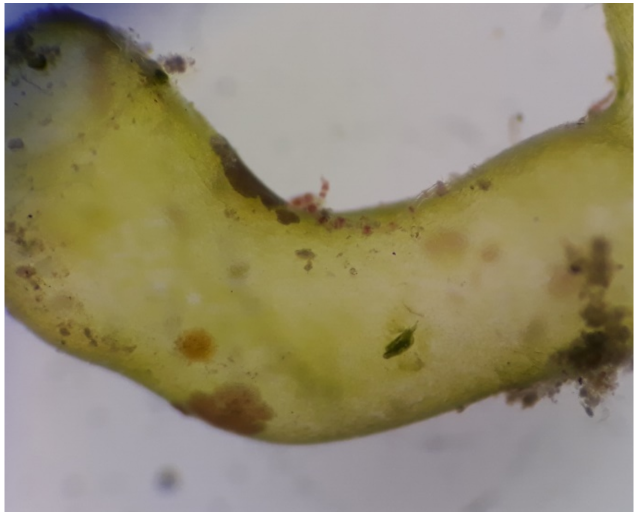
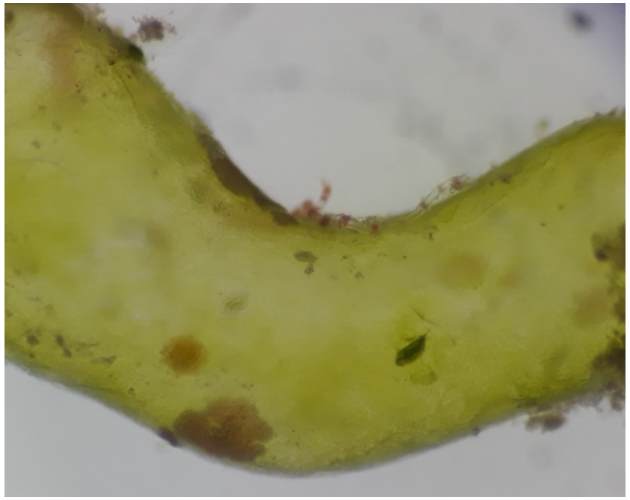
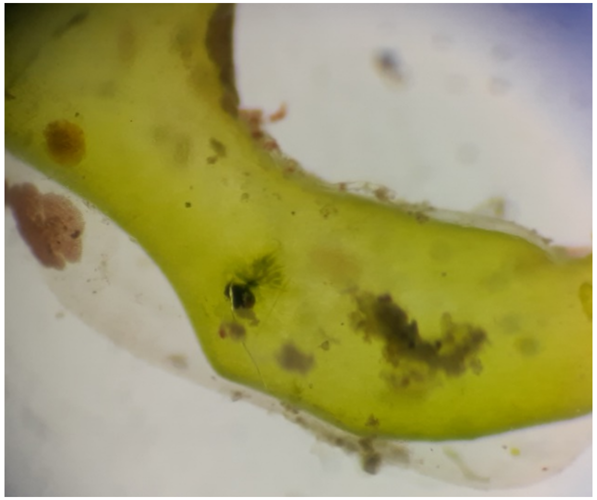




