HYDROIDS

HYDROIDS ASSOCIATED WITH ALGAE COLLECTED AT THE STATE HERBARIUM OF S. AUSTRALIA AND ON SETTLEMENT PLATES USED FOR ENVIRONMENTAL SURVEYS

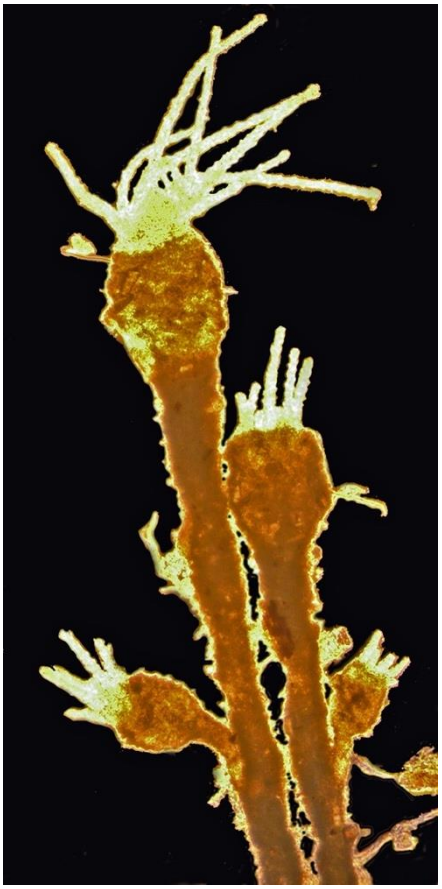
R. N. Baldock 2024

- Hydroids, related to corals and sea anemones, often grow on host plants (as epiphytes) or animals (as epizoites) in marine and freshwater habitats.
- Some resemble algae.
- The examples below ***are small*** They have been found on algal specimens or plastic settlement sheets used for environmental surveys in coastal waters of S. Australia
- Hydroid species occur as single individuals or as colonies on branched stalks; individuals (hydranths or polyps) have a sac-like gut with a ring or rings of tentacles, most with batteries of stinging cells, that surround the mouth
- Polyps may be naked or found in cups (hydrotheca) often on stalks arising from runners (hydrorhiza) that cover or may penetrate their host
- Reproductive individuals (gonozooids) found in cups called gonothecae may look very different from the feeding ones
- Bright images below have been back-lit while blue-coloured ones have been stained to emphasize features
- Those hydroids illustrated below that are ***specifically*** associated with algae are also found under **"Algal intimates"**
- Identifications have been made using Watson, J. E, *Hydroids (Class Hydrozoa)* ***in*** Shepherd S. A. & Thomas, I. M. (1982). *Marine Invertebrates of South Australia. Part I*. Adelaide, Government Printer. They are in alphabetical order of genera.
- Practically all identifications will require the use of a microscope

AMPHISBETIA

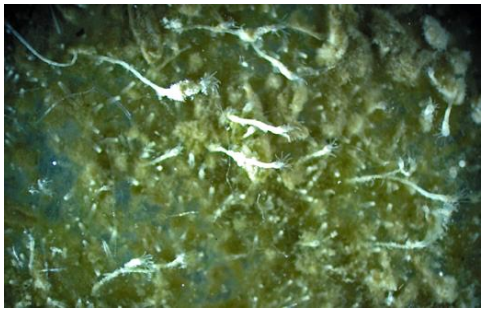
Amphisbetia minima on the Red alga *Rhodymenia obtuse* showing the saw-tooth arrangement of polyps on erect stems

Gonothecae of *Amphisbetia minima* on the Red alga *Rhodymenia obtuse* Large, egg-shaped

