

SOME ORKNEY SEAWEEDS

There are around 350 species of seaweed (or marine macro algae as they are also known) in Orkney*, split into three not always easily identifiable groups -the reds Rhodophyta, the browns Phaeophyceae, and the greens Chlorophyta. Seaweeds survive their challenging living conditions by employing an arsenal of properties. They are flexible and have a slippery surface allowing them to withstand wave action and avoid drying out when exposed to the atmosphere. Some use air pockets as buoyancy aids. They establish themselves by creating a holdfast that anchors them to hard surfaces like rocks. Phycology covers the study of all algae, this guide is restricted to 20 of the more conspicuous seaweeds.

Some seaweeds are never exposed by the ebbing tide, some are regularly visible during low water and some live high up, in the splash zone of the shore. Many of the deeper water seaweeds can be found washed up on the shore, in the strand line, especially after a storm. While often described as marine plants, there are several important differences between seaweeds and more familiar land plants. Seaweeds have no root system for transferring minerals, instead they gain nourishment from the surrounding waters. What resembles a stem is called a stipe and what might look like leaves are called fronds or blades. Most of the seaweed plant, or thallus, is made up of cells all capable of the same function, photosynthesis, which they can do through water. Being seedless, seaweeds reproduce using spores; many types of seaweed are capable of regeneration.

* data collected by Prof Martin Wilkinson (342 species recorded)



DULSE (above)
Palmaria palmata
Dillisk; Red kale; Sheep's dulse

O: Sou-Soll
Habitat: Grows on rocks and on larger seaweeds, lives on all areas of the shore and subtidal. Often found washed ashore on storm cast Cuvie stipes (*Laminaria hyperborea*). Colouring: Dark red to reddish brown, purple tinge when submerged. Size: 10-30 cm long and up to around 8 cm wide.



SLAKE (left)
Porphyra umbilicalis
Sloke / Laver

J: Nori
Habitat: Lower to mid intertidal. Grows on rocks. Colouring: Ranges from dark green or brown-black to purple. Found wrapped around rocks at low water. Size: Up to 20cm but can be bigger.



SERRATED WRACK (above)
Fucus serratus
Toothed wrack / Saw wrack

O: Prickly tang
Habitat: Lower intertidal
Colouring: Olive green to orangey brown. Size: Up to 60cm or so.



KNOTTED WRACK (above)
Ascophyllum nodosum
Egg wrack

O: Yellow tang / Bell tang / Knop-tangle
Habitat: Upper and mid intertidal. Colouring: Dark olive green to pale golden brown. Often has a red wiry seaweed (siphon weed) attached. Size: Can grow over a metre in length.



BLADDER WRACK (above)
Fucus vesiculosus
Popping weed / Pig tang / rock weed

O: Paddy tang / Bow tang / Black tang
Habitat: Mid intertidal. Colouring: Olive green to brown, black when dry. Size: From 20cm to a metre long.



IRISH MOSS (above)
Chondrus crispus / *Mastocarpus stellatus*

Carrageen / Grape pip weed
These are different seaweeds but are gathered together under the common name carrageen or Irish moss.

Habitat: Subtidal, lower intertidal, permanent rock pools. Colouring: Deep reddish purple through to green. *Chondrus crispus* can be iridescent blue under water. While *Chondrus crispus* has flatter fronds, *Mastocarpus stellatus* has in-curved fronds and reproductive 'pips'. Size: 5- 10 cm long.

CHANNELLED WRACK (right)
Pelvetia canaliculata

O: Cow tang / Teeting tang / Calfweed
Habitat: Upper intertidal. Colouring: Olive green turning blackish when out of water for long periods. In-rolled fronds create a channel. Can be found in swathes on the upper shore. Size: Between 5 to 15 cm long.



PEPPERDULSE (above)
Osmundea pinnatifida

Habitat: Mid intertidal in rock crevices. Colouring: Dark purple-brown fatty fern-like fronds. Size: Up to 8cm can be smaller. Image: Pierre-Louis & Hippolyte-Marie Couan 1852



SEA OAK (above)
Halidrys siliquosa
Pod weed

Habitat: Lower intertidal and in rock pools, sometimes subtidal. Colouring: Olive green to brown.



SEA THONG (below)

Himanthalia elongata
Sea spaghetti / Thong weed
Habitat: Lower intertidal and in rock pools. Colouring: Dark green to brown. Grows from button-like structure. Size: Up to 1 metre long.



BOOTLACE (below)

Chorda filum
Mermaid's hair / Sea lace / Cat gut / Dead man's rope
O: Droo / Droor / Drooer / Mardroo / Trow-treed
Habitat: Lower intertidal and subtidal. Colouring: Olive green to brown. Slimy when out of water. Size: Can grown up to 8m. Differs from Sea thong, the frond being a single circular tube rather than a flattened forked strap.



