

# Ningaloo

## WAMSI Node 3

### Species inventory database for Ningaloo deep waters

For the first time researchers are studying species in the deep waters off Ningaloo Reef

#### Species found

The study collected species between the depths of 18 to 144 metres. Invertebrates on hard (rock) substrates were identified, with a particular focus on the most abundant sponges, echinoderms (e.g. sea stars and brittle stars) and molluscs (e.g. seashells).

- 618 species were found (consisting of 155 species of sponges, 227 species of echinoderms and 236 species of molluscs)
- Sponges were the most common animals, being present at 126 of the 145 stations sampled.

#### New species found included:

- approximately 15 new species of sea stars
- one new species of brittle star
- one new species of sea cucumber
- one new species of sea urchin
- three new species of molluscs.

#### Species new to the area included:

- two species of sea star and one species of sea cucumber that had not been recorded in Australia before
- one species of sea cucumber, one species of brittle star and one species of sea star recorded from WA for the first time as a result of this study.

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#### Inventory data

The species inventory provides baseline information on:

- the number of species present
- how common or rare they are
- if they are widespread or localised in their distributions
- how special and unique this area is in terms of the species that live there.

Of the 155 sponge species only 31 were given known species names. The remaining 124 species may have been described in old literature, but many of these species will be new to science.

These results show that the deep waters off Ningaloo have high biodiversity and include a variety of new species not previously known to science. The same species are not found throughout the marine park. Rather, some species are found mainly in the north, while others are found mainly in the south. Further, some groups of species were often found together and associated with features of the seabed.

These results indicate that the deep water environments of Ningaloo Marine Park should be managed to protect the full range of species that we now know occur there. This new information will be considered when reviewing the marine park zoning scheme to ensure that all species assemblages are protected.

#### Next steps

Further work is required to complete the inventory, such as:

- formally describing the new species
- examining and describing the unknown sponge species
- analysing the species data in conjunction with environmental and habitat data collected from related studies
- mapping the species distributions onto the marine park zones to determine in which zones the species occur.



Photos courtesy of Mark Salotti, WA Museum



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Ningaloo research is an initiative of the Western Australian Marine Science Institution, CSIRO's Ningaloo Collaboration Cluster and the Australian Institute of Marine Science, working in partnership with government, local communities and enterprises.