

## **Carrageenans and seaweed.**

By Kate Neill

Carrageen or Irish moss has been collected on the North Atlantic coasts of Scotland and Ireland since around 1810. Carrag(h)een (or carrageen) is the common name for a red seaweed, *Chondrus crispus*. An extract of this seaweed was used to make soups and jellies. These delicacies were considered beneficial to those with delicate stomachs, invalids, and as a general cure for respiratory diseases.

The name carrageenan is derived from the colloquial term carrageen, and is now a general name for polysaccharides derived from red algae. Carrageenans are now extracted from a wide range of seaweed species including members of the genera *Gymnogongrus*, *Eucheuma*, *Iridaea* and *Gigartina*.

Many people are unaware that they consume or use carrageenans on a daily basis. Carrageenans are commonly used in food, cosmetic, pharmaceutical and biomedical products. Carrageenan extracts are currently responsible for over 4% (US\$200 million) of all annual trade in seaweed products. The proliferation of applications for carrageenans has resulted in increasing demand for this group of polysaccharides. Many countries are beginning to investigate the possibility of farming the algae that produce carrageenans.

As yet no commercial carrageenan extraction business exists in New Zealand. However a number of species have been tested for types and quality of carrageenans. One of these is *Gigartina lanceata*, a red seaweed, which is incidentally the subject of my Masters thesis in the Marine Science and Botany Depts at the University of Otago. *G. lanceata* is found in the low intertidal zone of rocky shores of the South Island, Stewart Island, the Chathams and a number of the sub-Antarctic islands. I am investigating seasonal variation in growth, reproductive

behaviour, nutrient content and polysaccharide chemistry of *G. lanceata* at Purakanui and Murdering Beach. The aim is to determine whether *G. lanceata* is a valid candidate for mariculture.

For those of you brave enough to try it, here is a recipe for a carrageen pudding. Dried carrageen may be found in health food stores, or for the more adventurous a collecting trip to the beach may be called for!

## Honey and Lemon Carrageen Pudding

For 4 servings:

½ cup Dried carrageen

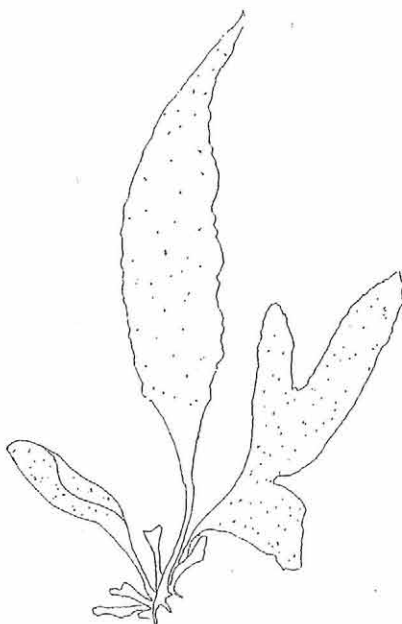
2 Tb Honey

Lemon juice and grated rind

Egg white, beaten stiff

150 ml Cream, whipped

Soak the carrageen in enough hot water to cover for about 15 minutes (or reconstitute according to packet instructions), then drain and discard the soaking liquid. Put into 600 ml of fresh water along with the honey, lemon juice and rind. Bring to the boil and simmer for 25-30 minutes. Strain and discard the carrageen, and let the liquid cool slightly. Meanwhile, combine the beaten egg white and the whipped cream, then gently fold the mixture into the carrageen liquid. Pour into a greased mould and chill before serving. **Enjoy!**



## **Carageenans and seaweed ctd**

**Acknowledgments.** Thanks to Matt Scott for providing the drawing and to Norm Mason for his help with the manuscript.

## **Botany Department Colloquium**

13<sup>th</sup> October, Friday. The Botany Colloquium is held every year by the students and staff of the Botany Department, University of Otago. It is a wonderful chance for young botanists to present their work and proposals in an informal and friendly atmosphere. This year it will be held at Cargill's Hotel, 678 George Street from 1pm till 6pm. The programme will be posted on the Departmental website closer to the time, and abstracts will be reprinted in the Botanical Society of Otago Newsletter following the colloquium. The Botanical Society of Otago Award for the best student presentation will be presented at the end of the colloquium along with the prize for the best poster. Contact Alison Stringer or David Burnett at 479 9065 or email: [Alison.stringer@botany.otago.ac.nz](mailto:Alison.stringer@botany.otago.ac.nz).