



Annual distribution of *Marginariella boryana* and *M. urvilliana* lineage

In New Zealand waters 2 species of *Marginariella*, *M. boryana* (A.Rich.) Tandy and *M. urvilliana* (A.Rich.) Tandy, are found in the southern North Island and on the South Island, Stewart Island, and Chatham and Snares Islands (Adams 1994, Neale & Nelson 1998, Nelson et al. 2002). *M. urvilliana* is also found on the Auckland Islands. A third species of *Marginariella*, *M. parsonsii* W.A.Nelson is found on the Bounty and Antipodes Islands (Nelson 1999).

1. Literature sources

The literature was searched for distributional information for the brown kelps *Marginariella boryana* and *M. urvilliana*.

- a. A search was carried out of the following databases: Te Puna using the keywords “*Marginariella boryana* + Zealand+geograph? (+distribut?)” and “*Marginariella urvilliana* + Zealand+geograph? (+distribut?)” (16/09/2005); Aquatic Sciences and Fisheries Abstracts “*Marginariella boryana* and zealand and (geograph* or distribut*)” and “*Marginariella urvilliana* and zealand and (geograph* or distribut*)” (16/09/2005); Web of Science “TS=(*Marginariella urvilliana* and zealand and (geograph* or distribut*)) and (*Marginariella boryana* and zealand and (geograph* or distribut*))” (15/09/2005); Scopus “title-abs-key(“*Marginariella boryana*” and zealand and (geograph* or distribut*))” and (“*Marginariella urvilliana*” and zealand and (geograph* or distribut*))” (16/09/2005); Google Scholar “zealand geographic or distributed or distribution *Marginariella boryana*” and “zealand geographic or distributed or distribution *Marginariella urvilliana*” (19/09/2005). From all these sources few paper citations were located (ASFA = 1, Google scholar = 4).
- b. Using subject indices, *Seafood New Zealand* was checked for articles dealing with *Marginariella* spp. and research.
- c. A search of NIWACAT in September 2005 produced no records that contributed additional distribution information for this species.

2. Ministry of Fisheries electronic databases

There are no data held for *Marginariella boryana* or *M. urvilliana*.

3. Museum holdings

Holdings of *M. boryana* and *M. urvilliana* were examined at WELT, the herbarium of the Museum of New Zealand Te Papa Tongarewa, CHR

(Landcare Research herbarium), AK (Auckland Museum herbarium, including the herbarium of Auckland University), and in the algal research collections at NIWA. Data were used to help estimate presence/absence.

4. Summary

Marginariella boryana and *M. urvilliana* grow from the upper subtidal zone (from about 1 m below high tide level, depending on location) to ca. 15 m depth on very exposed coasts. *M. urvilliana* is also found in deep calm water in the Marlborough Sounds, Fiordland, and Stewart Island (Adams 1994). These two species can be distinguished from each other by the shape of their vesicles—oval in *M. boryana* and round in *M. urvilliana*. *Marginariella* spp. are components of the subtidal kelp forests in southern New Zealand (Schiel & Hickford 2001).

The 90% distribution has been overlaid on the 100% distribution and has been extended to link headlands or subtidal reef areas where this species has been recorded and/or where equivalent habitats occur.

The above information on the distribution of *M. boryana* and *M. urvilliana*, derived primarily from herbarium collections, was reviewed by Dr Murray Parsons, former Keeper Landcare Herbarium, and then integrated by hand onto a large-scale map of New Zealand. The shoreline distributions 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 *Marginariella* spp. The list is not intended to be an exhaustive bibliography of publications about these species.

- Adams, N.M. (1994). Seaweeds of New Zealand. Canterbury University Press. 360 p.
- Neale, D.; Nelson, W.A. (1998). Marine algae of the West Coast, South Island, New Zealand. *Tuhinga* 10: 87–118.
- Nelson, W.A. (1999). *Marginariella parsonsii* sp. nov. (Seirococcaceae, Phaeophyta), a new species from the Bounty and Antipodes Islands, southern New Zealand. *New Zealand Journal of Botany* 37: 731–735.
- Nelson, W.A.; Villouta, E.; Neill, K.; Williams, G.C.; Adams, N.M.; Slivsgaard, R. (2002). Marine macroalgae of Fiordland. *Tuhinga* 13: 117–152.
- Schiel, D.R.; Hickford, M.J.H. (2001). Biological structure of nearshore rocky subtidal habitats in southern New Zealand. *Science Conservation* 182. 54 p.