Výsledky

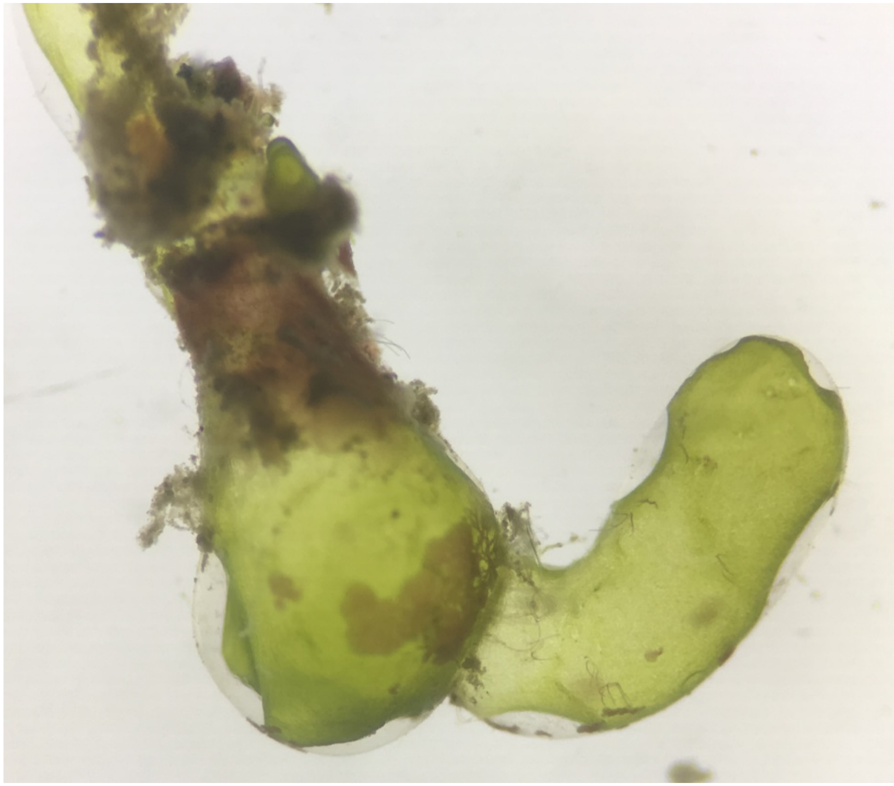


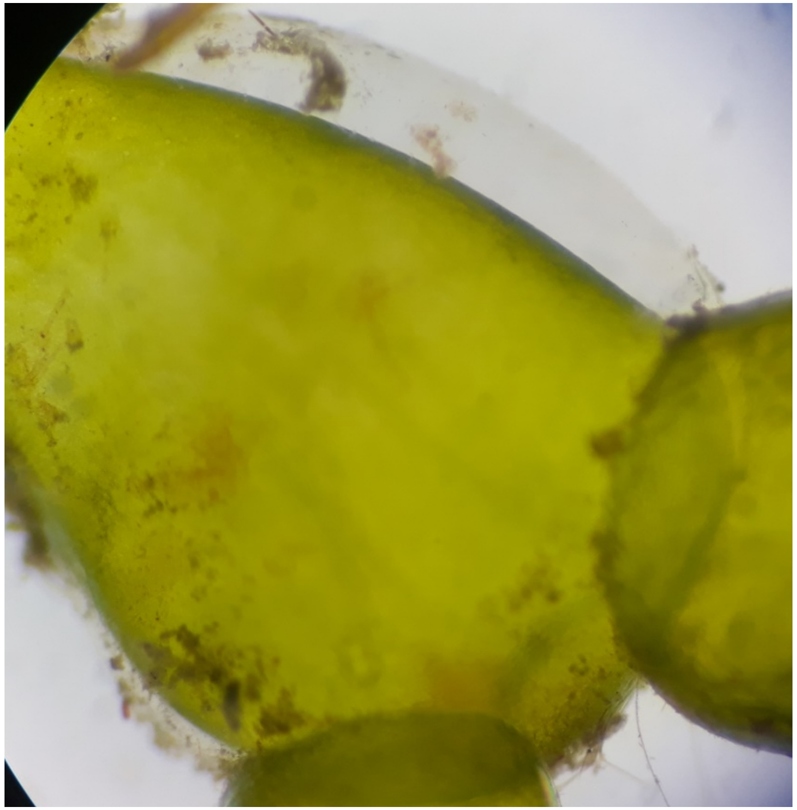





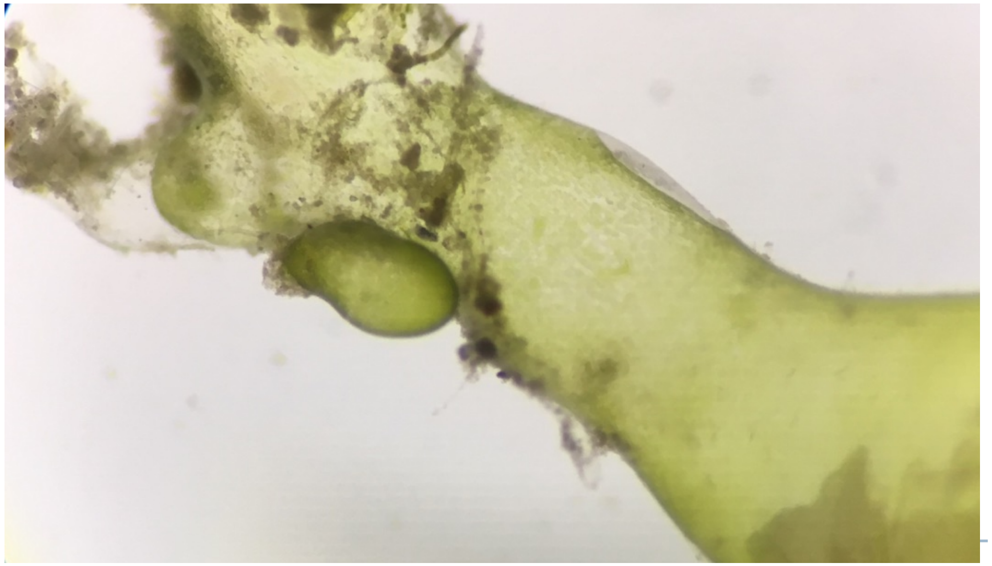
Večerní mikrofilm

Diskuze

- Chyby měření



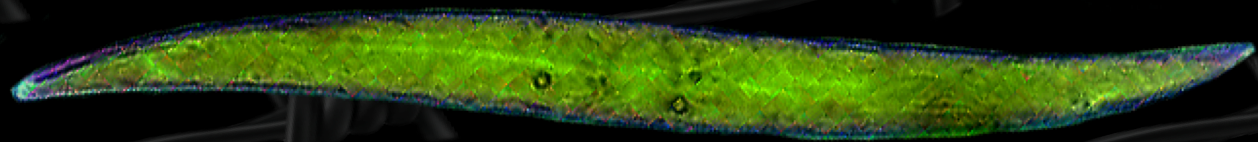




Děkujeme za pozornost

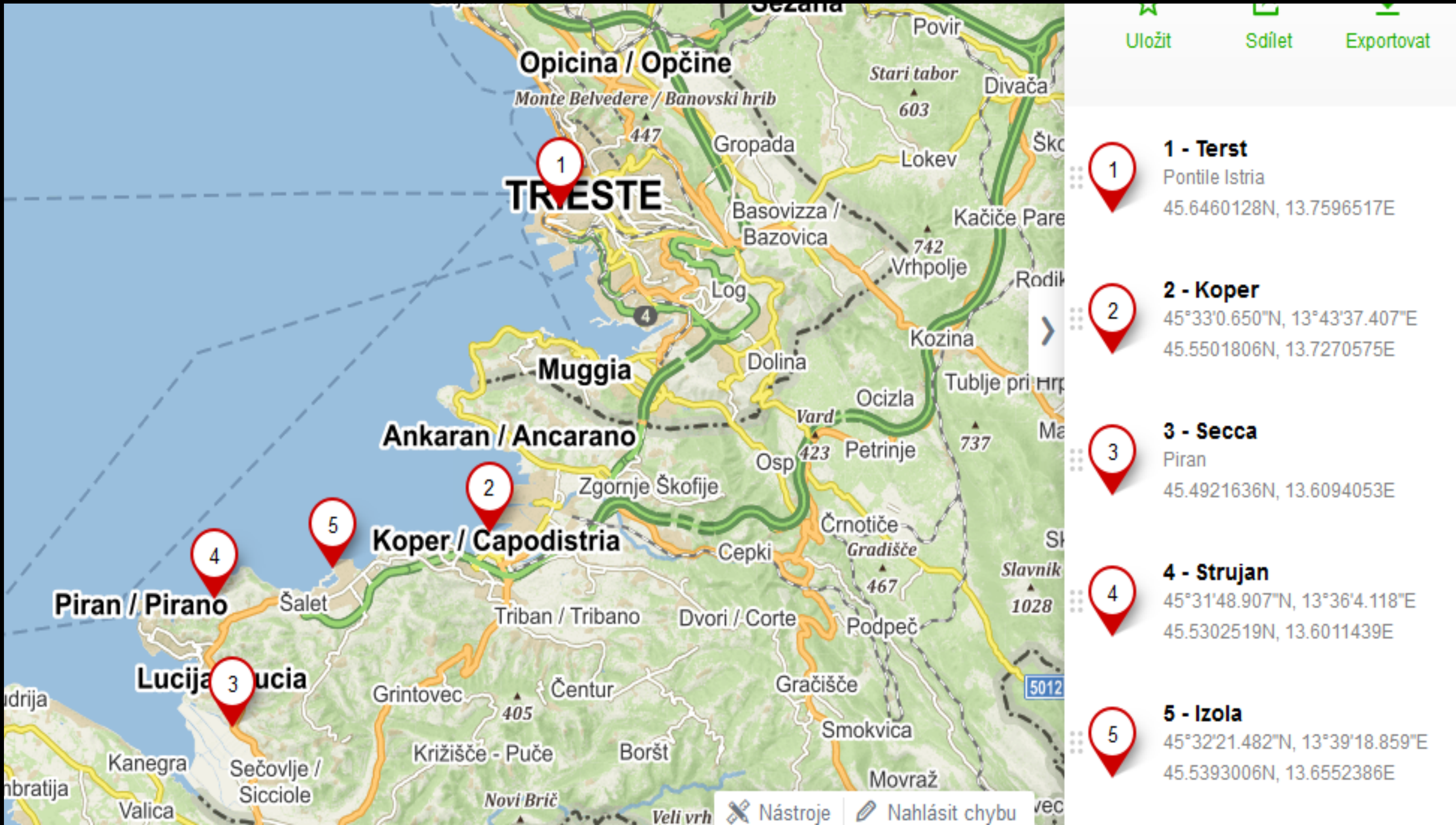
PS: Děkujeme všem zúčastněným Valoniím †R.I.P.

S PLANKTONKOU PŘES OSTNATÝ DRÁT



Aneb fytoplankton
na gradientu znečištění

Kde jsme sbírali?



Terst

Terst


divieto di sosta
lasciare libero il passaggio
SI PREGA DI NON PARCHEGGIARE IL GIORNO
25/08/2019
DALLE ORE 8.00 ALLE ORE 17.00
PER USCITA AUTOCARRI
Area Ferroviaria
Vietato l'accesso
alle persone non autorizzate
Railway Area
No entry
to unauthorised persons

Konečně!

