AUFWUCHS:

MICROSCOPIC ORGANISMS FORMING THIN FILMS OR COATINGS ON ROCKS OR PLANTS OR SETTLEMENT PLATES USED FOR MARINE ECOLOGICAL INVESTIGATIONS, FROM COLLECTIONS AT THE STATE HERBARIUM OF S. AUSTRALIA R N Baldock 2024

SEARCH STRATEGY
just browse through the following pages, or use the guide below to skip to an appropriate page

Plants,
Coloured; cell walls present

GOLDEN-BROWN
single-celled algae

walls ornamented, glassy

go to
"DIATOMS"

walls simple, plants ball-shaped, numerous, colonial

go to
Tetrasporopsis
Page 2

GREEN ALGAE
single-celled, distinct walls

go to
Keriochlamys
page 2

Animals, slime moulds
usually colourless; cell walls absent (but can live in tubes)

many-celled

go to
Protozoans and Slime moulds
Pages 3 – 7 below

unsegmented coral-like animals with tentacles, in tubes and cups or feather-like colonies

go to
"HYDROIDS" and "BRYOZOANS"

Entoprocts or nodding animalcules. Small spherical animals possess a coiled gut. They nod at the ends of jointed stalks
Page 7

go to

Ascidians
Rows of bag-shaped animals in colonies
Page 10

go to

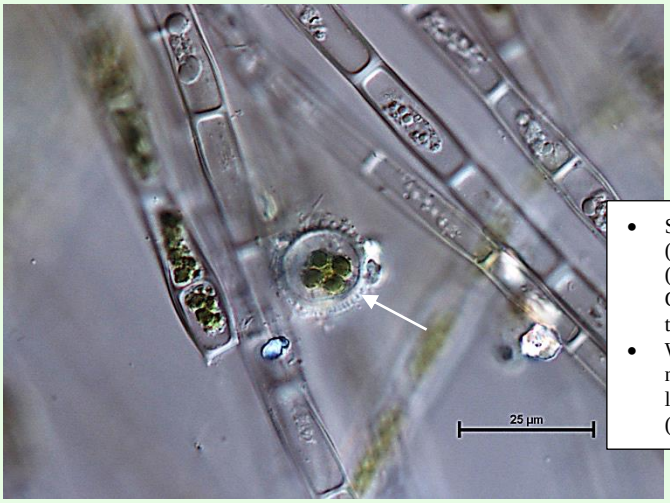
segmented animals (Worms and Crustaceans) in tubes
Pages 8, 9

go to

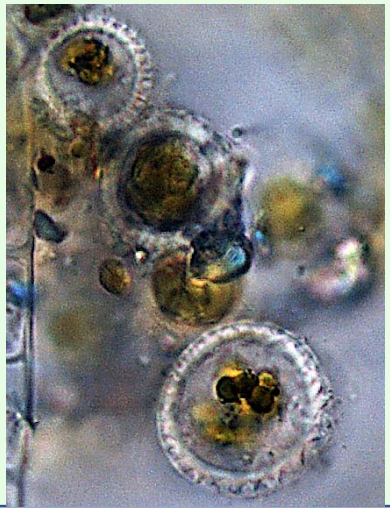
animals in shells
Page 11

go to

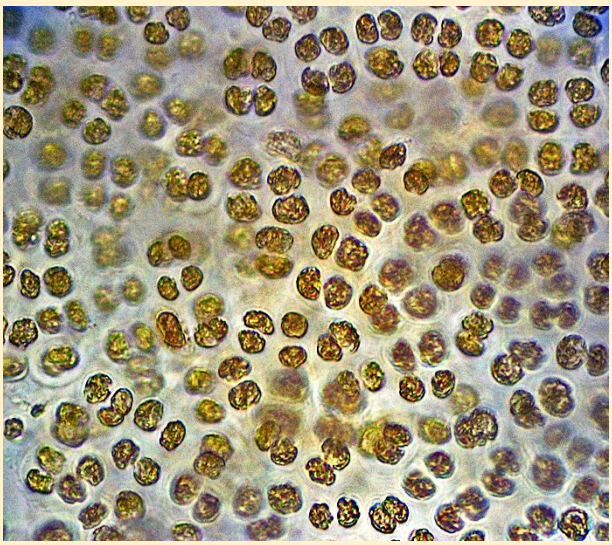
KERIOCHLAMYS Division: *Chlorophyta* Family: *Oocystaceae*