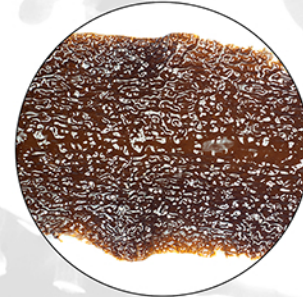
As part of the Royal Society Local Heroes project Stromness Museum celebrated the life of Rev Dr Charles Clouston. A year of activities inspired by Clouston's diverse interests included a beach walk at Birsay to gather and identify seaweeds, and a photography workshop the following day to document them. The illustrations in this guide are from the workshop day or by Rebecca Marr, unless otherwise stated. Seaweed photography participants were: Carrie Bates; Alison Bews; Teresa Borek; Iris Clyde; Sally Hallam; Cynthia & Fiona Inkster-Morris; Diana Leslie; Helga & Isabella Scott. Compiled for Stromness Museum by Rebecca Marr 2018. With thanks to Dr Antonia Thomas and Dr Andrew Want and Prof Martin Wilkinson.

THE ROYAL SOCIETY



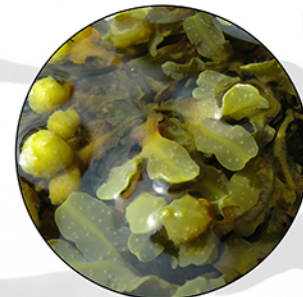
DABBERLOCKS (above)

Alaria esculenta
Wing kelp / Henware / Rib weed / Atlantic wakame
O: Honey-ware / Merkal / Murlins / Mirkyoo or Skertar (whole thallus) / Mirkyals or Skerpo (sporophylls at base)
Habitat: Lower extremes of the intertidal and subtidal. Colouring: Yellowish olive to dark greenish brown with lighter mid-rib. Size: Can be up to 1.5 metres.



SUGARKELP (above)

Saccharina latissima
Sea belt / Weather weed (from its use as a weather predictor- being brittle in low humidity, also true of other seaweeds)
O: Skerter / Skertar / Skelter / Skerpo / Smerko J: Sweet Kombu / Karafuto-kombu
Habitat: Lower intertidal, subtidal and in rock pools. Colouring: Yellowish olive to rich chestnut brown. Size: Usually about 1 metre long.



SPIRAL WRACK (above)

Fucus spiralis
Spiralled wrack
Habitat: Upper intertidal. Colouring: Olive green to light brown. Frond has a spiral twist. Size: Around 20cm long



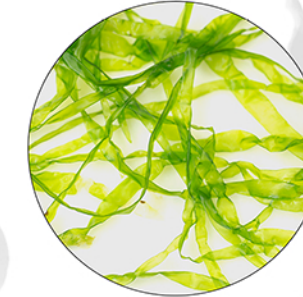
TANGLE (above)

Laminaria digitata
Kelp / Oarweed
O: Tangle / Ware / Red ware / Black tangle
J: Kombu / Konbu
Habitat: Lower intertidal and subtidal. Colouring: Shiny deep brown to golden brown. Stipe is oval and smooth and bends when exposed at low water. Size: Up to 2 metres long usually less.



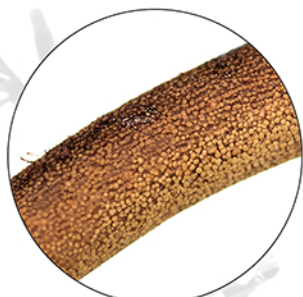
FURBELLOWS (above)

Saccorhiza polyschides
Habitat: Subtidal. Can be found storm cast. Colouring: Reddish to dark brown frond and stipe lighter olive green knobbled sac as part of holdfast. Size: Can be up to 2 metres long.



SEA LETTUCE (above)

Ulva lactuca
Green laver
J: Green nori
Habitat: Mid to lower intertidal and in rock pools. Colouring: Bright green. Size: Up to 50cm usually much smaller.



CUVIE (stipe above)

Laminaria hyperborea once called *Laminaria cloustonii*
North sea tangle / Forest kelp / Mayweed / Sea rod
O: Kuivy-tangle / Cuvy / Berkimel J: Kombu / Konbu
Habitat: Subtidal, can be seen at lowest spring tides. Colouring: Shiny deep brown to golden brown. The stipe is rough and round and often has Dulse growing on it. Like Tangle it grows a new frond in spring casting off the old frond hence the name May weed. Size: Can grow to over 3m. Similar to *Laminaria digitata*, they were once thought to be the same species. Dr Rev Charles Clouston recognised them as two different seaweeds.



GUTWEED (above)

Ulva intestinalis / *compressa*
Sea grass / Grass kelp
J: Aonori
Habitat: Upper to lower intertidal; on rocks. Colouring: Light to dark green. Size: 10-30 cm long



VELVETHORN (above right)
Codium fragile
Sea fingers / sponge fingers / sea-velvet J: Miru
Habitat: Mid to lower intertidal, subtidal and rock pools. Colouring: Dark green. Size: Up to 40cm usually smaller.



In Orkney, 'tang' refers to intertidal seaweeds such as the wracks, and 'ware' to subtidal species such as Tangle.