Sběr 1

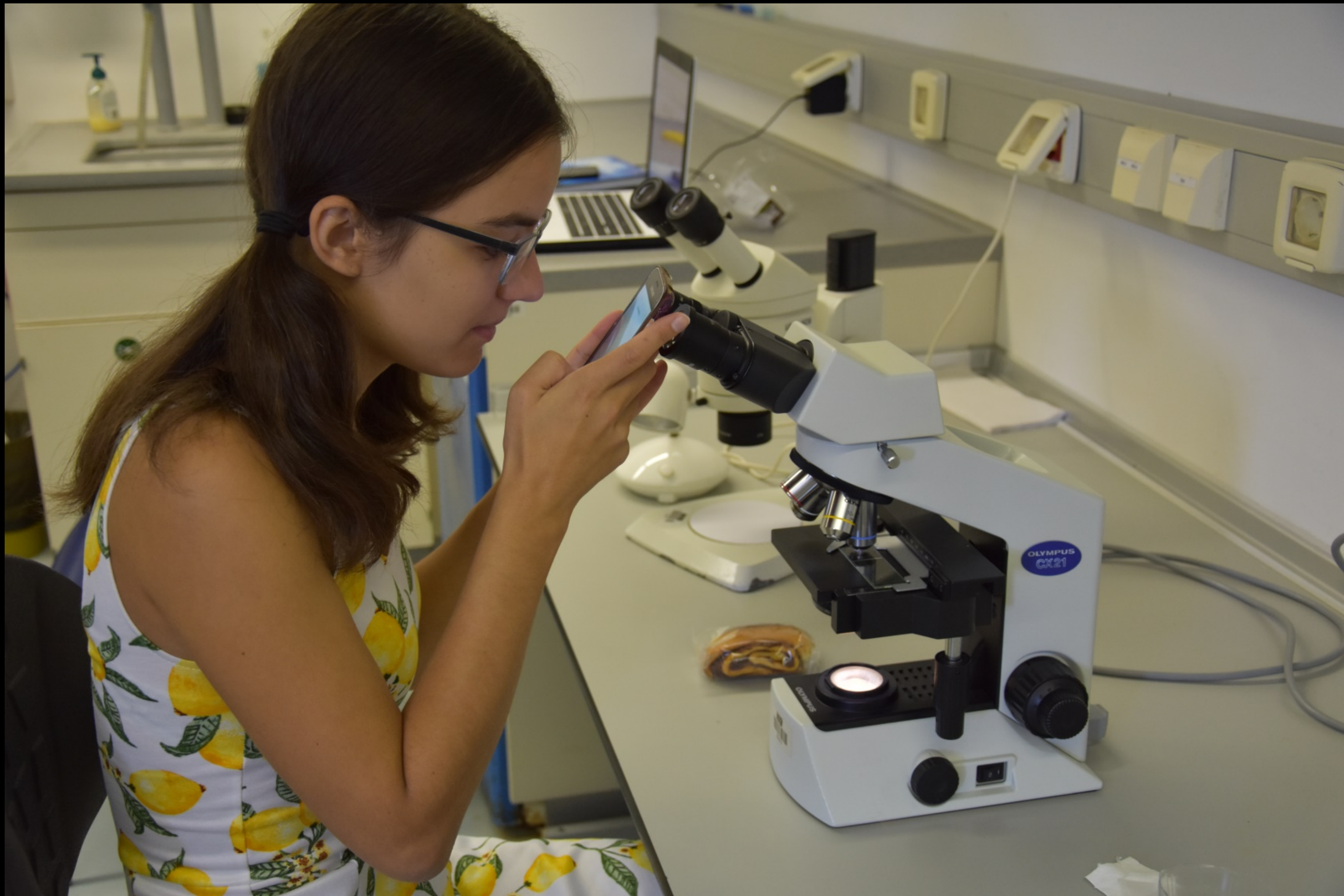
Kontrola vzorků

Koper

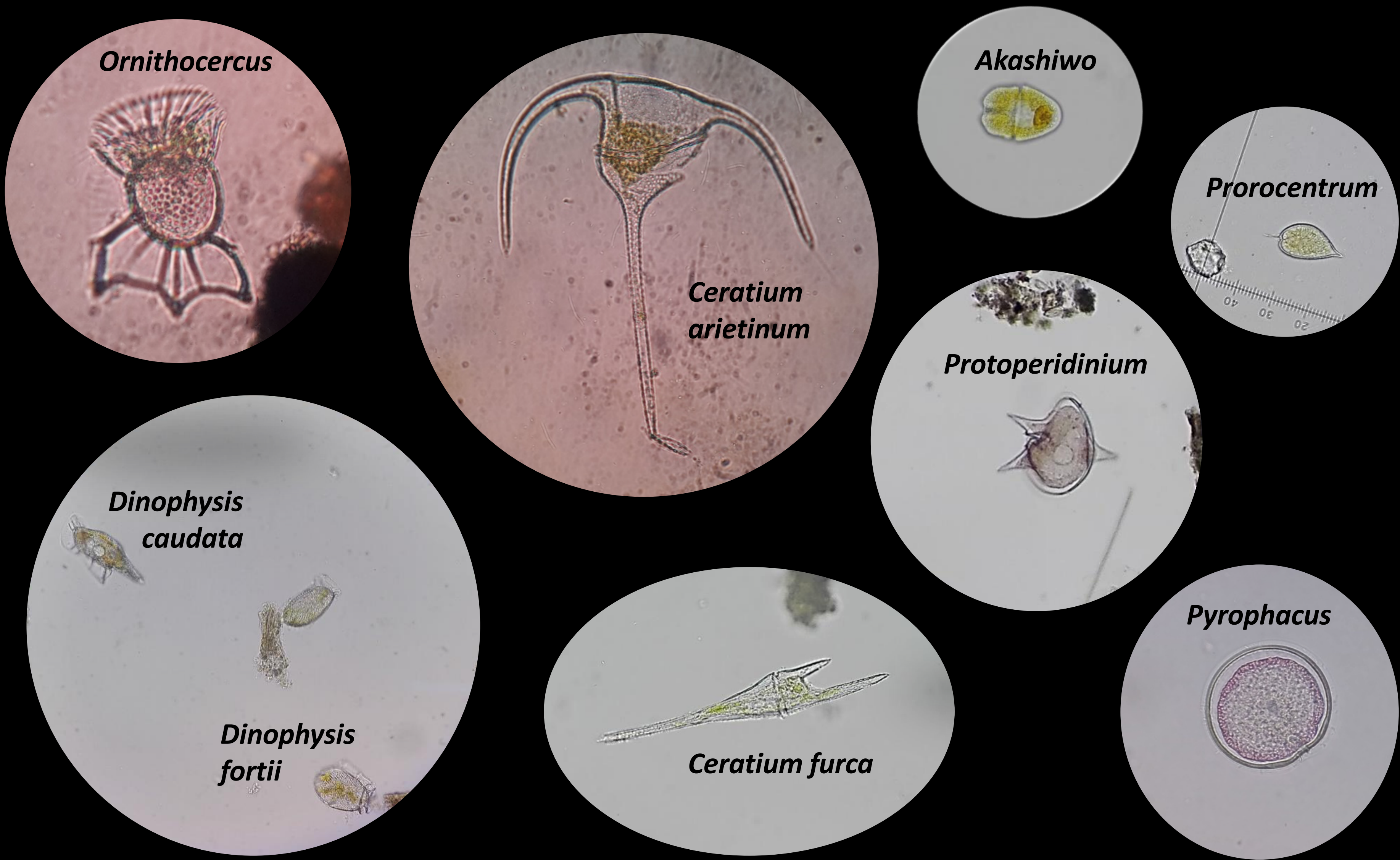
Secca


Krajinski park Sečoveljske soline
Parco Naturale delle Saline di Sicciole

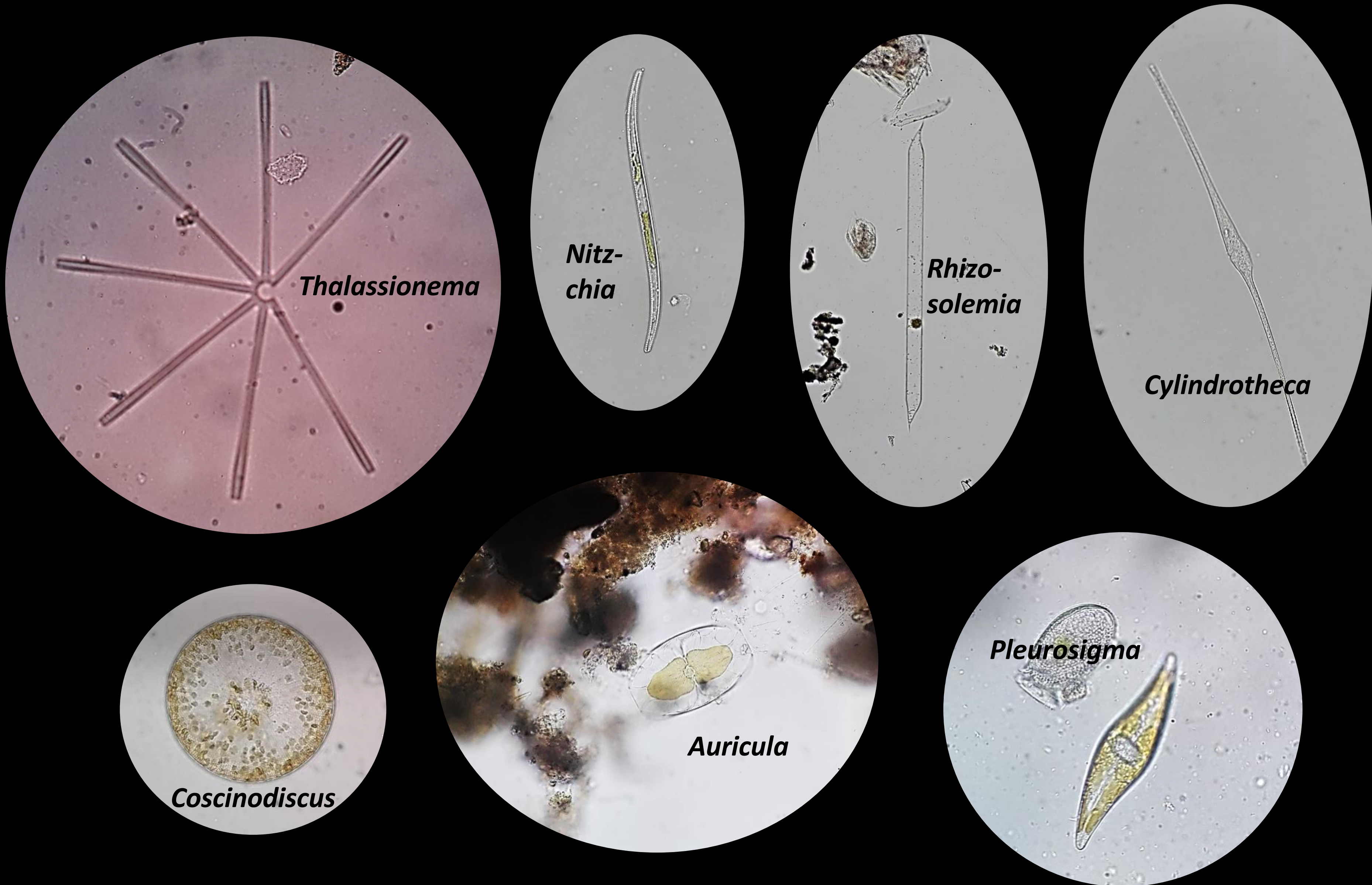
Určování


OLYMPUS
CX21

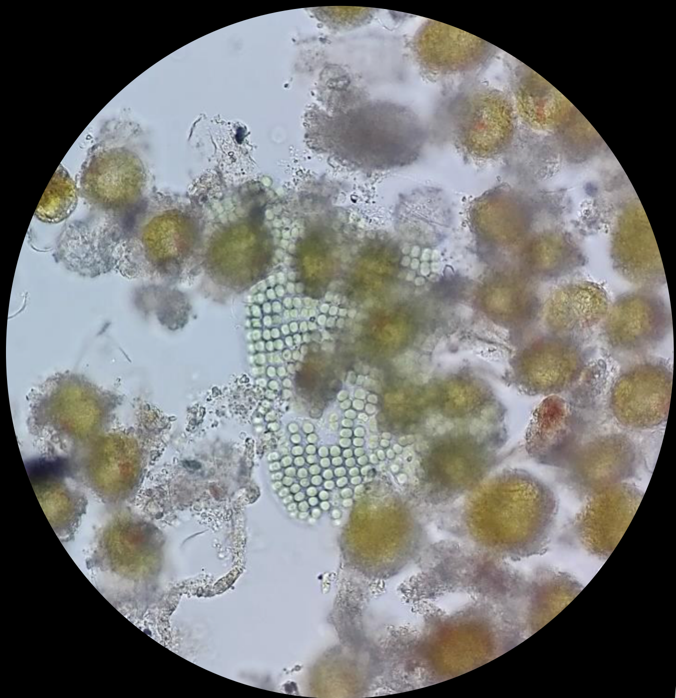
Dinoflagellata



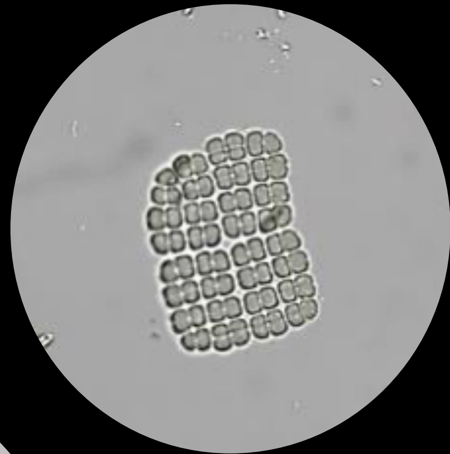
Bacillariophyceae



Ostatní



Sinice 1



Sinice 2

BX6-12p6R

Data set

rody/druhy	Terst	Koper	Izola	Strunjan	Seča
Ceratium furca	2	2	2	0	0
Ceratium arietinum	1	1	1	1	0
Dinophysis caudata	1	1	1	0	0
Dinophysis fortii	2	1	0	2	1
Protocentrum	0	1	0	0	0
Protoperidinium	0	2	0	1	0
Pyrophacus	2	0	0	0	0
Ornithocercus	0	0	0	1	0
Akashiwo	0	0	0	0	3
Pleurosigma	1	1	2	2	1
Nitzchia	0	1	1	1	0
Bacillaria	1	0	0	0	1
Thalassionema	1	0	0	0	0
Coscinodiscus	1	2	0	0	0
Rhizosolemia	0	0	1	0	0
Cylindrotheca	1	0	1	0	0
Auricula	2	0	0	0	0
Phacus	0	0	0	0	1
Sinice	1	0	0	0	1

