

The logo for NABIS (New Zealand Aquatic Biodiversity Information System) features the word "NABIS" in a bold, blue, sans-serif font. To the right of the text is a stylized map of New Zealand, with a magnifying glass icon positioned over the eastern coast, symbolizing research and mapping.

To view this as a map and many more go to:

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web mapping tool

Type the map name into: *Search for a map layer or place*

Lineage – Scientific methodology

Annual distribution of the Kaharoa octopus lineage

1. Literature

Literature sources were searched for distributional information on the Kaharoa octopus *Octopus kaharoa* O'Shea, 1999 (Suborder Incirrata, Family Octopodidae) around New Zealand. This octopus is found only in New Zealand waters, mainly between 200 and 500 m along the east coast from about North Cape to Kaikoura.

- a. Using the keywords **Octopus and kaharoa**, Aquatic Sciences and Fisheries Abstracts and NIWAcat were searched on 25 August 2005 with no hits.
- b. Using the keywords **Octopus kaharoa**, Google records were examined on 24 August 2005. Relevant entries were obtained and used to help define distribution.
- c. Guided searches of library catalogues using the keywords (anywhere or global) **Octopus AND thesis** (The University of Auckland, Auckland University of Technology, Massey University, Victoria University of Wellington, University of Canterbury, The University of Waikato, University of Otago) on 25 August 2005 registered no hits.

2. Ministry of Fisheries electronic databases

No MFish databases were checked as it was decided that they would not contain useful information on the distribution of *O. kaharoa*. This species is not taken commonly, confirming identity is not straightforward, and it is not listed in the MFish species database administered by NIWA.

3. Museum holdings

Holdings of *O. kaharoa* in the following museums were considered. Other museum holdings were not considered because discussions with Dr O'Shea, Auckland University of Technology, Auckland, indicated that any material received after that referred to in O'Shea (1999) would have either been shelved without formal identification or the identification would require confirmation.

- a. NIWA Greta Point. The **AllSeaBio** database was examined for records on 26 August 2005, with none being present. Additions made to the collection since about 1995 have not been loaded onto this database; in a search of more recent shelved material made on 29 August 2005, no additional material—formally identified as *O. kaharoa*—was found.
- b. Museum of New Zealand Te Papa Tongarewa records of *O. kaharoa* formed the basis of O’Shea (1999); no additional material—formally identified as *O. kaharoa*—has been added (Bruce Marshall, Collection Manager Molluscs, Museum of New Zealand, pers. comm.).

2009 updates: Examination of the NIWA Invertebrate Collection database **Specify** in May 2009 revealed two recently identified records of *Octopus kaharoa* collected from the Bay of Plenty and near Cape Kidnappers. This location is within the known spatial and depth distribution for the species.

4. Summary

O’Shea (1999) reported that *O. kaharoa* had been reported only off the east coast of New Zealand between 35°23’ S (near Poor knights Islands) and 42°15’ S (near Kaikoura), at depths of 73–540 m (the shallowest depth of 7 m under the heading RECOGNISED DISTRIBUTION in O’Shea (1999) appears to be a misprint). It is found on soft substrates, for example being a significant bycatch species in the Bay of Plenty scampi fishery (Cryer et al. 1999). Examination of the literature and of museum records has not led to any extension to this distribution. Although little is known of the environmental requirements of this species, it seems likely that it will be present further north than the Poor Knights, at least as far as North Cape. The apparently disjunct distribution in the southern part of the range of this species (O’Shea 1999)—with the first record north of Kaikoura being off the northern Wairarapa—is thought to reflect limited sampling rather than indicating any separate Kaikoura population. A continuous distribution between North Cape and Kaikoura is therefore indicated.

The depth range is problematic. Although depths as shallow as 73 m and 80 m are reported (O’Shea 1999), both of these were in the south or extreme south of the range. Discussion with Dr O’Shea indicated that the shallowest part of the main (90%) distribution should be set at 200 m. The 100% distribution may extend inshore as shallow as 70 m in southern parts.

This information on the distribution of *O. kaharoa* was integrated by hand onto a large-scale map of New Zealand. The maximum depth for the 90% distribution was taken to be 550 m, the minimum 200 m. The 100% distribution extends to 70 m in the south. The rounded lines were digitised and imported into a GIS software package as layers. The areas of the

90% and 100% distribution classes were calculated and the layers linked to attribute and metadata files.

There is no reason to believe that the seasonal distributions of this species are any different to this annual one.

No additional records of the species outside of the known range were identified in reviews carried out in November 2007 and May 2009.

5. References

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

Cryer, M.; Coburn, R.; Hartill, B.; O'Shea, S.; Kendrick, T.; Doonan, I. (1999). Scampi stock assessment for 1998 and an analysis of the fish and invertebrate bycatch of scampi trawlers. *New Zealand Fisheries Assessment Research Document 99/4*.

O'Shea, S. (1999). The marine fauna of New Zealand: Octopoda (Mollusca: Cephalopoda). *NIWA Biodiversity Memoir 112*.