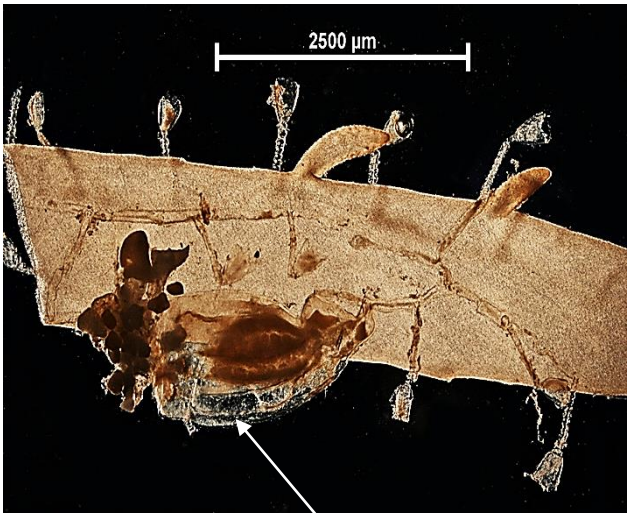


BIMERIA AUSTRALIS

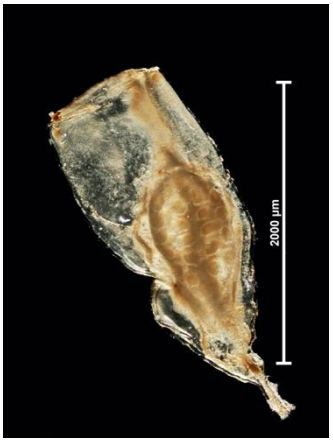
- Colonies barely 5mm high but sometime so numerous as to form mini-meadows
- Polyps terminal on stalks
- Easily recognised for the sediment clinging to surfaces



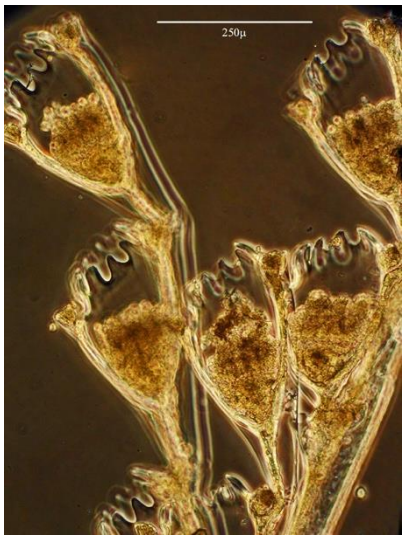
CAMPANULARIA



Campanularia caliculata: erect stalks with wavy surfaces and terminal cups. A large, prostrate gonotheca (arrowed) on the Red alga *Areschougia* is also present



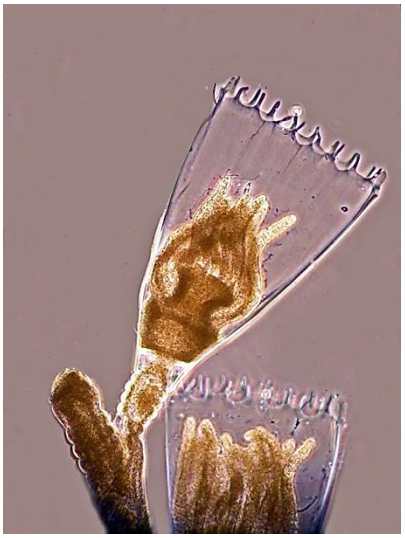
Campanularia caliculata: detached gonotheca



CLYTIA

- Sparsely branched colonies up to 5 mm tall
- Cups are jointed at the base and their rims toothed
- Cups of reproductive individuals are vase-shaped, without a toothed rim
- Colonies grow on sponges, algae and sea grasses