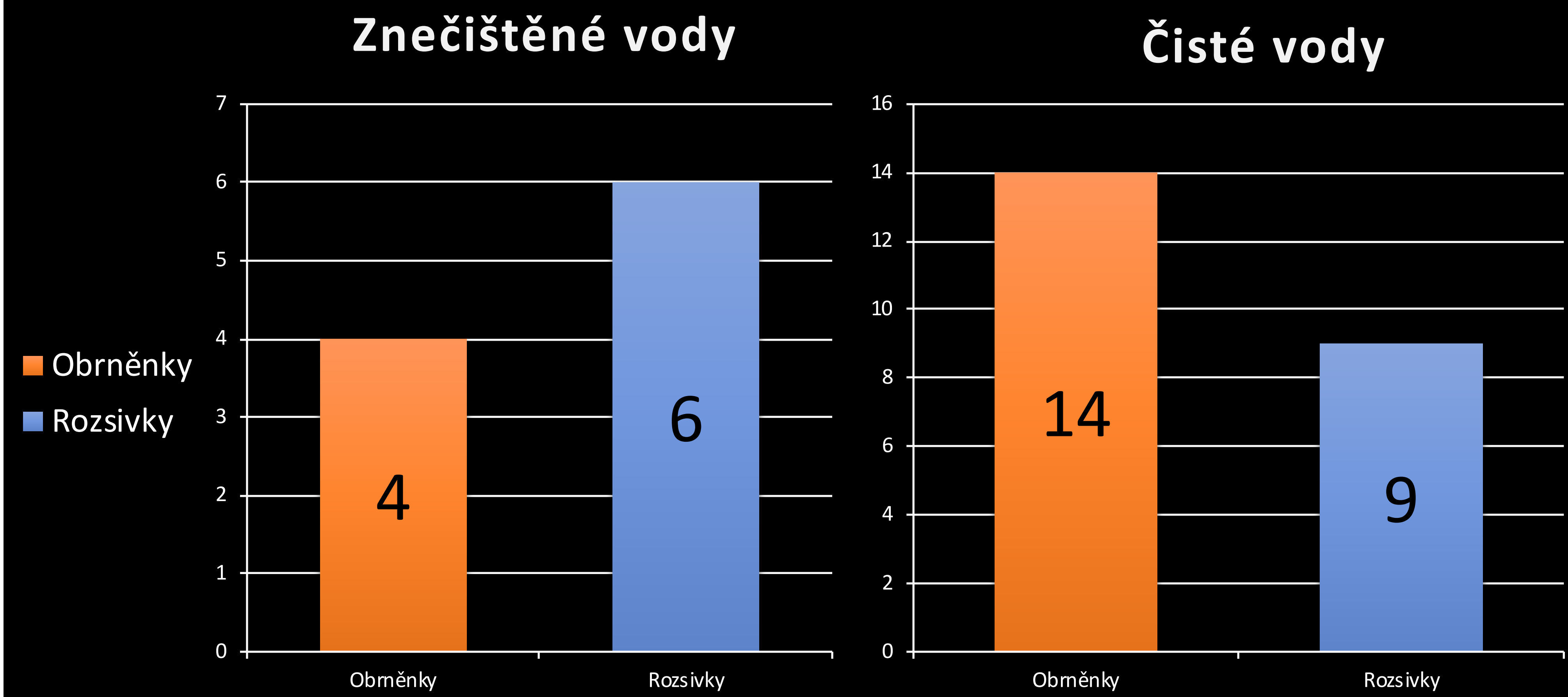
Data set

rody/druhy	Terst	Koper	Izola	Strunjan	Seča
Ceratium furca	2	2	2	0	0
Ceratium arietinum	1	1	1	1	0
Dinophysis caudata	1	1	1	0	0
Dinophysis fortii	2	1	0	2	1
Protocentrum	0	1	0	0	0
Protoperidinium	0	2	0	1	0
Pyrophacus	2	0	0	0	0
Ornithocercus	0	0	0	1	0
Akashiwo	0	0	0	0	3
Pleurosigma	1	1	2	2	1
Nitzchia	0	1	1	1	0
Bacillaria	1	0	0	0	1
Thalassionema	1	0	0	0	0
Coscinodiscus	1	2	0	0	0
Rhizosolemia	0	0	1	0	0
Cylindrotheca	1	0	1	0	0
Auricula	2	0	0	0	0
Phacus	0	0	0	0	1
Sinice	1	0	0	0	1

Data set

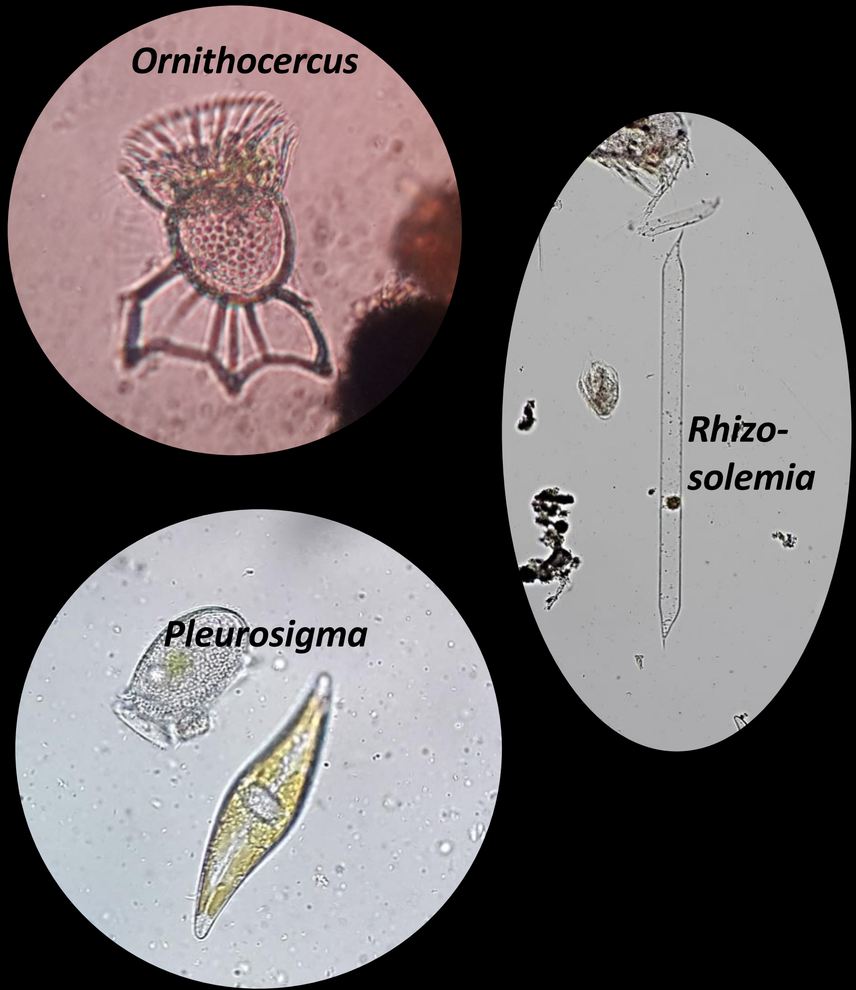
rody/druhy	Terst	Koper	Izola	Strunjan	Seča
Ceratium furca	2	2	2	0	0
Ceratium arietinum	1	1	1	1	0
Dinophysis caudata	1	1	1	0	0
Dinophysis fortii	2	1	0	2	1
Protocentrum	0	1	0	0	0
Protoperidinium	0	2	0	1	0
Pyrophacus	2	0	0	0	0
Ornithocercus	0	0	0	1	0
Akashiwo	0	0	0	0	3
Pleurosigma	1	1	2	2	1
Nitzchia	0	1	1	1	0
Bacillaria	1	0	0	0	1
Thalassionema	1	0	0	0	0
Coscinodiscus	1	2	0	0	0
Rhizosolemia	0	0	1	0	0
Cylindrotheca	1	0	1	0	0
Auricula	2	0	0	0	0
Phacus	0	0	0	0	1
Sinice	1	0	0	0	1

