R.V. FRANKLIN

NATIONAL FACILITY
OCEANOGRAPHIC RESEARCH VESSEL

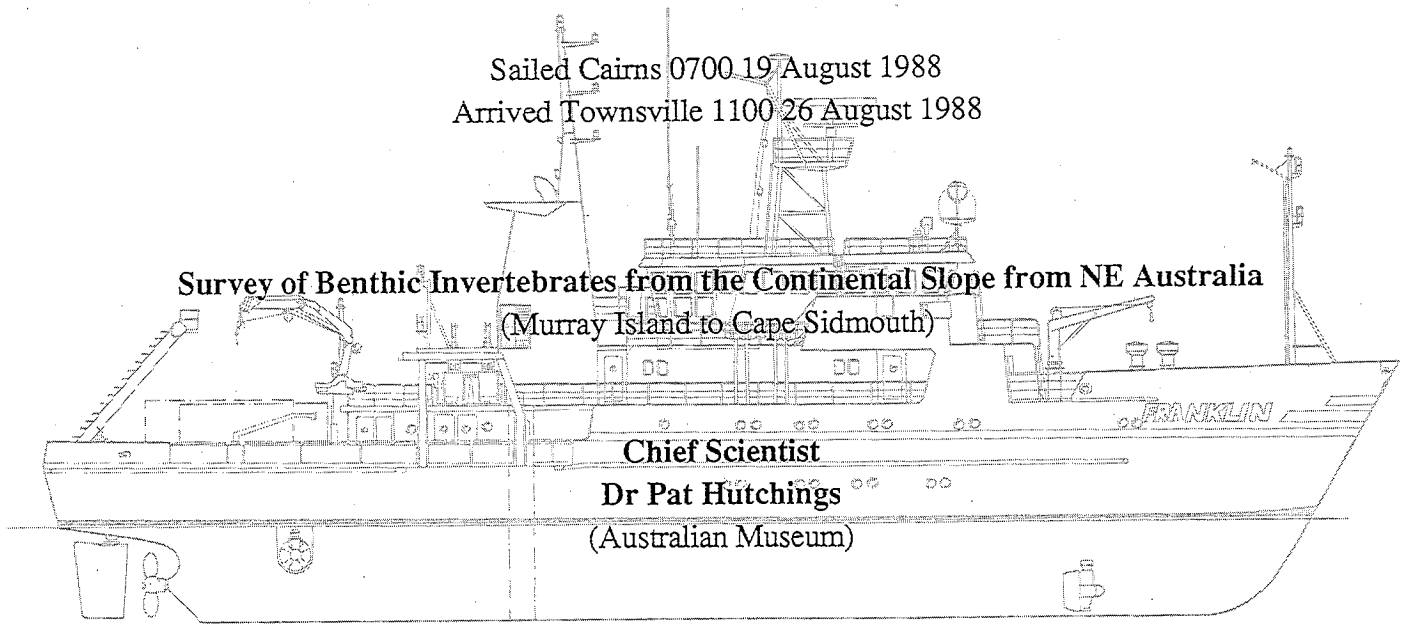
RV FRANKLIN

RESEARCH SUMMARY

Cruise FR 6/88

Sailed Cairns 0700 19 August 1988
Arrived Townsville 1100 26 August 1988

Survey of Benthic Invertebrates from the Continental Slope from NE Australia
(Murray Island to Cape Sidmouth)



Chief Scientist
Dr Pat Hutchings
(Australian Museum)

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AUSTRALIA

R.V. FRANKLIN IS OWNED AND OPERATED BY CSIRO

Cruise Report
R.V. Franklin Cruise Fr 06/88

Principal Investigator
Pat Hutchings
The Australian Museum, Sydney

1. Itinerary

Depart Cairns 0700 19th August 1988
Arrive Townsville 1100 26th August 1988

2. Scientific Program

To sample benthic marine invertebrates from the Continental Slope off NE Australia from 200-2500m.

3. Principal Investigator

Dr Pat Hutchings (Chief Scientist)
The Australian Museum, Sydney

4. Results

Twenty two stations were made, using either a beam trawl or sled, at depths from 472m to 2510m.

Station list, together with depth, wire let out and the time spent on the bottom and a brief description of the contents. We attempted to take a beam trawl and a sled at each of the depths sampled, as they collect very different components of the fauna.

St. 1 - sled - 20.8.88
Lat. 10 29.81S, Long. 144 00.39E
Depth 495-534m, 20 mins on the bottom and 110m of wire let out.
Pteropod sample, with small molluscs and echinoderms.

St. 2 - beam trawl - 20.8.88
Lat. 10 29.81S, Long. 144 01.38E
Depth 596-603m, 30 mins on the bottom and 1100m of wire let out.
Successful trawl, numerous echinoderms and solitary corals.

St. 3 - sled - 20.8.88
Lat. 10 32.7S, Long. 144 12.8E
Depth 780-795m, 40 mins on the bottom and 1700m of wire let out.
Successful with numerous pteropods and numerous small molluscs.

