



## Annual distribution of *Durvillea chathamensis* lineage

The Chatham Islands bull kelp, the brown kelp *Durvillea chathamensis* C.H.Hay, is restricted to the Chatham Islands where it is found on low intertidal to upper subtidal shores on exposed coasts, occurring at a slightly lower level than *D. antarctica*. Although superficially similar to *D. antarctica*, this species lacks the buoyant honeycomb tissue and has thinner blades with sinuous margins.

(Note the spelling of the genus name *Durvillea*—recent opinion of nomenclature experts is that the genus name should be spelt '*Durvillea*' and not '*Durvillaea*' as previously.)

### 1. Literature sources

The literature was searched for distributional information for *Durvillea chathamensis*. (*Durvillaea chathamensis* was also searched although not shown below.)

- a. A search was carried out of the following databases: Te Puna using the keywords "*Durvillea chathamensis* +zealand +geograph? +distribut?" (16/09/2005); Aquatic Sciences and Fisheries Abstracts "*Durvillea chathamensis* and zealand and (geograph\* or distribut\*)" (16/09/2005); Web of Science "TS=(*Durvillea chathamensis* and zealand and (geograph\* or distribut\*))" (15/09/2005); Scopus "TITLE-ABS-KEY("*Durvillea chathamensis*" AND zealand AND (geograph\* OR distribut\*))" (16/09/2005); Google Scholar "zealand geographic OR distributed OR distribution "*Durvillea chathamensis*" (19/09/2005). From all these sources there were no papers that provided additional information on geographical range or distribution of the species.
- b. Using subject indices, *Seafood New Zealand* was checked for articles dealing with *Durvillea chathamensis* and research in September 2005.
- c. A search of NIWACAT in September 2005 produced no records that contributed to distribution information for this species.

### 2. Ministry of Fisheries electronic databases

Data in the Ministry of Fisheries electronic databases are recorded using KBL for bull kelp: this does not distinguish between species of bull kelp. The data on landings do not contribute information on the distribution of this species that is not also available (more accurately) from other sources.

### 3. Museum holdings

Holdings of *D. chathamensis* were examined at WELT, the herbarium of the Museum of New Zealand Te Papa Tongarewa, and in the algal research collections at NIWA. Data were used to help estimate presence/absence. There were no specimens held in CHR (Landcare Research herbarium), or AK (Auckland Museum herbarium, including the herbarium of Auckland University).

#### 4. Summary

*Durvillea chathamensis* grows solely on the Chatham Islands, on exposed rocky shores from the low intertidal to the upper subtidal zone (Adams 1994). It is not possible to distinguish between the 90% and 100% distributions, which have been extended to link headlands where this species has been recorded and/or where equivalent habitats occur.

The above information on the distribution of *D. chathamensis* derived primarily from herbarium collections and the algal research team at NIWA, was reviewed by Dr Murray Parsons, former Keeper Landcare Herbarium, and then integrated by hand onto a large-scale map of New Zealand. The rounded lines were then digitised and imported into a GIS software package as layers. The areas of each distribution class were calculated and the layers were linked to attribute and metadata files. The map, because of its scale, cannot be taken to accurately define the local distribution of this species.

#### 5. References.

The following publications were the key references and/or the ones most useful in describing the recent/current annual distribution of *D. chathamensis*. The list is not intended to be an exhaustive bibliography of publications about this species.

- Adams, N.M. (1994). *Seaweeds of New Zealand*. Canterbury University Press, 360 pp.
- Hay, C.H. (1979). Nomenclature and taxonomy within the genus *Durvillaea* Bory (Phaeophyceae, Durvilleales Petrov.). *Phycologia* 18: 191–202.
- Hay, C.H. (1994). *Durvillaea* (Bory). In Akatsuka, I. (Ed.), *Biology of economic algae*, pp. 353–384. SPB Academic Publishing.
- Hurd, C. (2003). Bull kelp. In Andrew, N.L., Francis, M.P. (Eds.), *The living reef: the ecology of New Zealand's rocky reefs*, pp. 56–63. Craig Potton Publishing, Nelson, New Zealand.
- Schiel, D.R. (2003). Chatham Islands. In Andrew, N.L., Francis, M.P. (Eds.), *The living reef: the ecology of New Zealand's rocky reefs*, pp. 230–237. Craig Potton Publishing, Nelson, New Zealand.