

KEY TO MAJOR GROUPS OF SOUTHERN AUSTRALIAN MARINE PLANTS THAT ARE ATTACHED TO ROCKS AND SEDIMENTS (BENTHIC PLANTS).

(this excludes the microscopic floaters or planktonic plants)

- 1a. Plants grow in sand and mud. Leaves are green, often grass-like, and veins (vascular tissue) are present. Runners (rhizomes) below the sediment produce roots. Flowers and fruit may be present.

..... Phylum (or Division) Magnoliophyta (fig. 1)
 — the Flowering Plants (Seagrasses)



- 1b. Plants are attached to rock (lithophytic) or other organisms (epiphytic). True veins, stems, leaves and roots absent, although some plants have flattened leaf-like parts of varying colors with mid-ribs resembling veins, and some have runners and branched attachment organs (holdfasts) resembling roots

..... algal groups (fig. 2) and lichens (go to step) 2



Fig. 3: lichens drying to a rust red crust, Pt Souttar, SA

- 2a. Plants found on rock just above high tide, pale green or blue-grey-green or black in color, forming dry, rough, circular crusts on rocks just above high tide, some changing to rusty red or orange as they dry out in summer (fig. 3)
 Phylum: Lichenes — the marine lichens

- 2b. Plants on rock in the intertidal or subtidal regions or growing on other organisms, of various colors
 (go to step) 3

- 3a. Plants grassy-green to dark leafy-green. When viewed under the microscope, cells larger than about 1µm wide that contain nuclei can be seen (fig. 4)
 Phylum (or Division) Chlorophyta— the Green Algae

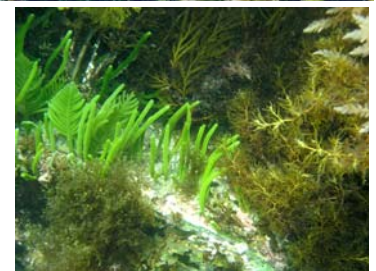


Fig. 4: green algae (*Caulerpa brownii*), amongst brown algae 2m deep at Cape Jervis, S.A.

- 3b. Plants dark olive-green, grey-green or blackish, forming films or jelly-like blobs on rocks and other organisms, slippery when wet. When viewed under the microscope, colonies of tiny threads or groups of cells of bacterial size (about 1µm wide) that do not contain nuclei, set in jelly, can be seen (fig. 5)
 Phylum: Cyanopokaryota
 — the Blue-green Algae/Bacteria

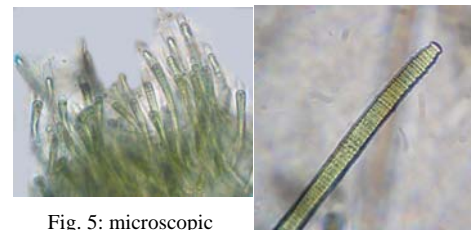


Fig. 5: microscopic views at different magnifications of threads of blue-green algae, Pt Pirie, SA

- 3c. Plants red, pink, light or dark brown, khaki or a yellowish color. When viewed under the microscope, cells larger than about 1µm wide that contain nuclei can be seen (go to step) 4

- 4a. Plants often large and leathery, yellow or khaki or olive brown or dark brown to almost black in color, usually plentiful on rocks in shallow water and the lower part of the intertidal (fig. 6)
 Phylum (or Division): Phaeophyta (Heterokontophyta)
 The Brown Algae



Fig. 6: a mix of brown algae (*Ecklonia* and *Cystophora*), in a rock pool, Pandalowie Bay, SA

- 4b. Plants delicate, membranous or leathery, or limy and stony (calcareous), red, red-brown, pink to purplish in color, or bleached yellow in shallow water, growing on rock or other organisms, sometimes at depth (fig 7-)
 Phylum (or Division) Rhodophyta
 the Red Algae



Fig. 7 a red coralline alga encrusting a pebble, Aldinga, SA



Fig. 8: mass of red algae, mainly *Melanthalia*, 2m deep, Pt Elliot, SA



Fig. 9: the red alga *Sarcomenia*, from Robe, SA