Diverzita taxonů na gradientu znečištění

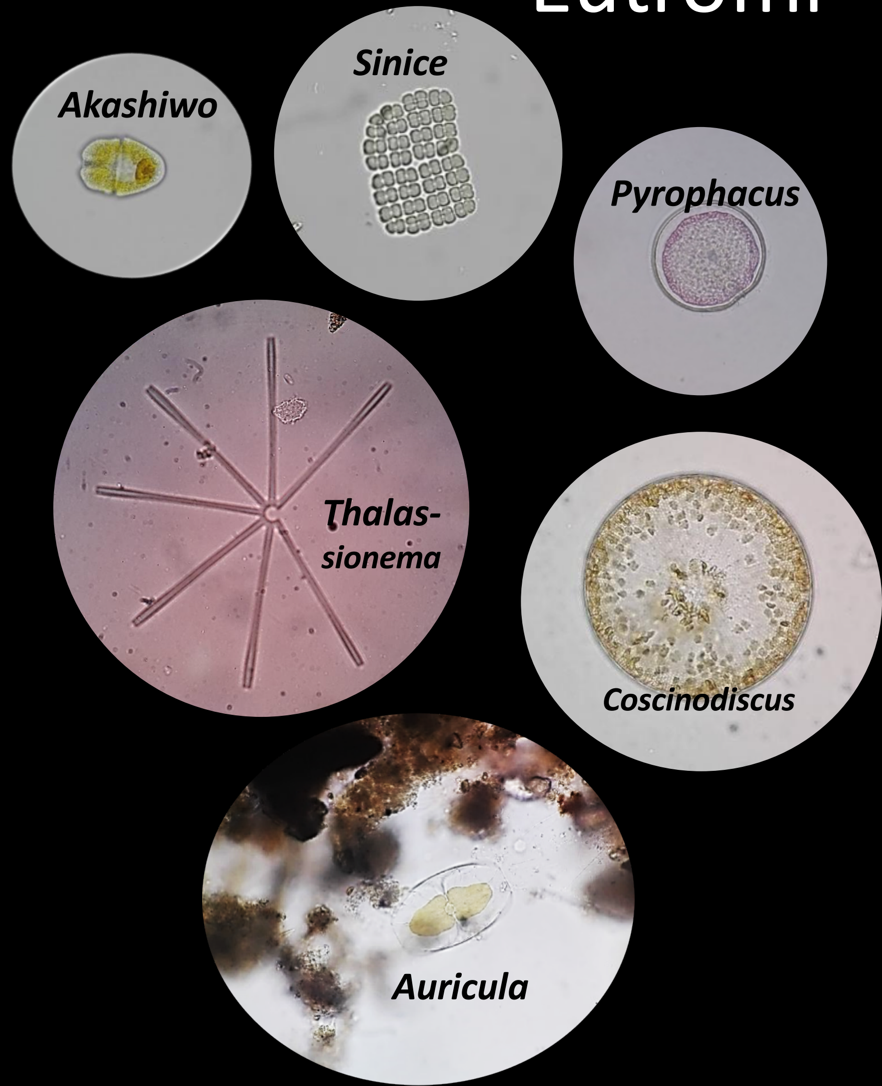


Shrnutí

Oligotrofní

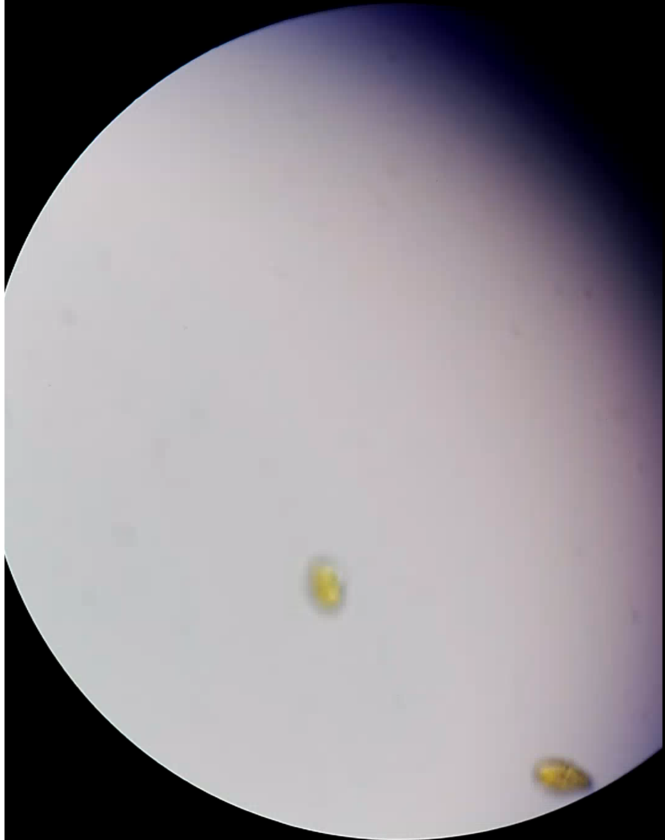


Eutrofní



Překvápko!

Phacus ?



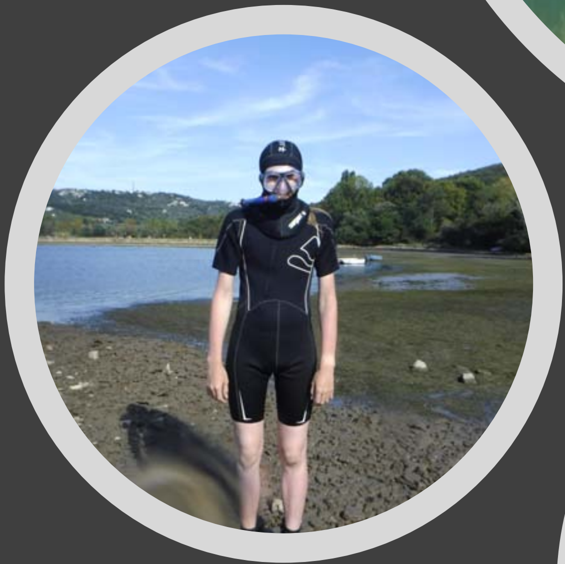
Skrytěnky

Bacillaria


Projekt trávy

Vědecký tým

- Terka
- Bruno
- Sviatoslav





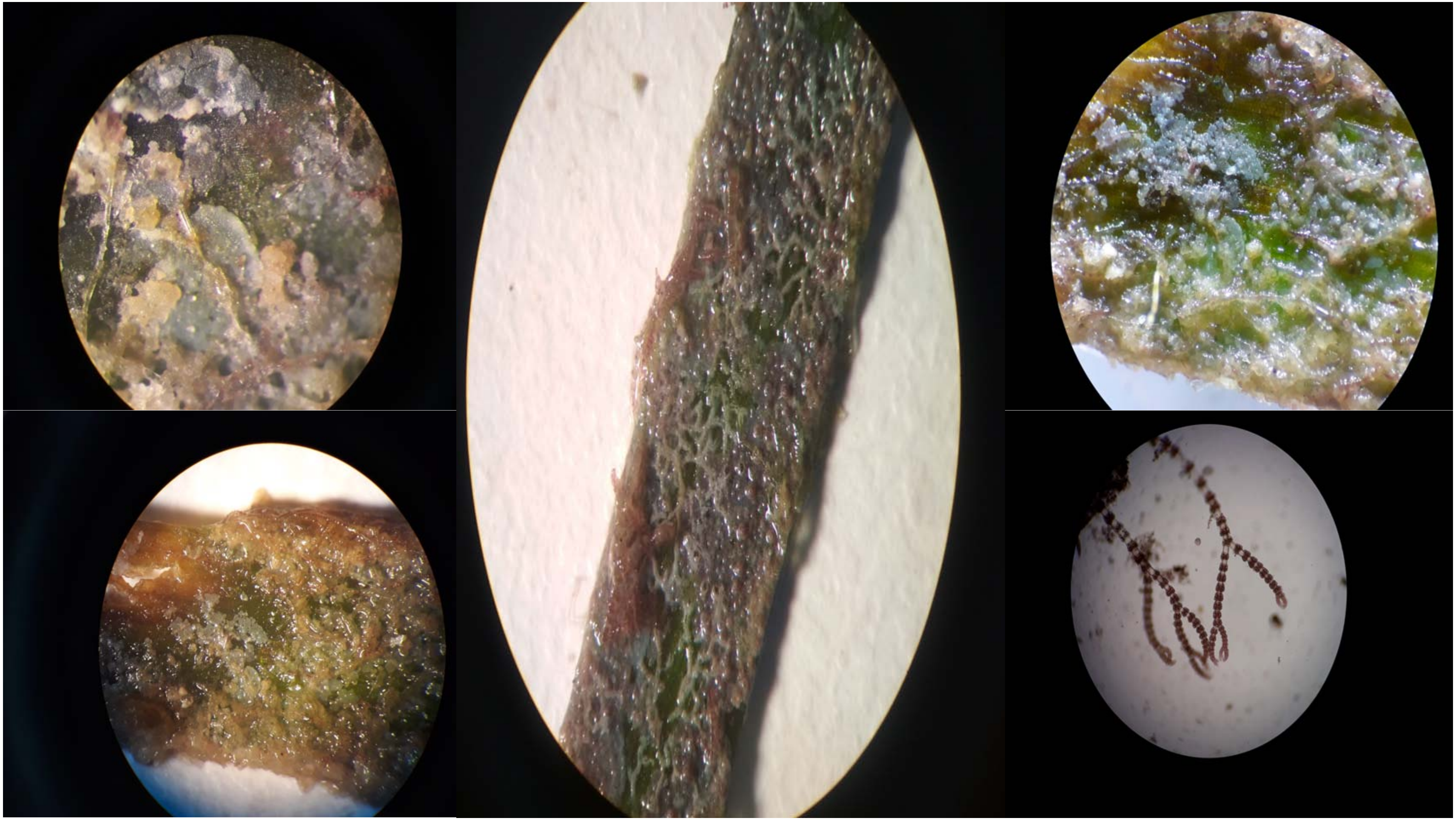
Cíl projektu

-

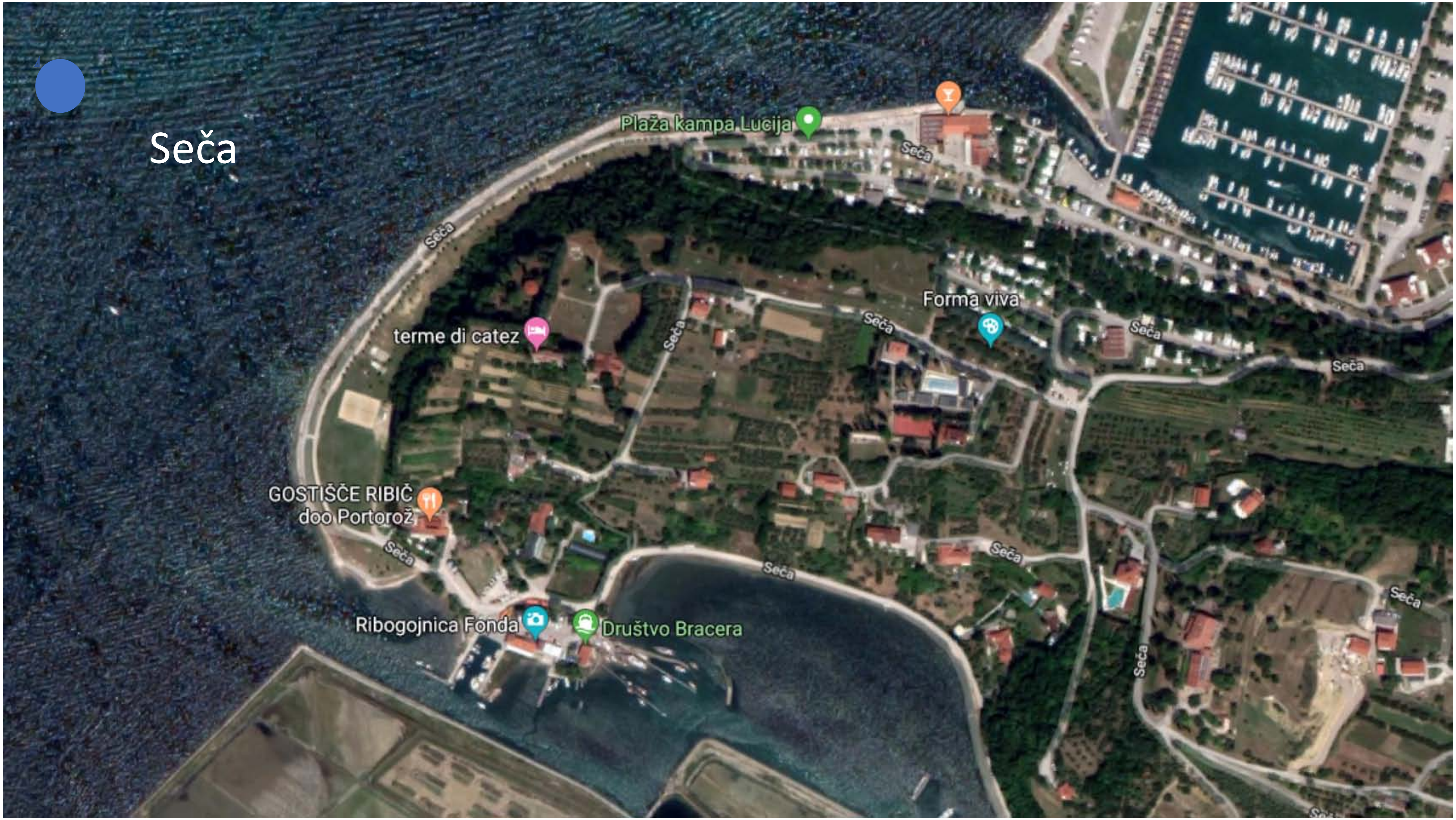
Zdokumentovat výskyt, zmapovat rozšíření a ekologické preference mořských trav

