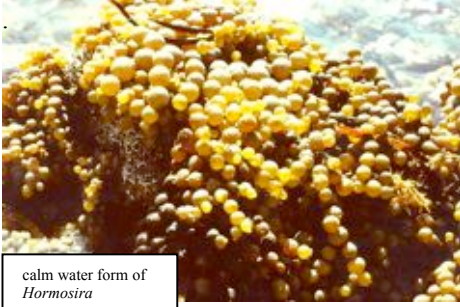


PICTURED KEY TO SOME COMMON GENERA OF LARGE BROWN ALGAE OF SOUTHERN AUSTRALIA

Division: Heterokontophyta (Phaeophyta)

R N Baldock, State Herbarium of S Australia aided by F Scott, University of Tasmania

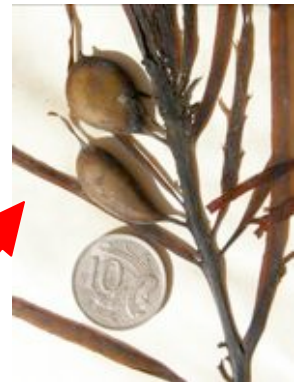
- 1a. thallus of branched chains of tough, water-filled bladders *Hormosira*
- 1b. thallus not as above 2
 - 2a. thallus of pencil-thin, warty branches *Scaberia*
 - 2b. thallus not as above 3



- 3a. thallus large, 1-10m long, with root-like holdfast, prominent stalk (stipe) and strap-like or divided blades 4
- 3b. thallus usually smaller, not as above 9
 - 4a. floats prominent 5
 - 4b. floats absent 6

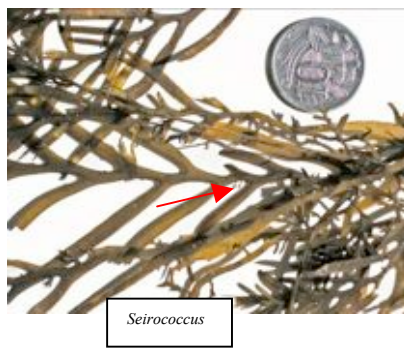


- 5a. stipes long and rubbery, floats 15-30mm across, at the base of large, flat blades (found in cold SE waters only) *Macrocystis*
- 5b. stipes short, axis flat, floats beaked, 10mm across, marginal on straplike blades *Phyllospora*
 - 6a. thallus highly divided into strap-like fronds 7
 - 6b. thallus only slightly divided, then into broader frond pieces 11
- 7a. strap-like fronds with toothed margins and corrugated surface *Lessonia*
- 7b. strap-like fronds with smooth margins and surfaces 8



- 8a. plant thick, tough, fertile parts in ultimate branches *Xiphophora*
- 8b. plants flexuous, fertile parts on margins of blades 9
- 9a. tiny peg-like fertile structures at blade margins *Seirococcus*
- 9b. beaked fertile structures at blade margins *Scytothalia*

diagnosis impossible without fertile structures

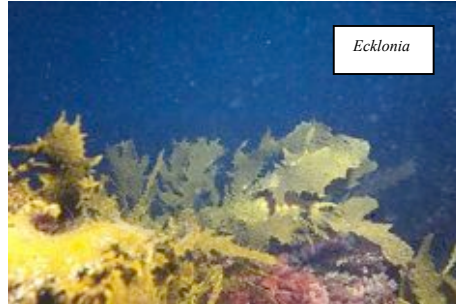


10a. blade thick, leathery, often torn into strips by waves at reef edges
(found in cold, southern Australian waters only) *Durvillaea*

10b. blade thinner, flat, with broad marginal lobes, surface sometimes furrowed or roughened
with pointed outgrowths *Ecklonia (E.radiata)*



Durvillaea



Ecklonia



Ecklonia
— whole plant

11a. thallus thin-walled, hollow, bubble-shaped *Colpomenia*
11b. thallus not as above 12

12a. thallus of thin, narrow or broad, **flat**, usually forked (dichotomously branched) blades

..... **Family: Dictyotaceae**
(only some genera shown below)


12b. thallus not as above 13



Colpomenia



upper blades of
Dictyopteris

 **WARNING:** diagnosis requires microscopic investigation of apical cells and cross sections of blades



whole plant of *Dictyota*



upper parts of
Homoeostrichus



upper parts of
Zonaria spiralis

13a. thallus of wiry, stiff, branched threads **Family: Sporochneaceae**
(only some genera shown below)



Encyothalia —
thallus wiry,
short branches
ending in a
prominent hair
tuft seen under
the microscope



Sporochmus —
thallus wiry,
hair tufts along
branches seen
under the microscope



Perithalia:
thallus like horsehair, branches ending
in a microscopic cap and hair tuft



13b. thallus with stipe, main axes and side tufts of leafy or thread-like ultimate branches (ramuli) often with floats **common furoid genera...** 14

14 Common furoid genera (*Cystophora*, *Sargassum*, *Caulocystis*, *Acrocarpia*, *Hormophysa*, *Cystoseira*)



***Cystophora*:** no “leafy” parts, stubs of side branches often point downwards and give the axis a zigzag appearance, floats arise from the bases of ultimate branches (ramuli)



***Sargassum*:** basal parts often leafy; annual fertile upper parts different in shape, floats if present are clustered at the base of side axes



***Caulocystis*:** no “leafy” parts, floats arise **directly** from the main axes, ultimate branches (ramuli) arise radially



***Acrocarpia*:**

- no “leafy” parts
- no floats
- thin ultimate branches (ramuli) arise radially from the axis

***Hormophysa*:**

- main branches flat, margins serrated and pinched into segments
- no floats



***Cystoseira*:**

- ultimate branches (ramuli) flat but thin
- floats if present, small, in chains, embedded in the ultimate branches
- basal axes covered in branch stubs
- fertile branches bead-like