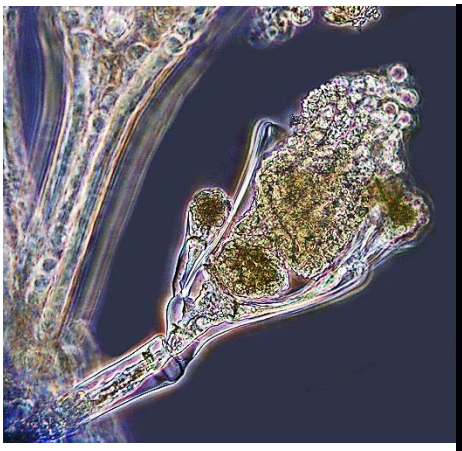
- *Clytia hemispherica*
- Pt Pirie 2004

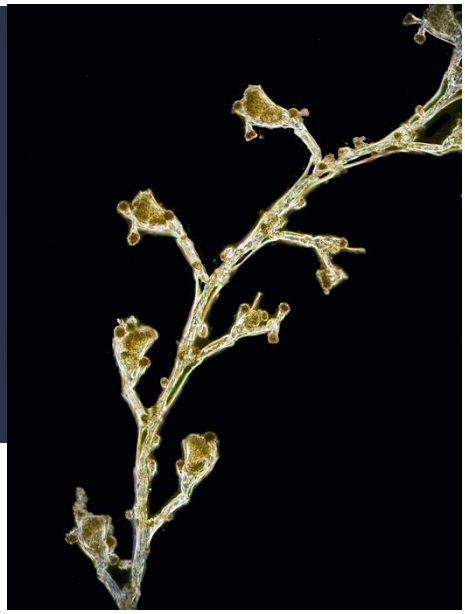


Left: Reproductive individual

Left: two examples of polyps of *Clytia hemispherica* from Pt Pirie 2006

- Polyp retracted inside the cup



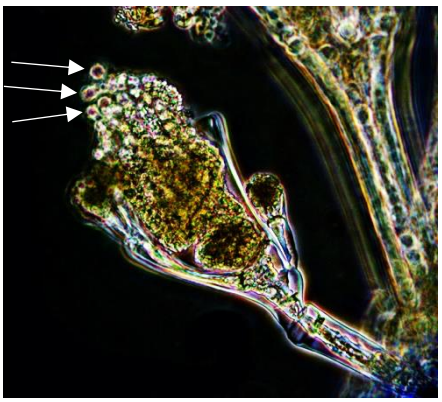


- *Coryne eximia*
- Pt Pirie 2005

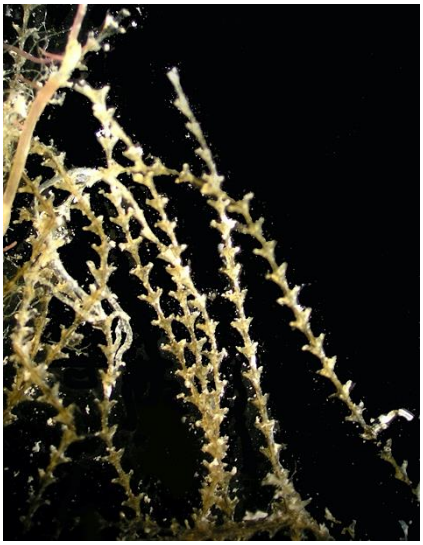
CORYNE
formerly SARSIA

Coryne eximia

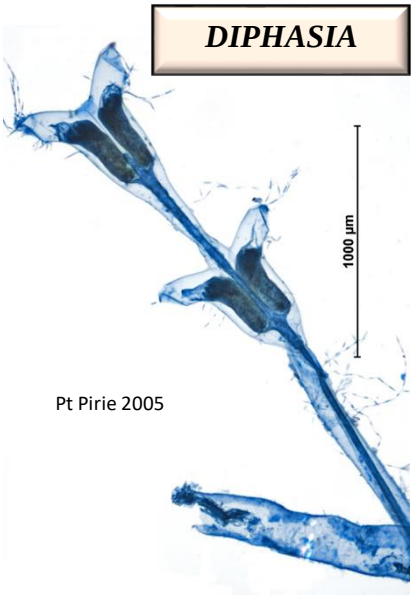
- Colony small, to 5mm high
- Scattered ***capitate*** tentacles
- On sponges and sea-squirts



- Colonies very small, 5 mm tall
- Hydrothecae cup-shaped
- Hydroids with scattered capitate tentacles (arrowed)
- Midget hydroids (arrowed)occur at the sides of the large feeding hydroids
- Pt Bonython, 2009



