

## Key to species of the Rhodophyta (red algae)

1. The thallus resembles vesicles connected to a pedicle. The algae resemble a cluster of grapes and grow in shady places, usually at the uppermost hidden sections of potholes ..... → **Botryocladia**
  - \*1 Algae otherwise ..... → 2
2. The thallus is mucousy and extended, resembling a worm or spaghetti. Found at the uppermost levels of the intertidal zone, sometimes exposed to air. .... → **Nemalion**
  - \*2. Algae otherwise ..... → 3
3. Thin algae. The thallus separates into two hook-like branches, resembling a set of pincers. The thallus length is less than 5 cm. .... → 4
  - \*3. Algae otherwise. .... → 5
4. Using a microscope, one sees a projection between the two appendages becoming apparent. Brown or dark-red algae that usually grow on the rims of platforms facing the sea. .... → **Centroceras**
  - \*4. Along the thallus, a series of dense and thin joints may be seen. The alga is transparent, and through a microscope one often sees hints of red in the joints. .... → **Ceramium**
    - 5(3). The alga resembles a cluster of thin filaments that are delicate to the touch. A microscope is required to examine the thallus' structure ..... → **Polysiphonia**
  - \*5 Algae in which the general structure of the thallus can be discerned without auxiliary means. Algae otherwise ..... → 6
6. Algae that are hairy, soft and lose their form (collapse) when extracted from the water. .... → 12
  - \*6. Calcified, rigid algae. Algae otherwise ..... → 7
7. Algae possessing greenish-brown cartilage. The thallus possesses a central axis out of which side branches spread. The branches are thin and shorter than the central axis ... → 8
  - \*7. Algae otherwise. .... → 14
8. Side branches get narrower towards their tip ..... → 10
  - \*8. Side branches end with nipples ..... → 9
9. The nipple is elementary, and hair is discernable at the nipple tips when seen through a microscope ..... → **Laurencia**
  - \*9. A circle of protrusions can be seen at the edges of the side branches (magnifying glass or microscope is needed) ..... → **Chondria**

10(8). The central axis is covered with short, thorny protrusions measuring about 3 mm, more or less equal. A very common alga usually found on the central rims of the abrasion platforms facing the sea. Individuals may be found on the abrasion platforms themselves or at the upper regions of potholes. .... → **Acanthophora**

\*10. The side branches are diverse in length, usually no longer than 3 mm. → 11

11. The junction of the central axis begins at the bottom of the plant. The side branches are straight and pointed. The plant is no longer than 5 cm..... → **Alsidium**

\*11. The length of the thallus is 10 to 20 cm, and often ends in a hooked edge...→  
**Hypnea**

12. Bush-like algae, dull coloured. Coloured rings may be discerned upon the thallus through a microscope. The central branches may be as wide as 1 mm thick, the side branches narrower. These usually develop on the abrasion platform's side that is furthest from the sea. .... → **Spyridia**

\*12. Red or pinkish gray algae ..... → 13

13. Red algae that resemble a cluster of tiny bulbs grouped in bunches. Found in tidal pools on the abrasion platforms. .... → **Daysa**

\*13. Pinkish-gray algae. Twisted branches form the base. The branches themselves are arranged along a central axis (when the algae is in water) in a square-pyramid form. The algae do not get exposed to air, and are very rare → ..... **Asparagopsis**

14(7). Calcified algae, usually of a pinkish-hue, a result of calcium deposits. → ..... 15

\*14. Algae with a thallus that is not calcified. Algae otherwise. → ..... 18

15. Flattened algae forming adjacent rounded thallus. These may be found in potholes and the subtidal zone, especially in shaded areas..... → **Lithophyllum**

\*15. Bush-like algae with elongated and dividing branches..... → 16

16. The thallus is made up of slightly flattened joints. Two or three segments are located upon these joints. The alga is very common in the subtidal zone and rarely exposed to air. .... → **Corallina**

\*16. Algae that branch out dichotomously. Algae otherwise ..... → 17

17. Algae with joints that grow in the subtidal zone and in shaded areas..... → **Amphiroa**

\*17. Thin algae, very common, that cover areas in the intertidal zone, sometimes also in deeper water. Epiphytic on many other plants or attached to the rocks, presenting small ball-like bushes ..... → **Jania**

18(14). Feather-like algae, i.e. with a central axis and side branches that develop on the same plane. .... → 19

\*18. Algae otherwise. → ..... 20

19. Tiny algae, often covered with sand. The thallus extends 3 cm and – including its side branches – not wider than 3mm ..... → **Pterosiphonia**
- \*19. Burgundy-red colored algae, very common. They grow in clumps in the upper parts of the subtidal zone. The thallus grows up to 5 cm wide and often has bepinated branches ..... → **Pteroclatiella**
- 20(18). Flattened algae. .... → 21
- \*20. Cartilaginous-like, and rigid thallus. Algae otherwise. .... → 24
21. The algae are comprised of rounded, irregular plates, and cling to rocks in shaded areas and the subtidal zone. Concentric growths may often be observed upon the thallus. The algae are coloured bright red..... → **Peyssonelia**
- \*21. Soft and thin algae..... → 22
22. Red algae that grow up to 3 cm long. Dichotomous branching extends at the edge of the thallus..... → **Rhodymenia**
- \*22. Algae that do not dichotomously branch out. Algae otherwise..... → 23
23. Membranous algae, very thin, nearly transparent, with a dark brown hue. The algae grow in the upper regions of the intertidal zone and sometimes higher. They are often exposed to air. .... **Porphyra**
- \*23. Membranous algae that split at the edge, coloured red. They seem to have disappeared from the Israeli coast ..... **Halymenia**
- 24(20). Brightly red coloured algae with cylindrical branch ends. They grow in potholes. → 25
- \*24. Algae otherwise. → ..... 26
25. Branch ends are folded, cylindrical in one direction ..... → **Halopithys**
- \*25. The branch edges bend backward. When dry, the algae colours paper red ..... → **Rytiphloea**
- 26(24). A cylindrical, branched alga. The branches are 1 mm thick and have sharpened edges. They intertwine, forming a sparse lump of several centimetres wide. Bright phosphoric spots can sometimes be seen on the alga, when it is underwater. These disappear when exposed to air..... **Chondroclonium (=Gigartina)**
- \*26. Algae otherwise → ..... 27
27. A small alga, not more than 2 cm long, that grows densely upon rocks above the intertidal zone. It is often exposed to air and clings strongly to the rock. The edges of its branches are cylindrical. .... **Gelidiella**
- \*27. Algae otherwise ..... → 28
28. Alga whose diameter is no more than 2 cm. The branches are smaller than 0.5 mm, cylindrical and densely dichotomously branched..... → **Gymnogongrus**
- \*28. Algae otherwise ..... → 29

29. Brightly red coloured algae, flat and irregularly dichotomously branched. They are found in the upper hidden regions of potholes..... **Schottera**

\*29 Cylindrical rigid algae, usually dichotomously branched. They grow up to 20 cm in length, sometimes more.....→30

30. Bright algae, tasty even when raw. A microscopic cross section reveals a line of small elongated cells in the centre of the medulla, perpendicular to the section. .... → **Solieria**

\*30. Algae otherwise. Microscopic examination shows the cells in the centre of the medulla to be larger than the peripheral cells..... → **Gracilaria**