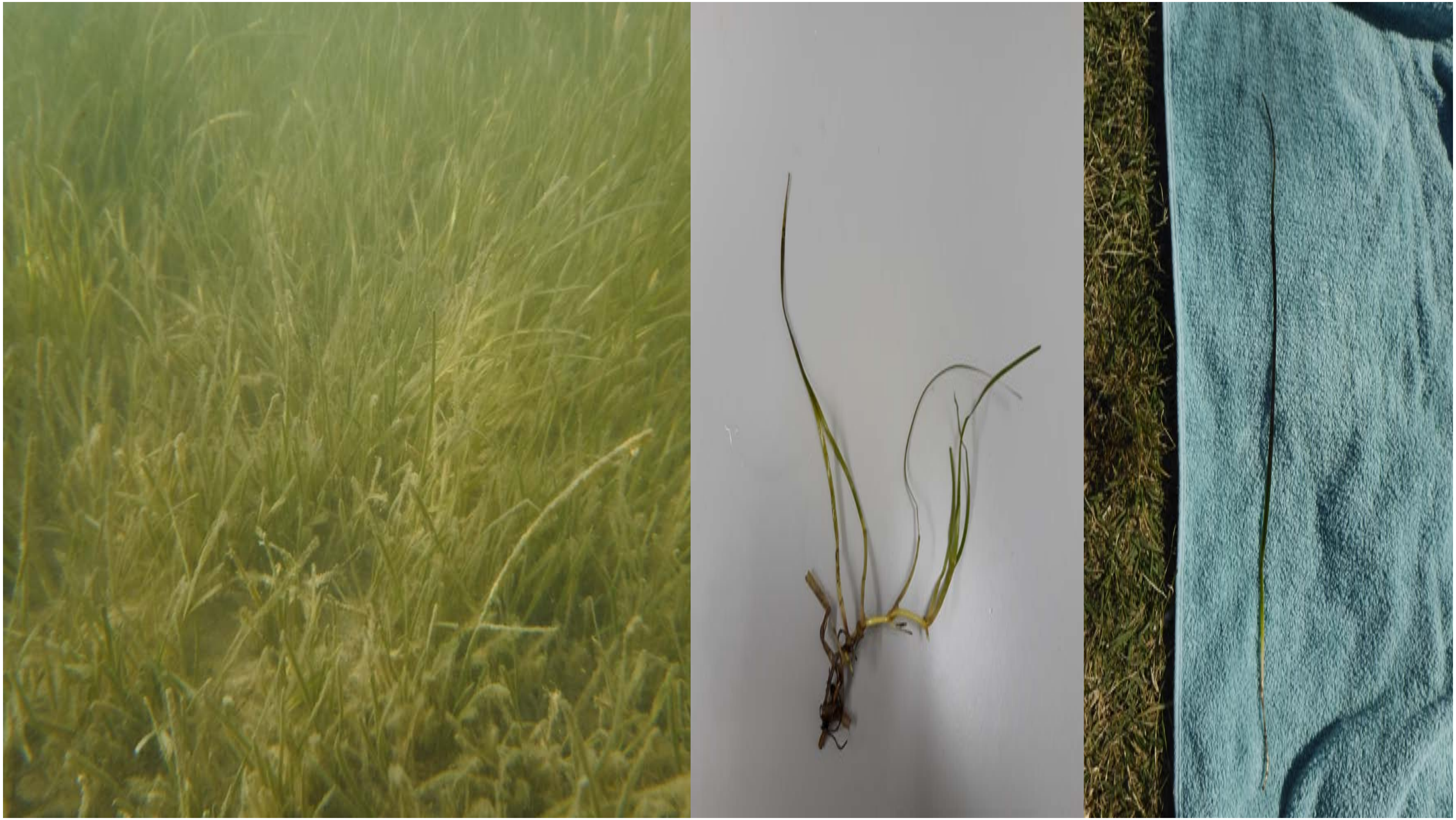

Lazzaretto
Kolomban
Barizoni
Hrvatini
Ankaran
406
Koper
Izola
Piran
Dobrava
Strunjan
Jagodje
111
Portorož
Lucija
Šared
Šalara
Manžan
Šmarje
E751
H6
H5
Seča
Padna
Korte
Savudrija
Crveni Vrh
Bašanija
Kanegra
Zambratija
75
Valica
Sečovlje
Puče
Koštabona
Google