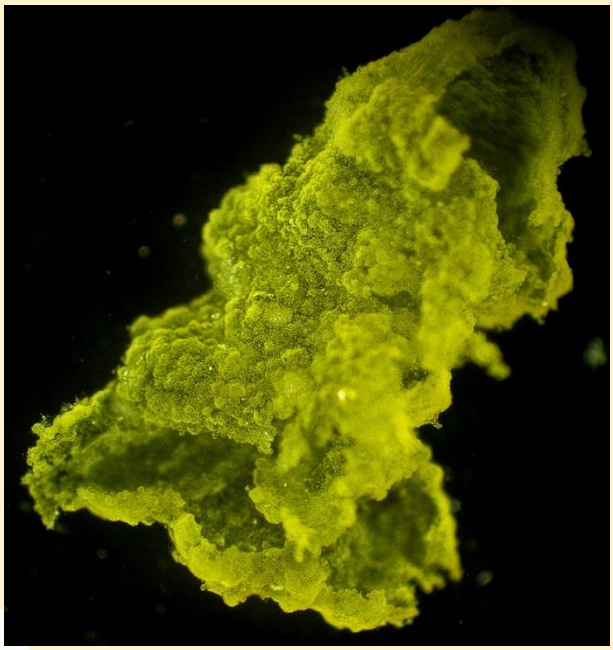
- Spherical alga (arrowed) (attached to Green algal threads)
- Wall with numerous cup-like markings (alveolae)