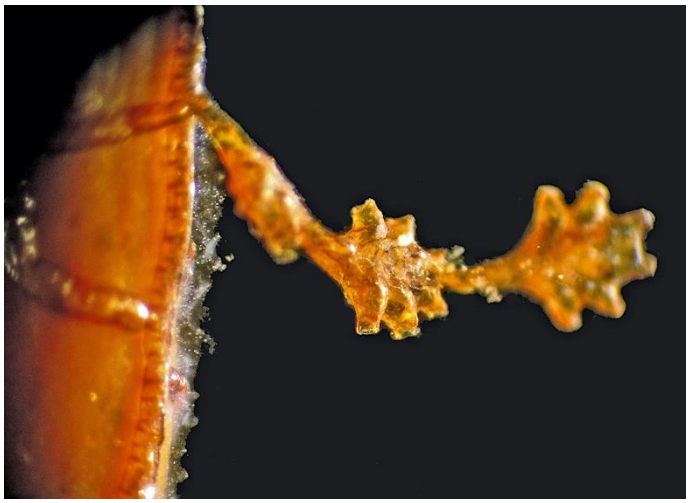
DIPHASIA

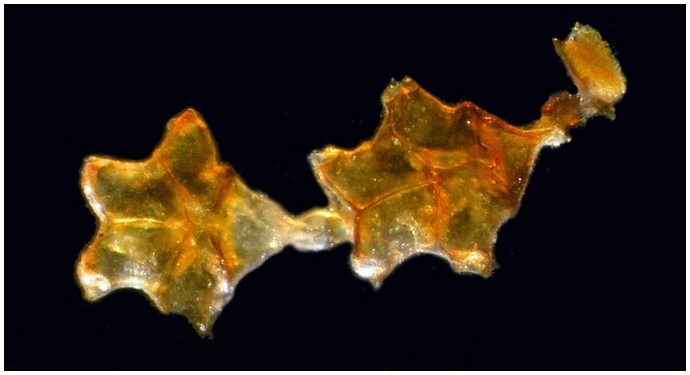


Pt Pirie 2005

- *Diphasia subcarinata*
- Unbranched stems to 2 cm high appear saw-toothed
- Common on sponges and algae

DYNAMENA





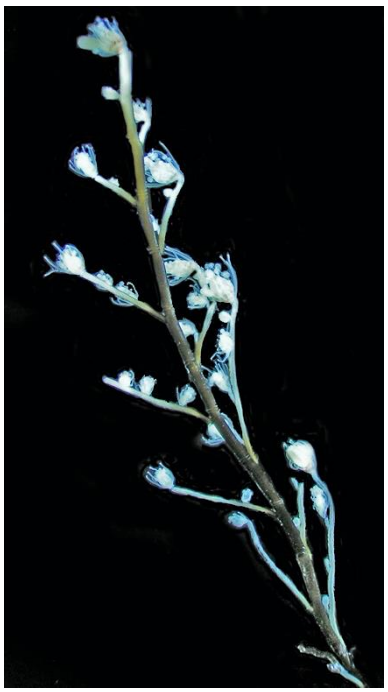
- ultimate branches (ramuli) of *Dynamena quadridentata (*arrowed) on the Brown alga *Sargassum*
- Hydrorhiza and erect part of the colony (right, above)
- Detached hydrothecae (right, below) in bunches of 4

EUDENDRIUM

Eudendrium generale

- Colonies bushy, irregularly branched
- Individuals naked (cups ***absent***); single ring of thin tentacles
- Mouth (arrowed) cone-shaped

HALOCORDYLE



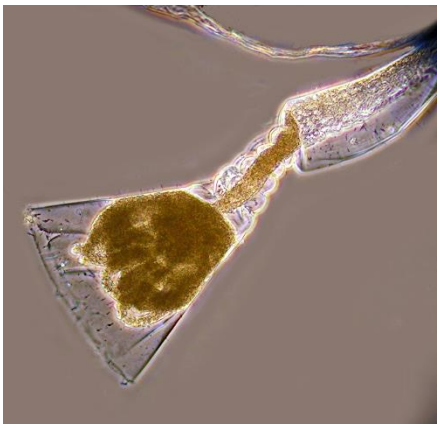
Halocordyle disticha

- Ring of thin tentacles ***and*** capitate tentacles (arrowed)
- Hydroids naked – cups ***absent***
- Pt Pirie 2006, on rocks and sponges

- *Halocordyle disticha*, rhizoids on settlement plate surface
- Pt Pirie 2006

Obelia geniculata
Stolons on settlement plate

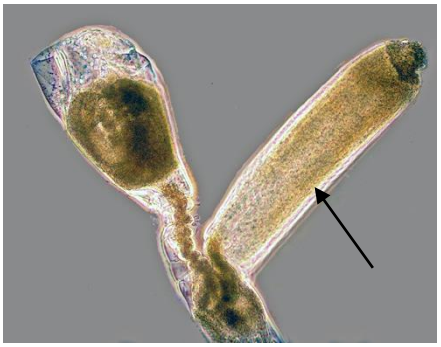
Obelia geniculata
Erect parts, branching pattern

