

Furcellaria Lumbricalis

Related Ingredient: HYDRANOV

Furcellaria comes from the Latin *Furcula*, meaning “small pointed pitch fork”. *Lumbricalis* comes from *Lumbricus*, meaning “worm” in Latin. This refers to the shape of the alga: its thallus is composed of forked branches, which can look like worms.

Synonyms: *Furcellaria fastigiata*, *Black Carrageen*, *Leaba Phortáin* (Irish: *Crab's Bed*), agar-agar



BOTANY

Botanical Family: Furcellariaceae

Furcellaria lumbricalis is a seaweed with glossy, cartilaginous, cylindrical fronds, branching dichotomously 6 to 11 times. This seaweed grows up from 5 to about 30 cm in length. Its colour is red brown, but when illuminated from the rear, it appears to have a dark brown colour; it becomes blackish when dried.

A single main frond arises from a branched holdfast up to 25 mm in diameter, forming a single dichotomous (Y-shaped) branch. From there, all fronds branch twice, with branchlets growing shorter towards the pointed apices.

The reproductive bodies occur as pod-like structures at the ends of the branches.

Furcellaria lumbricalis becomes reproductive in the winter, evidenced by the fact that fertile male branch tips are significantly expanded and yellowish in hue while the female branches develop numerous bumps (cystocarps) in the same region.



Source: www.seaweed.ie

BIOTOPE

Furcellaria lumbricalis is a common and widely distributed alga. It typically grows on rock and stones in the shallow subtidal to a depth of 20 m.

Although *Furcellaria lumbricalis* has been recorded in depths up to 30 m or more in clear water, it is rarely found that deeply, especially around the UK, and one would expect to find it to depths of around 10 m. It also occurs in rockpools in the eulittoral. The holdfast is often covered by coarse, sandy deposits.

This alga tolerates sand cover and lowered salinities, and is equally viable on sheltered to moderately exposed coasts.

Furcellaria lumbricalis can also grow unattached to substrate, forming extensive floating mats that have historically been the basis of the *Furcellaria lumbricalis* harvest.

GEOGRAPHICAL DISTRIBUTION

Furcellaria lumbricalis is an amphiboreal species (i.e. pertaining to an interrupted northern circumpolar distribution). It is common in cold waters of the North Atlantic and Arctic Oceans, in Northern European and Northern American waters, even reaching to Canada.

In America, *Furcellaria Lumbricalis* is found in Nova Scotia North and East, in Newfoundland and the Gulf of St Lawrence and its outer coasts. Around Prince Edward Island, Canada, this alga is sometimes found growing epiphytically on *Phyllophora* sp..

In Europe, it is very wide-spread in the Baltic Sea. There, this alga is one of the most important habitat-forming key species after *Fucus vesiculosus*. It is generally present in the areas with suitable salinity regime and substrate conditions. Dense communities are used as shelter by a number of benthic invertebrates and as spawning substrate by many fish species.

It also occurs from northern Russia and Norway to the British Isles, Basque France, including the Faroe Islands. Possibly *Furcellaria Lumbricalis* is found in Greenland and Iceland. In the Mediterranean Sea, it is known from Italy and Spain and it was also reported from the Indian Ocean from the coasts of Pakistan.



World wide distribution of *Furcellaria Lumbricalis* (black colour)

Source: <http://bpatpi.ku.lt>

USES

Commercial use of *Furcellaria lumbricalis* is based on the gelling properties of its extracted structural polysaccharide, **furcellaran**. Denmark was the chief producer of furcellaran, mostly processing *Furcellaria lumbricalis* extracted from the Danish waters, whereas a mixture of the species and *Chondrus crispus* was harvested in the past from the Gulf of St Lawrence, Canada. Small quantities of the species have been commercially exploited in Estonia since 1960s. Use of furcellaran centres on the food industry, with other applications in pharmaceuticals, wherever water or milk based gels or stabilizers are required.

Source: <http://bpatpi.ku.lt>

- **Dietary uses**

Furcellaria lumbricalis is a valuable raw material for the production of agar, a gelatinous substance which most often is used in food products as a stabilizer and thickener in products like ice cream, confectionery and bakeries, etc. It is also used as a vegetarian gelatin substitute.

- **Medicinal uses**

Furcellaran is used in pharmaceutical manufacturing, for example in products for diabetics, products to fight against excess body weight, or toothpastes. It is also used in dentistry in order to make dental impressions.

- **Cosmetic uses**

Extracts of *Furcellaria lumbricalis* are also used in cosmetic products for thickening and stabilization as well as added minerals and skin softening agents.