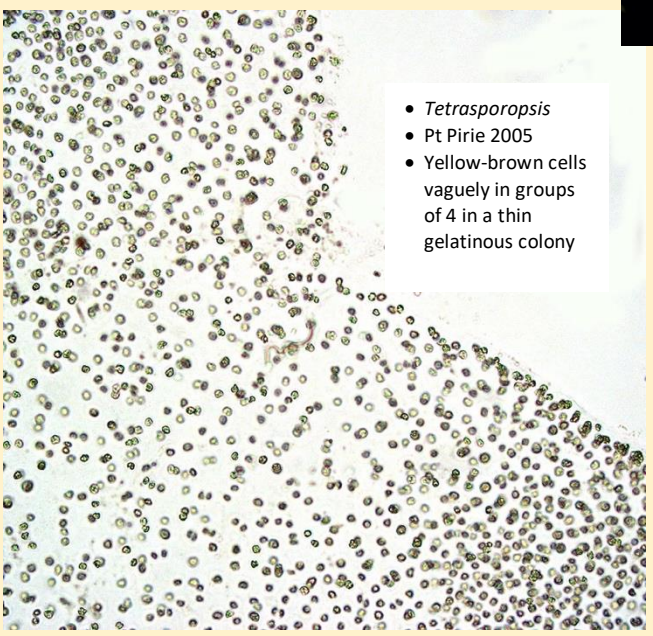


TETRASPOROPSIS Division: Chrysophyta, Family: Chrysocapsaceae

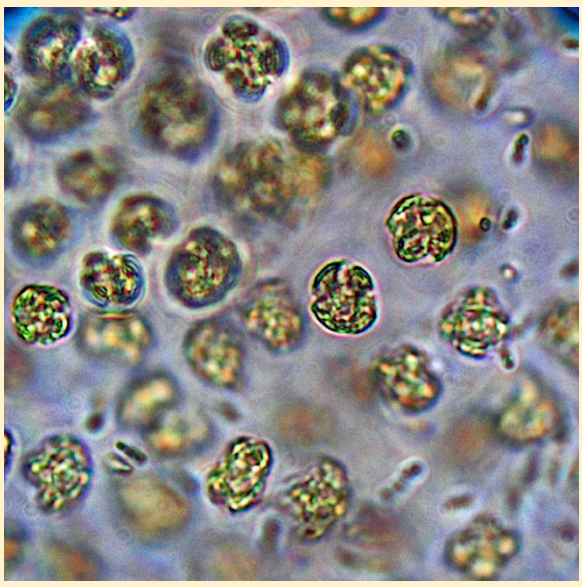


- *Tetrasporopsis* Pt Pirie 2006



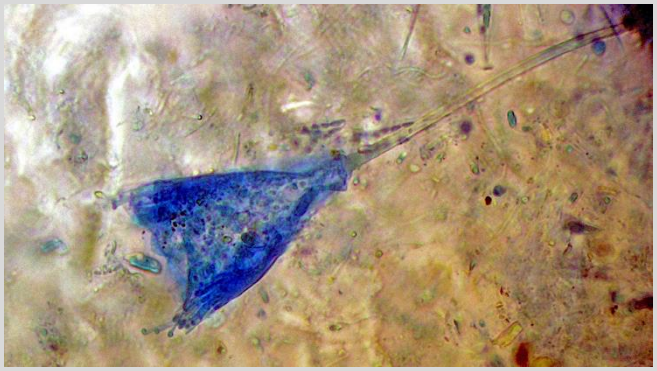


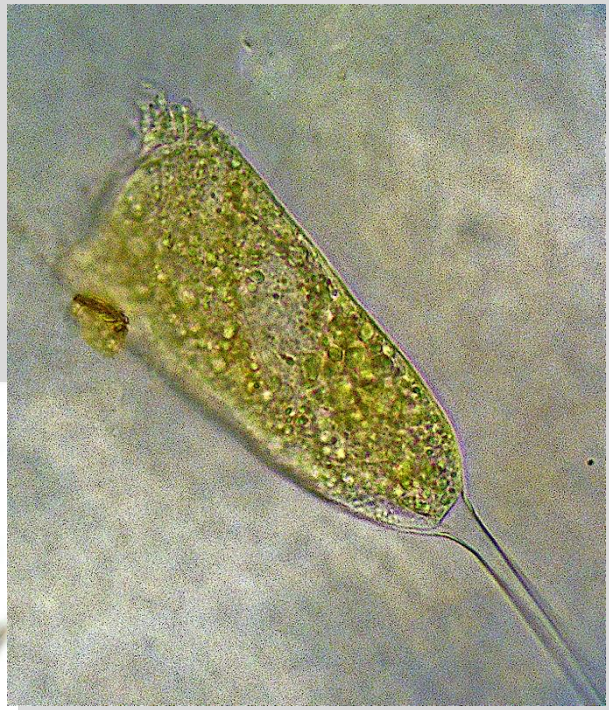
- *Tetrasporopsis*
- Pt Pirie 2005
- Yellow-brown cells vaguely in groups of 4 in a thin gelatinous colony

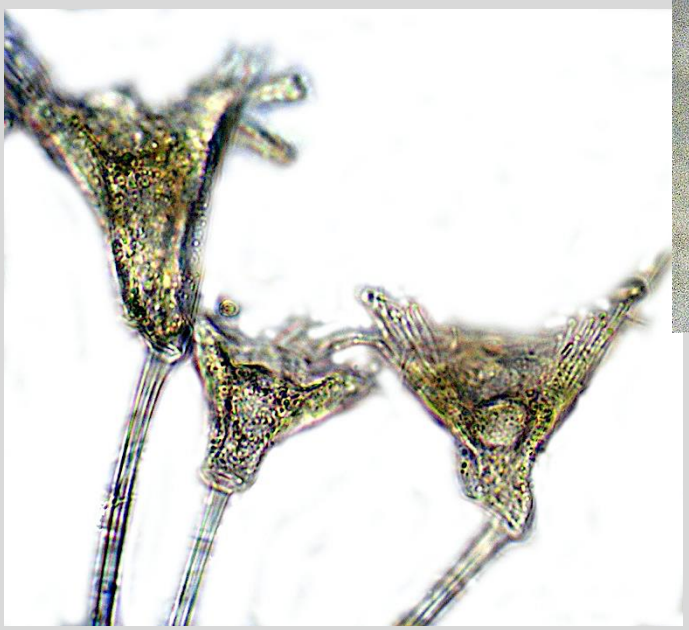


PROTOZOANS

SUCTORIANS







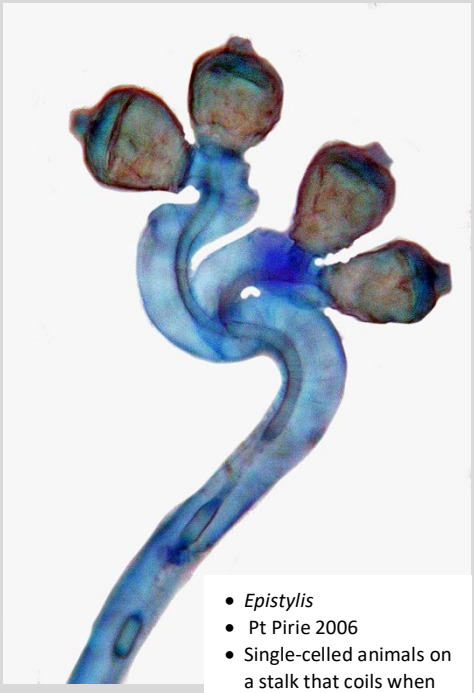
- Suctorians
- Pt Pirie 2007
- Single celled, cup-shaped, microscopic animal on a stalk
- Ring of tentacles at rim of the "cup" ending in minute droplets (that secrete digestive juices on to prey)