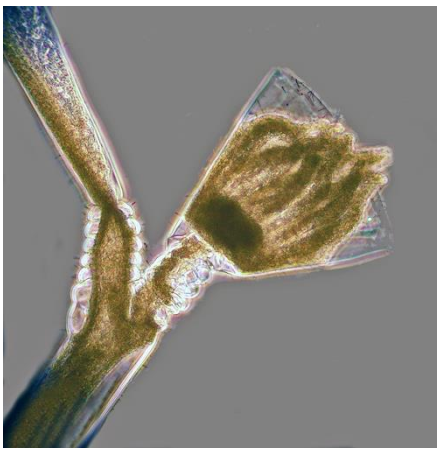


Obelia geniculata
Retracted hydroid, shape of hydrotheca

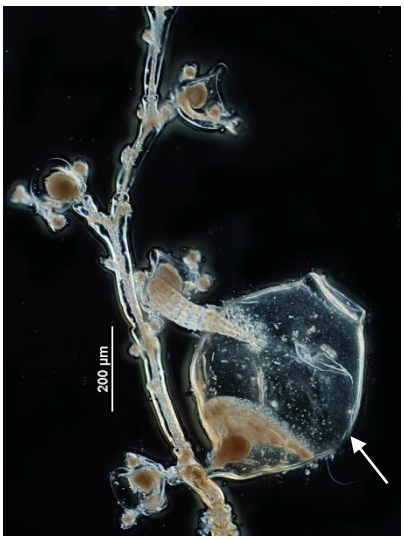
OBELIA

Right: *Obelia geniculata*
Hydrotheca and gonotheca (arrowed)
Hydrotheca with hydroid intact





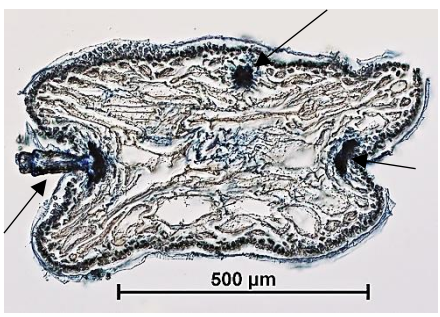
Plumularia flexuosa
on the Red alga *Mychodea acicularis*



Plumularia flexuosa
Hydrothecae (small) and large gonotheca (arrowed)

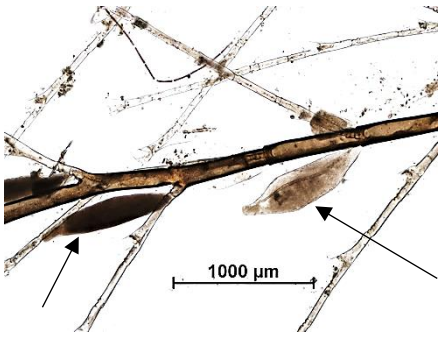
PLUMULARIA

Plumularia flexuosa
Hydrothecae, jointed stem allowing flexing of hydrothecae

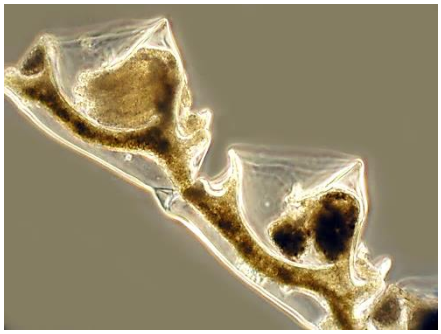


Plumularia sp
Stalk base and feet (arrowed) seen penetrating the Red algal host *Mychodea acicularis* in cross section

Plumularia setacea
rigid branches and elongate gonothecae (arrowed)



PLUMULARIA (continued)

