MARINE INDICATOR SPECIES OF REEFS: IV. CALCAREOUS REEFS and DEEP SEDIMENTS, SOUTH AUSTRALIAN GULFS
Examples: Point Bonython and Whyalla, N Spencer Gulf

DISTANCE FROM MEAN LOW WATER LEVEL (m)

<table>
<thead>
<tr>
<th>plants</th>
<th>animals</th>
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<tbody>
<tr>
<td>large brown algae</td>
<td>bivalve shellfish</td>
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<tr>
<td>green algae</td>
<td>brachyzoans</td>
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<tr>
<td>red algae</td>
<td>cuttlefish</td>
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<tr>
<td>sea grasses</td>
<td>solitary sea squirts</td>
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<td>sponges</td>
<td>compound sea squirts</td>
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<td></td>
<td>hydroids</td>
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<td>serpent stars</td>
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THUMBNAIL SKETCHES OF INDICATOR ORGANISMS — DISTRIBUTED ACCORDING TO DEPTH

The coin scale is 23 mm across, or almost 1 inch in diameter

1. rapeweed, Caulocystis uvifera has gas floats directly on the central stalk

2. Scaberia agardhii has scaly or warty branches

3. Sargassum has leafy or divided basal parts and feathery upper parts often bearing small gas floats

4. sea lettuce, Ulva can form dense green mats of crinkly, tissue-thin plants running from the lower intertidal to shallow water

5. Caulerpa cactoides has jointed balloon-shaped parts

6. Haloplegma is a red alga with felty lobes about 50 mm across. It sometimes forms dense mats at depth

7. Asparagopsis taxiformis is a fluffy red alga about 200 mm tall

8. sea nymph, Amphibolis, is a leafy sea grass with wiry stems

9. eel grass, fine leaved Zostera and Tape grass, Posidonia

10. bivalve shellfish, Mytilus (with white worm-tubes attached)

11. bivalve hammer oyster, Malleus

12. razor shell, Pinna, pointed tip buried in mud, about 300 mm tall

13. bryozoan, lace coral, *Petralia*, 100 mm across, easily broken

14. bryozoan, lace coral, *Triphyllozocon*, 30 mm across

15. bryozoan, *Celleporaria*

16. cup sponge, 300 mm tall  
(Photograph: D Muirhead)

17. sponge, *Tedania*

18. lace sponge, about 100 mm across

19. sponge garden

20. giant cuttlefish, *Sepia apama*, to 500 mm long

21. spotted grubfish, *Parapercis ramsayi*, 200 mm long

22. yellow sea squirt, *Polycarpa*, about 80 mm tall

23. giant sea squirt, *Phallusia obesa*

24. compound ascidian colony

25. soft coral, *Teleslo* (syn: *Carajoa*)
26a. hydroids (amongst bryozoans, sponges, colonial sea squirt)

26b. hydroid, microscopic views

27a. sea urchin, *Heliocidaris*, to 80 mm across, is a heavy browser of algae

27b. a “shell” or test of *Heliocidaris* washed up on the beach and denuded of spines

28. thorny sea urchin, *Tubaria*, centre ball about 30 mm wide, spines thick and thorny

29. tiny brittle star, *Amphipolis* about 25 mm across, hides amongst algae and bryozoans, sometimes in large numbers

Bottom dwellers on coarse shell grit – red *Haloplegma*, yellow *Polycarpa*, and 3 colour variations of the giant sea squirt, *Phallusia*, growing from the side of a razor clam heavily encrusted with sponges and other animals.

Soft coral, *Telesto* (syn. *Carajoa*) at 5m depth, Stony Point, upper Spencer Gulf, S Australia