FLAGELLATES

- Flagellate (arrowed) on a blue-stained Red alga
- Pt Pirie 2007
- Single celled, with a whiplash or flagellum, in a stalked lorica

VORTICELLIDS

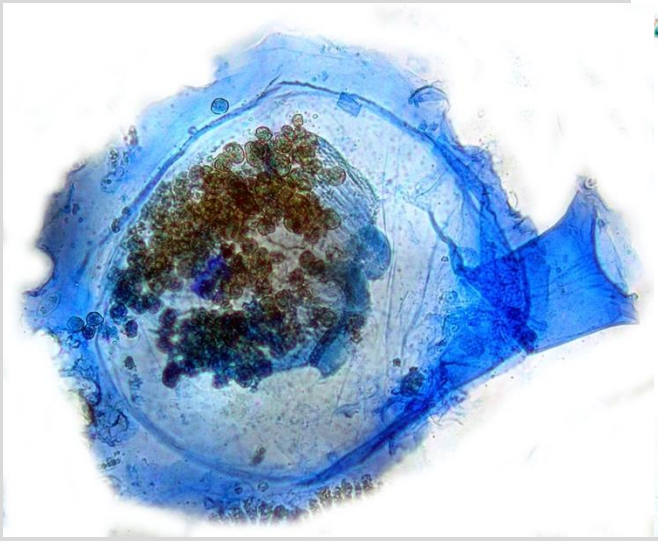
- *Vorticella*
- Pt Pirie 2006
- Single-celled animal feeding by means of a ring of cilia
- Contracting on a coiled stalk



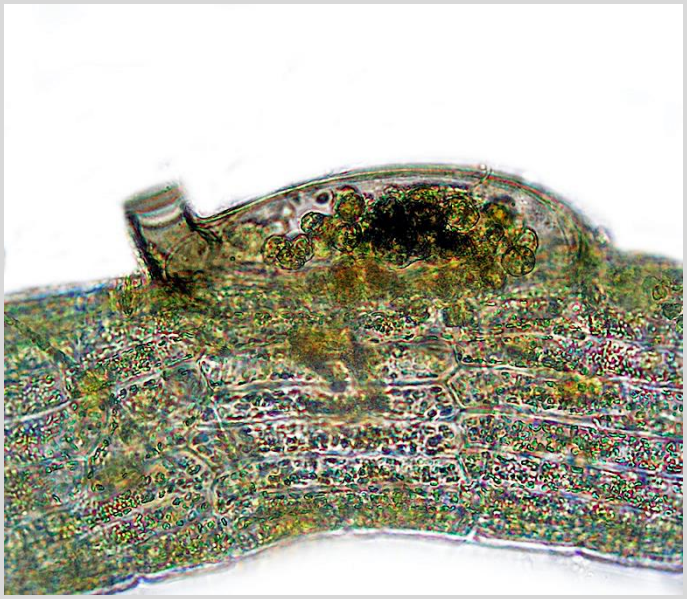
- *Epistylis*
- Pt Pirie 2006
- Single-celled animals on a stalk that coils when retracted

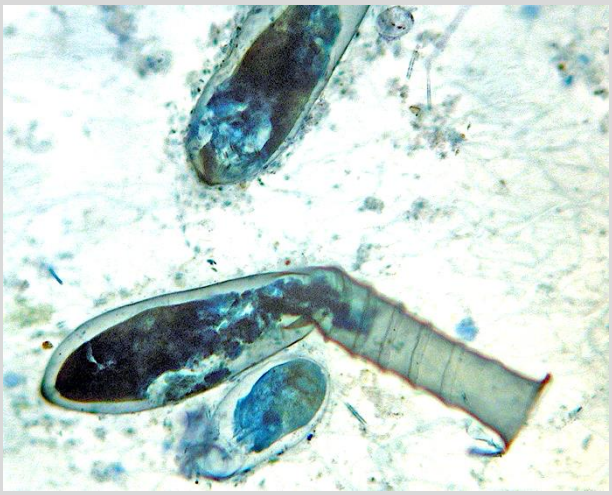
For further information on Protozoa, see Patterson, D. J. & M. A. Burford (2001) *A guide to the Protozoa of marine aquaculture ponds* CSIRO Collingwood, Victoria

