Phaeophyta - Key to genera

Key to species of the Phaeophyta (brown algae).

1. Tinted algae, less than 1 mm wide, whose shape can only be discerned using a microscope. They often cover surfaces ……→ 2

*1. Algae larger than the above, distinguished by the shape of their thallus without magnifying equipment. ..... → 3

2. The thallus is made of a single row of cells. The spore-ridden sporangium are found at the edge of the thallus ..... → **Ectocarpus**

*2. With the aid of a microscope, one may see several rows of cells along the width of the thallus. The triangular or star-shaped sporangium has three or four horns. ..... → **Sphacelaria**

3. Hollow, globular algae, mostly irregular. ..... → 4

*3. Flattened or branched algae. Algae otherwise. ..... → 5

4. Numerous holes (spaces) in the algal thallus resemble a net or fishing net. The holes are irregular in size .→.....**Hydroclathrus**

*4. The algal thallus is continuous (no holes) and often covered with a smooth mucous layer. The algae's interior contains gasses. → **Colpomenia**

5. Algae are rigid, resembling higher plants. Relatively large algae, reaching up to 20 cm and more. ..... → 6

*5. Algae otherwise. ..... → 7

6. The thallus resembles a 'stalk' and 'leaves'. The reproductive organs are located on separate branches. Round flotation blades are held by prickles along the 'stem'. ..... → **Sargassum**

*6. The 'stem' is mostly flat, often winged, sometimes cylindrical. Elongated floatation cysts that form a part of the stalk are sometimes missing. ..... **Cystoseira**

7(5). Flattened algae, that if hollow, are much longer than they are wide → 8

*7. Algae incorporating a central axis with numerous side branches. The arms generally resemble a feather. Each side branch is smaller than 1 mm. ..... **Stypocaulon (=Halopteris)**

8. Cylindrical, hollow and unbranched algae, 1-5 mm wide and up to 20 mm length. They grow in the upper regions of the intertidal zone and are sometimes exposed to air. ..... **Scytosiphon**

*8. Algae that aren't hollow. Algae otherwise ..... → 9

9. The algae body resembles a central axis with membranous wings on either side. ..... → **Dictyopteris**

*9. Membranously wingless algae. Algae otherwise ..... → 10

10. Flat algae with regular, dichotomous branching. Growth is generated from a single apical cell or two (microscope required). …… →11

*10. Fan-like algae, strand-like algae, algae otherwise….. → 12

11. The upper part of the thallus is rounded and often widens (spatula-like). Through a microscope, three layers of cells can be discerned.

…… → **Dictyota (=Dilophus)**

*11. The edges of the branches do not widen or round off. A two-layered medulla of cells can be discerned through a microscope..... → **Dictyota**

12. Fan-like algae where, sometimes, especially in mature individuals, the fan splits into several lobes. ..... → 13

*12. Algae otherwise. ..... → 15

13. Concentric lines appear along the thallus' breadth..... → 14

*13. The thallus resembles flattened lobes, loosely attached to rocks. The algae is coloured shades of brown–yellow and characteristically grows in shady areas of the subtidal zone. ..... **Lobophora**

14. Extremely common algae. The thallus contains calcium, and its edges curl backwards. ..... → **Padina**

*14. The alga does not calcify. Plants immersed in water have a phosphorous shade of azure. Growth generates from a row of apical cells (a microscope is required ……..**Stypopodium**

15(2). Soft, strand-like algae, unbranched and narrow at the bottom. Plants are commonly found in the upper region of the intertidal zone.... → **Petalonia**

*15. The thallus splits into irregular, lineal strands. ..... → 16

16. Fan-like algae that split into (usually) dichotomous strands. The further they are from the algal base, the narrower the strands become. The algae is bright brown and seems to have dark lines along its breadth .....**Taonia**

*16. The algal surface is rough. It is dark-brown, but when exposed to air, the thallus changes colour to dark green. Branching is dichotomous. ..... **Spatoglossum**