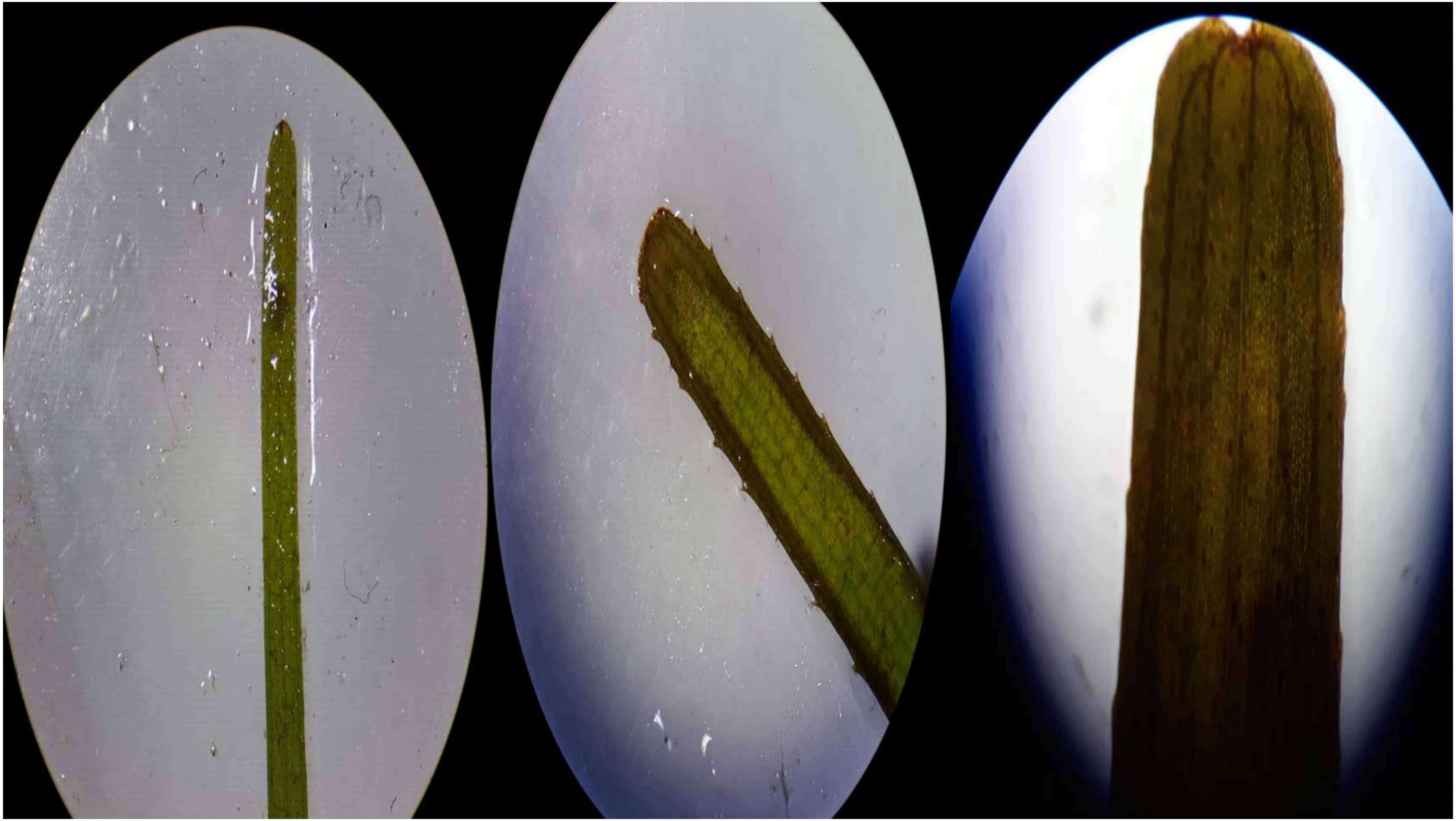
Plaža Žusterna

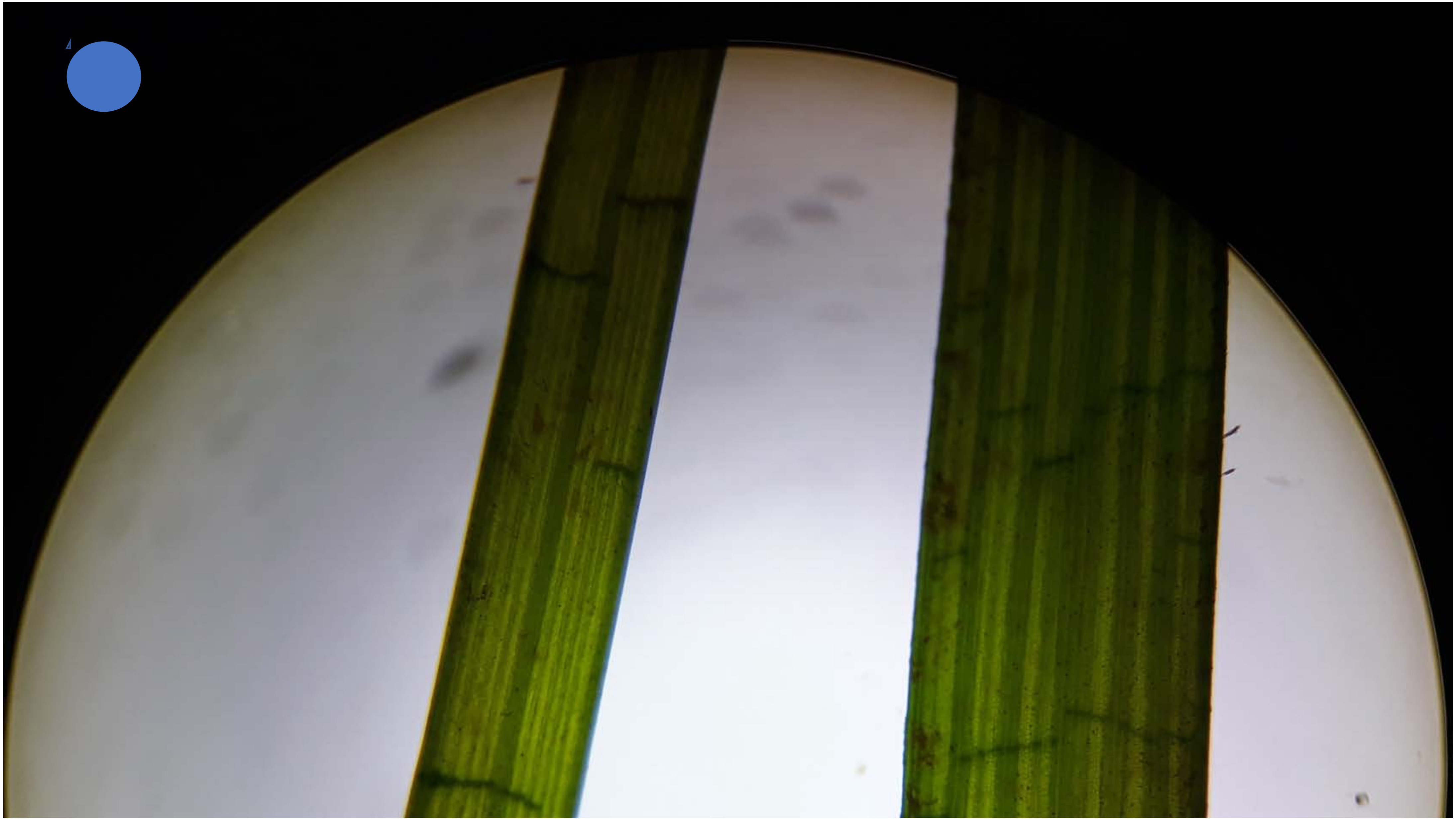



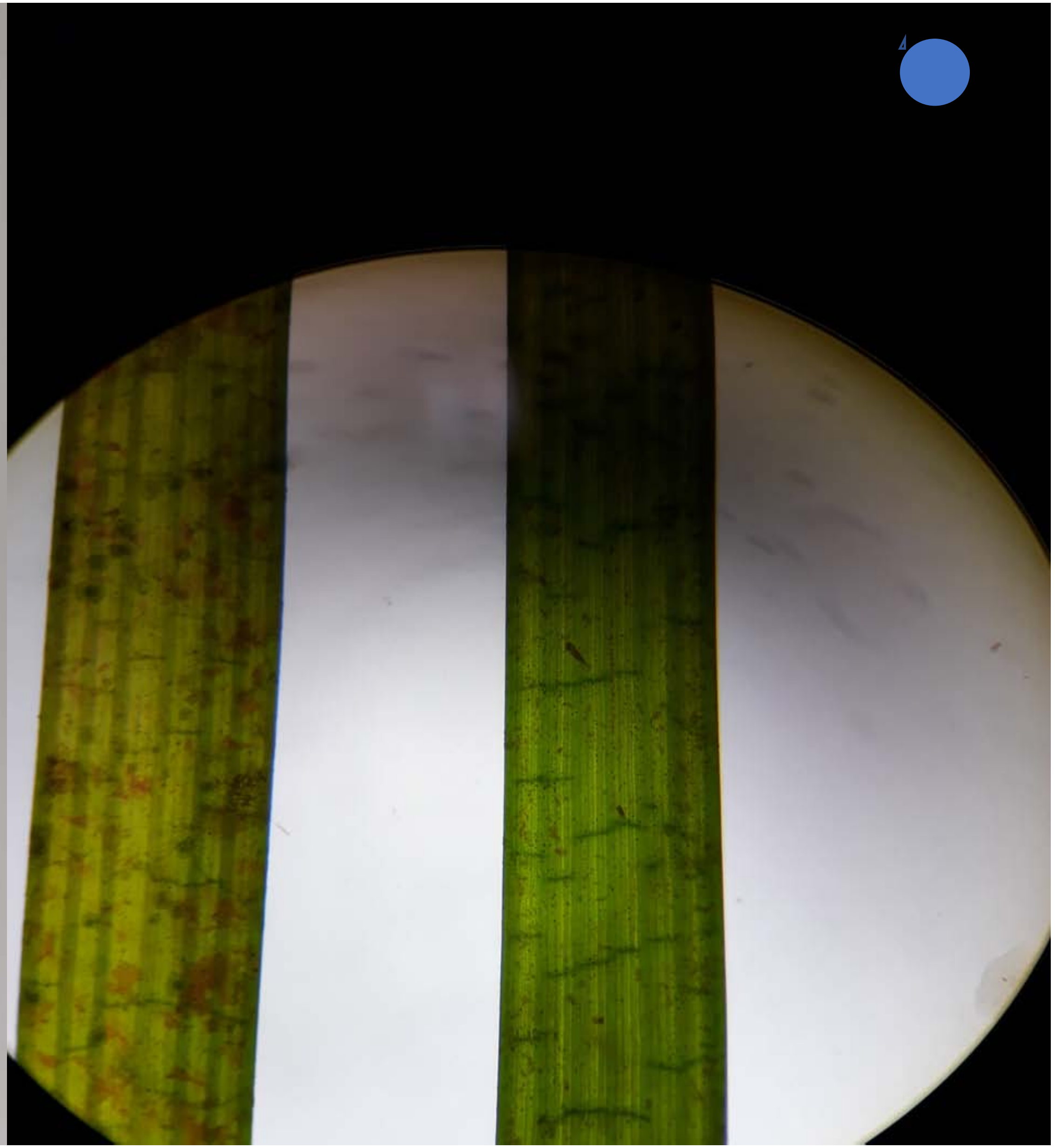
Seča


Plaža kampa Lucija
Seča
terme di catez
Forma viva
GOSTIŠČE RIBIČ
doo Portorož
Ribogojnica Fonda
Društvo Bracera