FOLLICULINIDS (bottle animalcules)

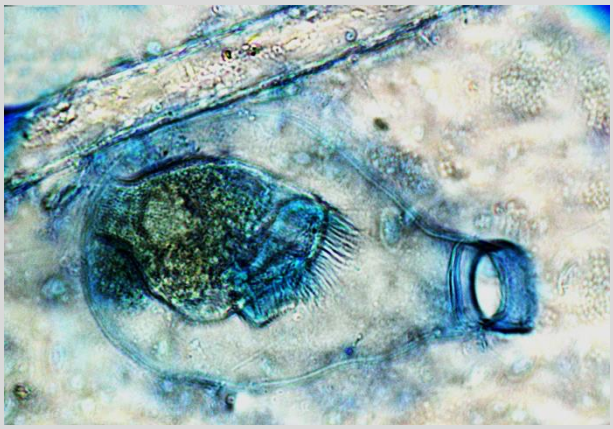


Folliculinids on the Brown alga *Dictyota*:
single -celled animals living in a bottle-shaped lorica lying lengthwise (prostrate) on algae and sea grasses



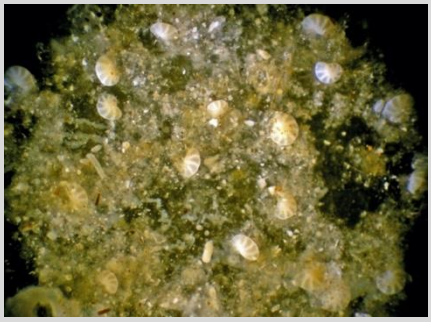


Folliculinids on settlement sheets, Pt Pirie 2012:
single-celled animals living in a bottle-shaped lorica lying lengthwise (prostrate)

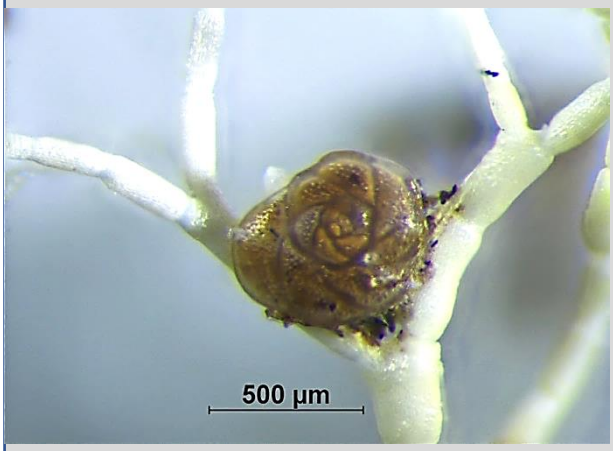


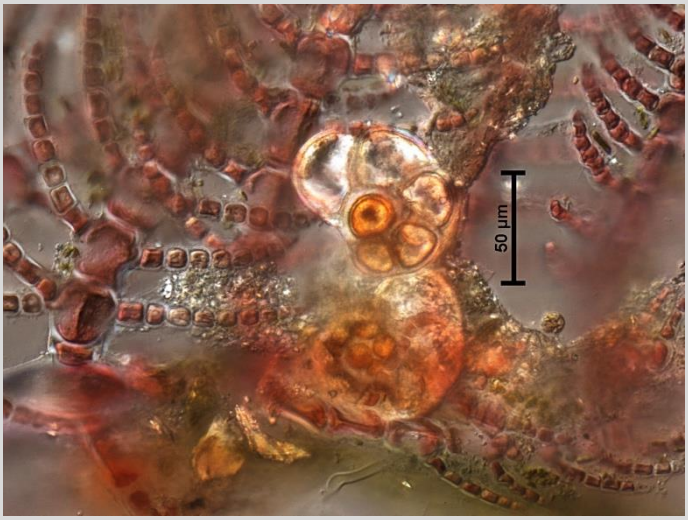
Left:
Detail of the ciliated, single-celled animal within its bottle-shaped lorica, Pt Pirie, 2007

FORAMINIFERA



Discorbis dimidiatus
Left: clustered amongst sediment, Pt Pirie 2015
Right: detailed of the amoeba in a coiled compartmented shell punctured with holes