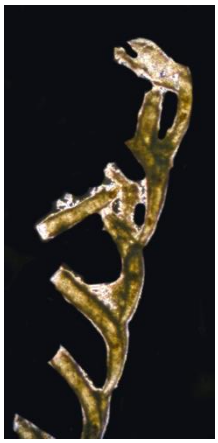


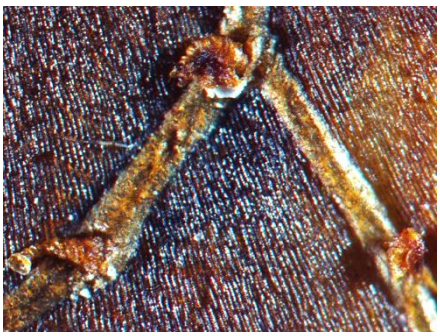
- Hydrothecae cup-shaped, one side pressed against the stalk

Plumularia filicaulis

OPHIODISSA AUSTRALIS

- Colony stems up to 3cm high, poorly branched
- Cups elongate, tubular, may have several rim marks at entrance to the tube
- On sponges, Pt Bonython 2005



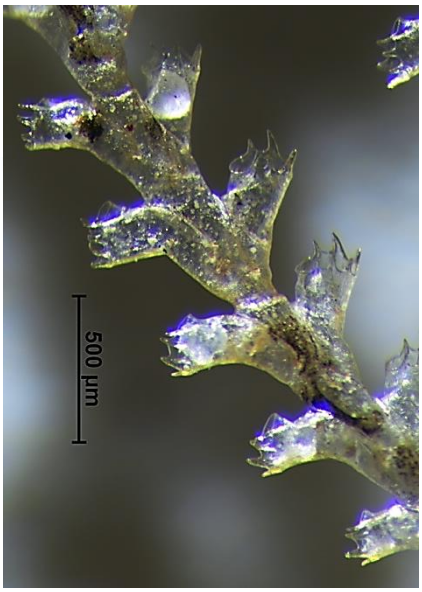


SCORESBIA DAIDALA

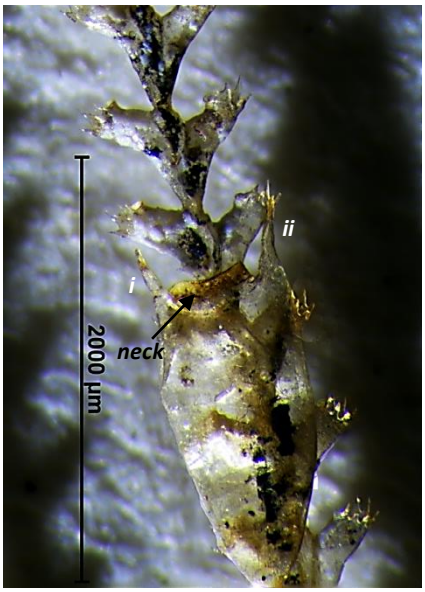
- Grows specifically on the Brown alga *Zonaria crenata*
- Erect hydroids occur relatively well-spaced along stolons that wander across the surface of the host blades

STEREOTHECA ELONGATA

- Large colony attached to a stem of the seagrass *Amphibolis*



- Polyps in cups alternating in 2 opposite rows with more than 4 sharp teeth at the margins of openings



- Gonotheca large, with short neck and 2 large spines (***i, ii***)

- *Tubularia*
- Pt Pirie 2005

TUBULARIA

Tubularia ralphi

- Colonies of clustered, naked polyps, cups ***absent***
- Hydroids single on a stem up to 12cm high
- Ring of short tentacles about the mouth, ring of larger tentacles external to them

SPECIES ILLUSTRATED ABOVE

species	author(s)	page
Amphibestia minima	(Thomson)	1
Bimeria australis	Blackburn	1
Campanularia caliculata	Hincks	2
Clytia hemispherica	(Linnaeus)	2
Coryne eximia previously *Sarsia radiata* Lendenfeld	Allman	3
Diphasia subcarinata	(Busk)	4
Dynamena quadridentata	(Ellis & Solander)	4
Eudendrium generale	Lendenfeld	5
Halocordyle disticha	(Goldfuss)	5
Obelia geniculata	(Linnaeus)	6
Ophiodissa australis	(Bale)	7
Plumularia filicaulis	Kirchenpauer	7
Plumularia flexuosa	Bale	6
Plumularia setacea	Ellis	6
Scoresbia daidala	Watson	7
Stereotheca elongata	(Lamouroux)	8
Tubularia ralphi	Bale	8