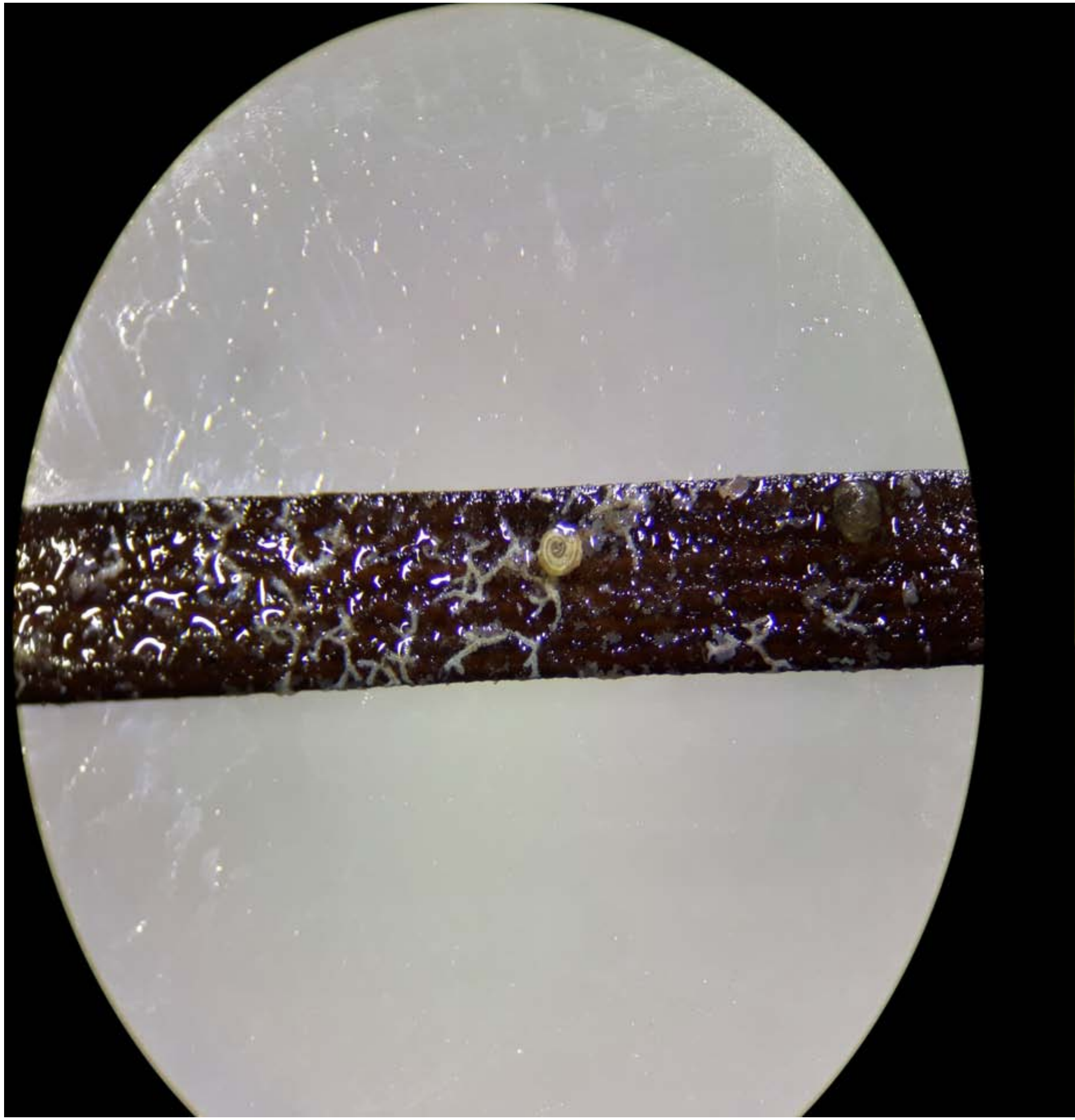


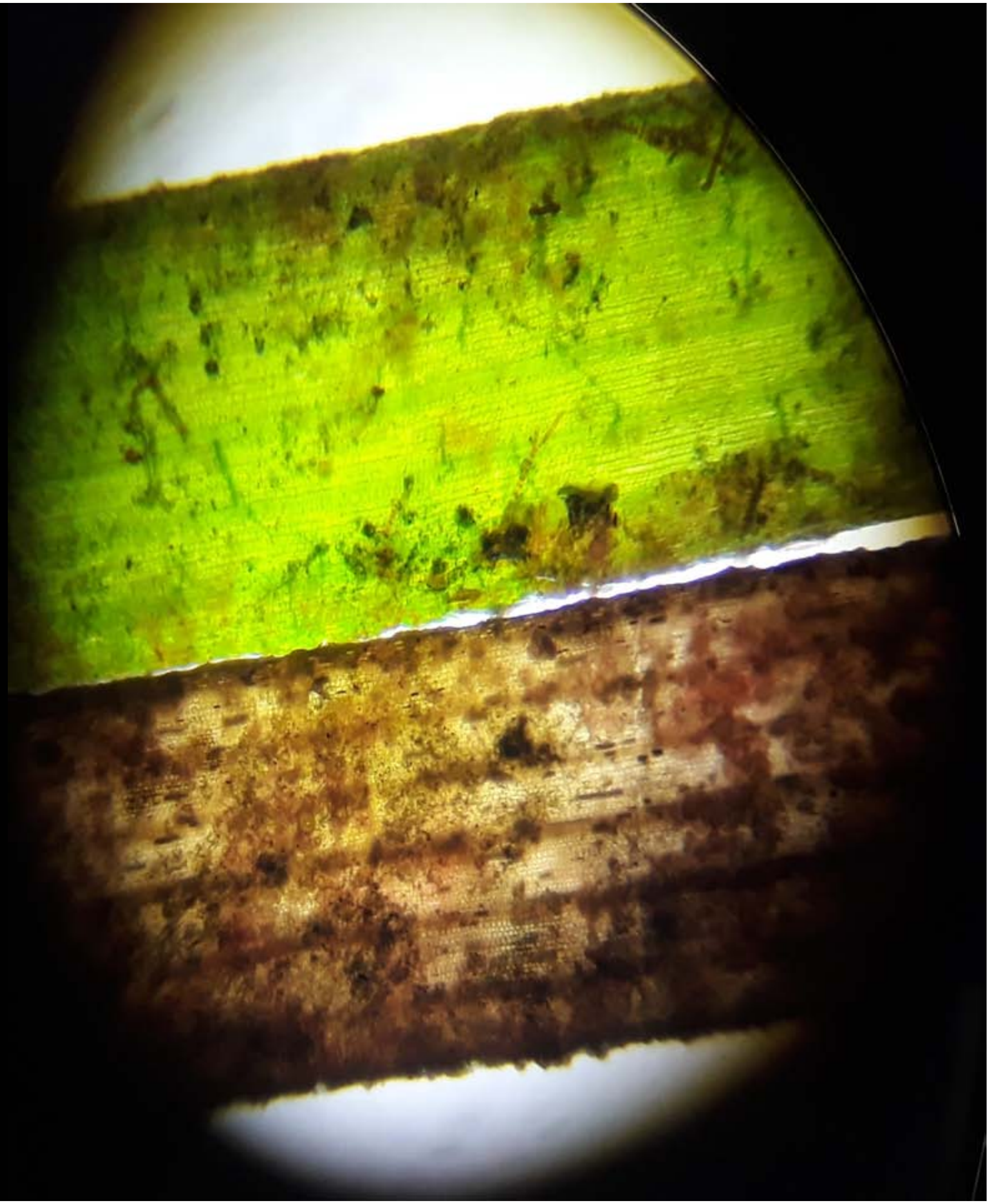





Lazaret
plaža Debeli rtič
OMV
Rt Sv. Jerneja
Pocitniski objekti MORS
Lazaret
Debeli rtič
Stari opazovalni stolp
406
Košir & Til
navtika, trgovina in...
Mladinsko zdravilišče
in letovišče Debeli rtič
Depandansa Bor II
406
Villa Andor
Bar Študent





Děkujeme za pozornost

Peyssonnelia a světelný stres

Lucie Žížalová, Daniel Mezník

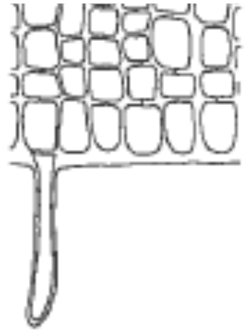
Místní druhy

nekalcifikovaná

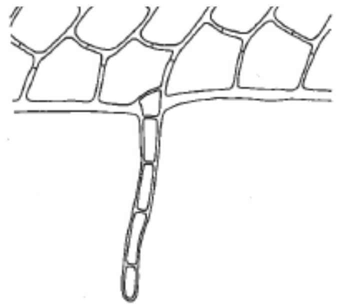
Peyssonnelia squamaria

kalcifikované

Peyssonnelia rosa-marina



Peyssonnelia polymorpha



Otázky

Jaké jsou hranice rozšíření *Peyssonnelie*?

Nachází se kalcifikované a nekalcifikované druhy spolu?

Hraje podloží roli v umístění *Peyssonnelie* na podkladu?

Lokality


Monfalcone
Opicina / Opčine
TRIESTE
Muggia
Koper / Capodistria
Piran / Pirano
Lucija / Lucia
Umag
Buje

Metody

- Vyhlížení vhodných lokalit
- Hledání populace *Peyssonnelie*
- Pozorování výskytu populací
- Měření intenzity světla v okolí stélek *Peyssonnelie*

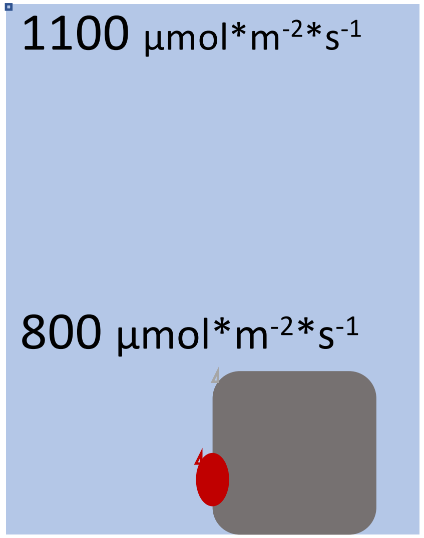
Výsledky

Intenzita světla ve vodním sloupci

nad hladinou 3200 μmol*m^{-2}*s^{-1}

pod hladinou 1100 μmol*m^{-2}*s^{-1}

hloubka 2 m 800 μmol*m^{-2}*s^{-1}



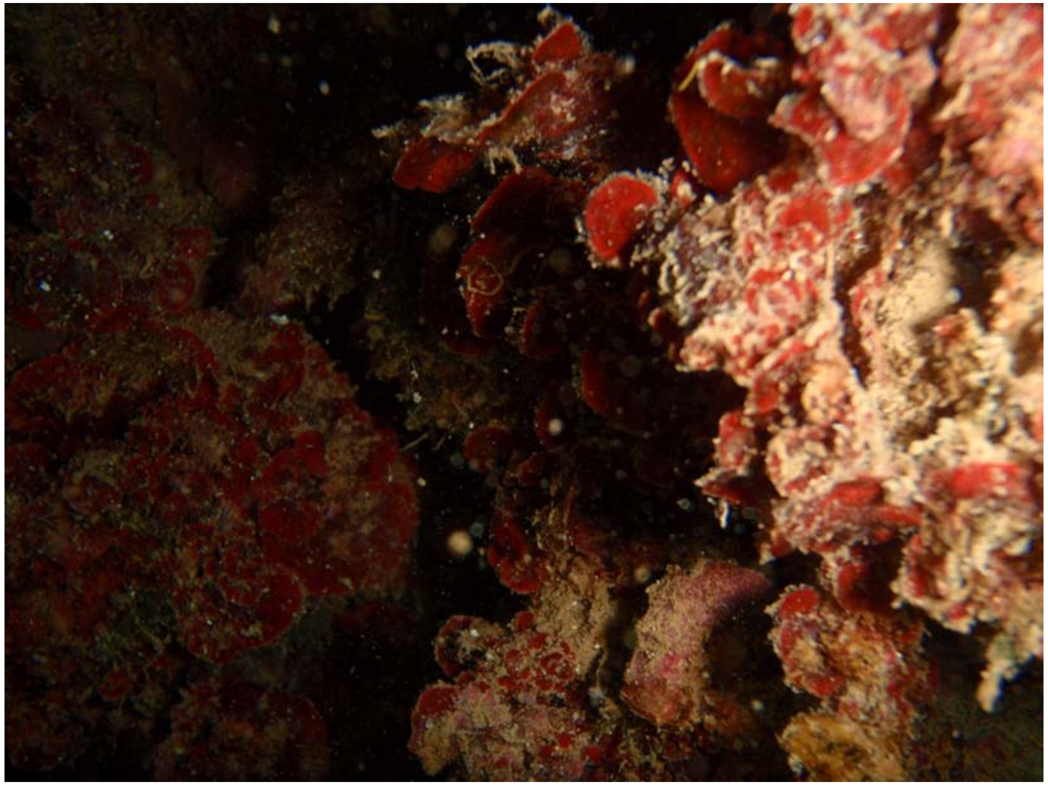
Hodnoty v úrovni růstu Peyssonnelií

vápencové podloží

29 μmol*m^{-2}*s^{-1}

flyšové podloží

783 μmol*m^{-2}*s^{-1}



Závěr

- Na různém podložím se *Peyssonnelie* vyskytovaly v odlišných světelných intenzitách.
- *Peyssonnelia* se téměř nenacházela na jižních stranách kamenů.
- Kalcifikované druhy jsme nacházeli v menším počtu, ale na stejných lokalitách, jako nekalcifikované.