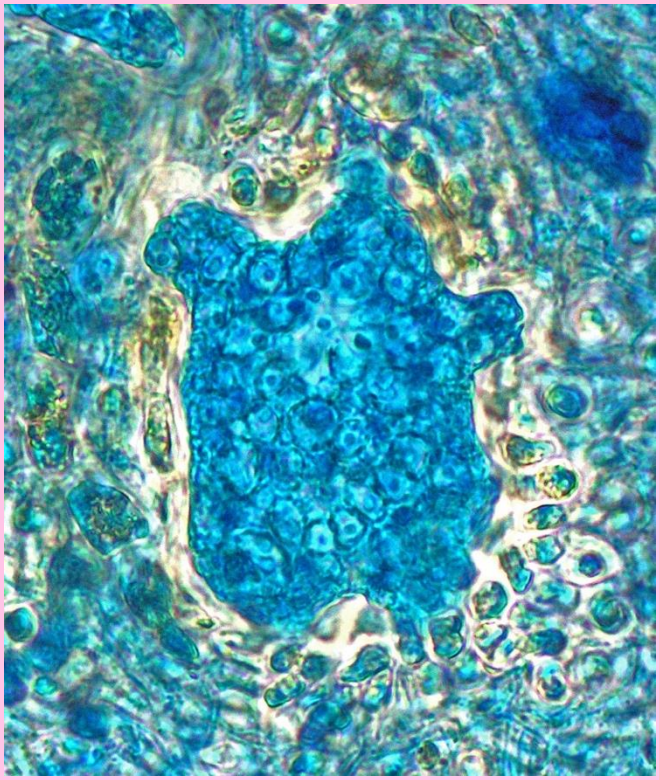


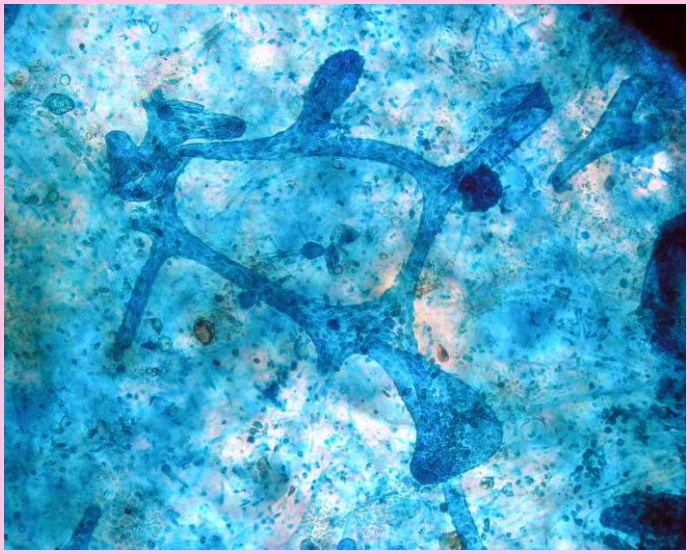
Examples of foraminiferans epiphytic on algae.
Above, left: *Discorbis* in the fork of branches of the Red coralline alga *Metagoniolithon stelliferum*
Above, right: two forams trapped in branches of the Red alga *Acrosorium*

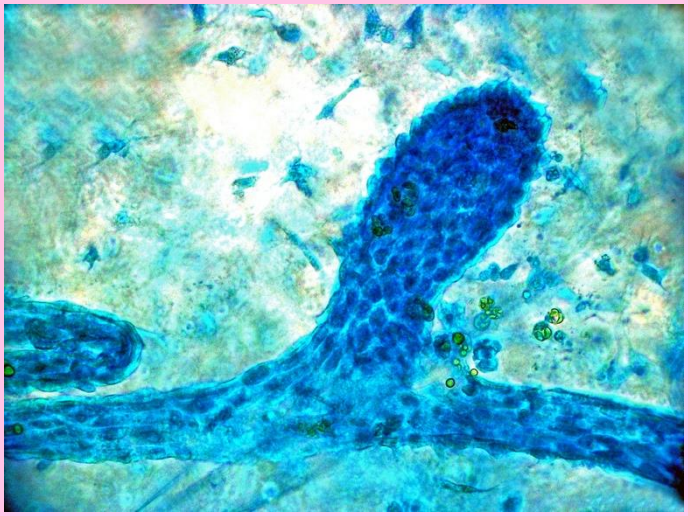
Above: *Peneroplis planatus*, amoeba in a conical, shell apically spiral and punctured with holes

Above: *Vertebralina striata* with striated, bulging compartments

SLIME MOULDS -PLASMODIOPHORANS







- plasmodiophorans Pt Pirie 2007

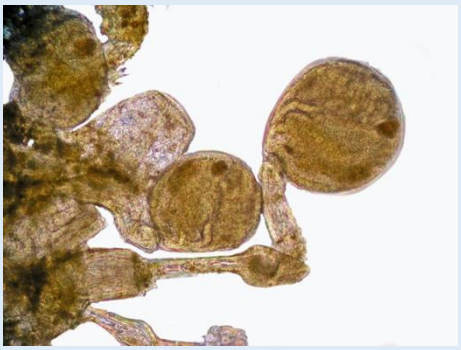
Above and above right:

- Amoeba-like individuals moving to form various shaped colonies

Right, below

- Individuals collecting in a stalked head prior to becoming spores

ENTOPROCTA



- *Barentsia*
- Pt Pirie 01
- Bulbous animal with a coiled gut, nodding on a jointed stalk

CRUSTACEANS

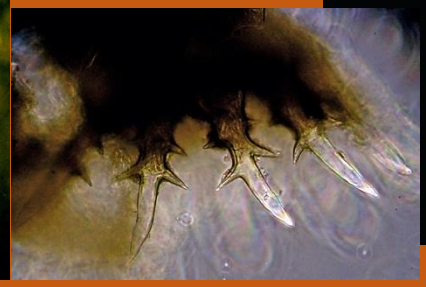
- *Corophium*, an invasive species
- Lives in a leathery tube often found in great numbers
- Pt Pirie 2006

- *Corophium* extracted from its tube

- *Balanus trigonus*
- Pt Pirie 01
- Crustacean enclosed in calcareous plates with a lid

SERPULID POLYCHAETES

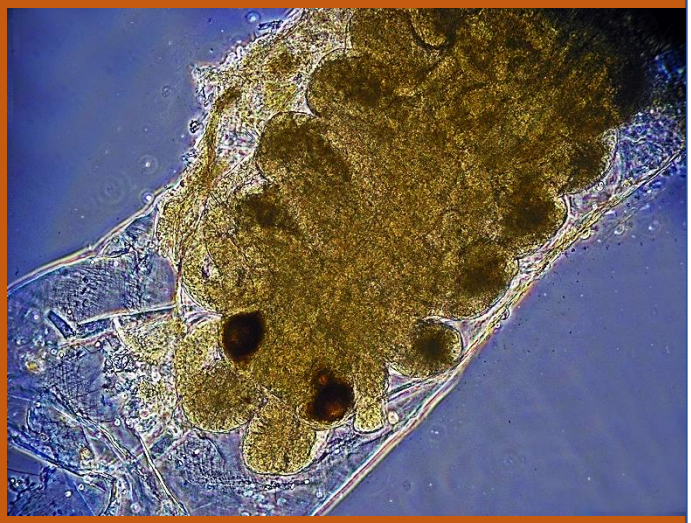
- *Hydroides longispina* in a calcareous tube, operculum extended, the apical crown or corona (arrowed) has spines
- Port Bonython 2005



- *Hydroides longispina* extracted operculum (right) and detail of the spinous tips of the corona (above)
- Port Bonython 2005

- Serpulid polychaete tubes lying amongst *Balanus* barnacles
  Pt. Pirie, 2001

- *Spionid* worm in tube
- Pt Pirie 2006



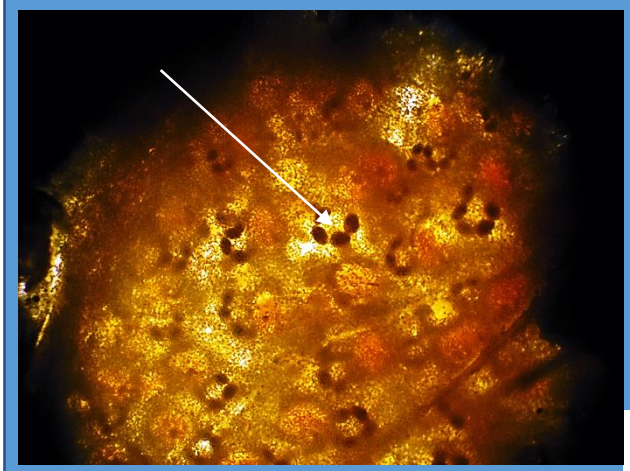
- *Spionid* worm in tube of mucus often coated with sand grains
- 2 grooved palps locate prey
- Pt Pirie 2006

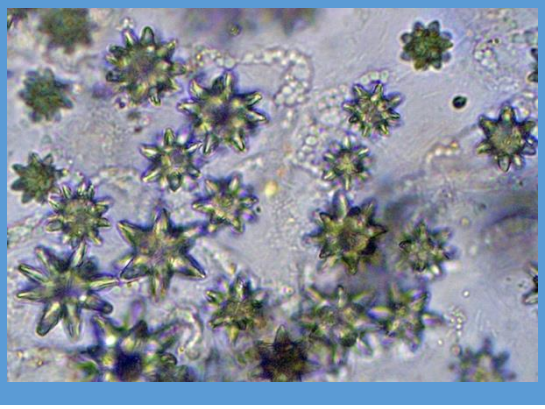
COMPOUND ASCIDIANS

- *Beudistoma aurea* individuals in circles around common canals in a gelatinous matrix
- Pt Pirie 03

- *Botrylloides*, individuals in circles or lines, around common canals and waste openings in a gelatinous matrix
- 2020

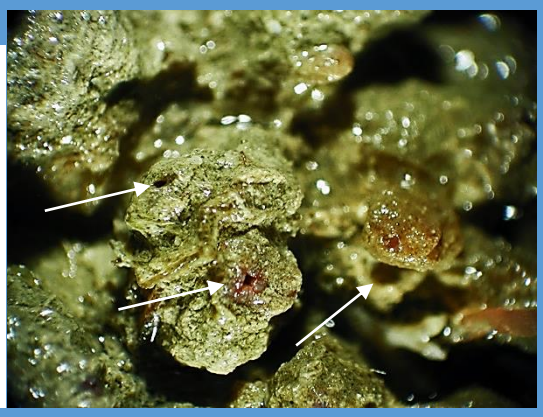
- *Botrylloides leachii*
- Pt Pirie 200l





- Didemnid compound ascidian, Port Bonython, 2005
- Sponge-like masses of ascidians in a tough matrix strengthened by star-shaped spicules (shown above)
- The opening (excurrent siphon surrounded by dark spots) of one individual is arrowed

- *Ritenella* individuals Whyalla 2004
- Left: Massed individuals recognised for their sandy coverings
- Right: Individuals showing the excurrent openings (arrowed)



11: Mollusca

- *Hipponix*, young individual, about 3 mm across (with bivalve and polychaete tube on LHS)
- Pt Pirie 200l

- *Electroma* fragile bivalve about 3 mm across
- Pt Pirie 200l

- Egg mass, probably molluscan
- Port Pirie 2001

Further information:

Entwisle, T. J. *et al* (1997) *Freshwater algae in Australia*
Patterson, D. J. & M. A. Burford (2001) *A guide to the Protozoa of marine aquaculture ponds* CSIRO Collingwood, Victoria
Prescott, G *et al* (1978) *How to know the freshwater algae*
Round F E *et al* (1990) *The diatoms: biology and morphology of the genera*. Cambridge UP
Shepherd S. A. & Thomas, I. M. (1982). *Marine Invertebrates of South Australia. Part I*. Adelaide, Government Printer.
Whitford L A & G J Scumacher (1969) *A manual of the freshwater algae in North Carolina*. Tech. Bul. No. 188 North Carolina Agricultural Experiment Station

GROUPS ILLUSTRATED ABOVE

genus/specific group	major group	page
Balanus trigonus	barnacle (Crustacea)	8
Barentsia	Entoprocta (nodding-head animalcules)	7
Beudistoma aurea	Compound ascidians	10
Botrylloides leachii	Compound ascidians	10
Corophium	Crustacea	8
Discorbis dimidiatus	Foraminifera (Protozoa)	6
Electroma georgiana	Mollusca (butterfly shell)	11
Epistylis	Ciliate protozoan	4
Flagellates	Protozoa	3
Folliculinids	Bottle animalcules	5
Hipponix	Mollusca (bonnet limpet)	11
Hydroides longispina	Serpulid Polychaete	9
Keriochlamys	Green alga (Chlorophyta)	2
Molluscan egg mass		11
Peneroplis planatus	Foraminifera (Protozoa)	6
Plasmodiophora	Slime mould	7
Ritenella sp	Compound ascidian	10
spionid	Polychaete	9
suctorians	Protozoan	3
Tetrasporopsis	Golden-brown alga (Chrysophyta)	2
Vertebralina striatus	Foraminifera (Protozoa)	6
Vorticella	Ciliate protozoan	4