St. 4 - beam trawl - 20/21.8.88
Lat. 10 34.28S, Long. 144 13.33E
Depth 815-825m, 40 mins on the bottom and 1600m of wire let out.
Numerous echinoderms collected.

St. 5 - beam trawl - 21.8.88
Lat. 10 37.17S, Long. 144 21.99E
Depth 990-1053m, 40 mins on the bottom and 2000m of wire let out.
Large log collected and numerous mangrove seeds, rich haul.
Net damaged, needed repair.

St. 6 - sled - 21.8.88
Lat. 10 35.83S, Long. 144 30.65E
Depth 1108-1161m, 40 mins on the bottom and 2200m of wire let out.
Good haul of echinoderms, fish and solitary corals.

St. 7 - sled - 21.8.88
Lat. 10 35.8S, Long. 144 44.81E
Depth 1382-1438m, 40 mins on the bottom and 2500m of wire let out.

St. 8 - beam trawl - 21.8.88
Lat. 10 35.67S, Long. 144 46.32E
Depth 1401-1475m, 40 mins on the bottom, 2500m of wire let out.
Very small sample collected, some deep water plankton.

St. 9 - beam trawl - 21/22.8.88
Lat. 11 30.05S, Long. 145 14.60E
Depth 1596-1636m, 40 mins on the bottom, 3000m of wire let out.
Small sample collected.

St. 10 - sled - 22.8.88
Lat. 11 34.62S, Long. 145 19.93E
Depth 1667-1739m, 40 mins on the bottom, 3000m of wire let out.
Sled acted as a plankton trawl, only.

St. 11 - beam trawl - 22.8.88
Lat. 11 33.02S, Long 145 19.34E
Depth 1611-1584m, 60 mins on the bottom, wire let out to start of last warp.
Successful, but only a small sample collected.

St. 12 - sled - 22.8.88
Lat. 11 31.90S, Long. 145 22.31E
Depth 1611-1517m, 60 mins on the bottom, wire let out to start of last warp - 3802m.
Small sample collected.

St. 13 - beam trawl - 22.8.88
Lat. 11 35.81S, Long. 145 29.13E
Depth 1789-1876m, 60 mins on the bottom, 4000m of wire let out.
Successful but small sample collected.

St. 14 - sled - 22.8.88
Lat. 11 35.61S, Long. 145 29.42E
Depth 1770-1863m, 60 mins on the bottom, 3000m of wire let out.
Small sample, mainly pteropods collected.

St. 15 - sled - 22/23.8.88
Lat. 11 40.98S, Long. 145 36.85 E
Depth 2039-2052m, 60 mins on the bottom, 3000m of wire let out,.
Very small sample collected.

St. 16 - beam trawl - 23.8.88
Lat. 11 41.55S, Long. 145 36.65E
Depth 2006-2053m, 60 mins on the bottom, 4050m of wire let out.
Sample contained 1 large log.

St. 17 - beam trawl - 23.8.88
Lat. 11 57.17S, Long. 145 40.34E
Depth 2487-2495m, 60 mins on the bottom, 4296m of wire let out.
Extremely small sample collected.

St. 18 - sled - 23.8.88
Lat. 11 56.72S, Long. 145 48.39E
Depth 2510-2523m, 60 mins on the bottom, 4300m of wire let out.
Extremely small sample collected.

St. 19 - sled - 25.8.88
Lat. 18 06.63S, Long. 147 27.08E
Depth 978-950m, 30 mins on the bottom, 2000m of wire let out.
Successful diverse sample.

St. 20 - beam trawl - 25.8.88
Lat. 18 07.76S, Long. 147 30.07E
Depth 932-925m, 30 mins on the bottom, 2000m of wire let out.
Trawl did not reach the bottom, presumably due to strong current near the bottom, net completely empty.

St. 21 - beam trawl - 25/26.8.88
Lat. 18 10.50S, Long. 147 32.80E
Depth 884-879m, 40 mins on the bottom, 2500m of wire let out.
Rich diverse sample collected.

St. 22 - sled - 26.8.88
Lat. 18 11.01S, Long. 147 25.50E
Depth 490-472m, 40 mins on the bottom, 1400m of wire let out.
Rich diverse sample.

5. Cruise Narrative

The weather during the cruise was good and enabled us to work the gear easily and safely. Along our cruise track, the bottom profile was smooth, allowing us to employ both a sled and a beam trawl, with no loss of gear. On one occasion the net of the beam trawl was damaged by a large boulder but we were able to repair this.

The newly acquired 4m beam trawl worked well, but in deeper water, we added extra weight to both the sled and beam trawl to ensure that they were on the bottom during trawling. We had originally planned to work at 3000m but our limited success at 2500m, even with most of the wire let out, forced us to abandon working at 3000m. This gear for future cruises will be modified with the additions of extra weights to facilitate dredging on the bottom.

Our initial cruise plan was slightly modified, as depth profiles became apparent, and following our detour to Lizard Island on 24th August to drop off the injured chief cook, to be flown to Cairns Base Hospital by the Flying Doctor Service, we continued south and completed sampling in the Palm Group, in order to maximise the use of the remaining time. This was a considerable deviation from our original cruise plan but unavoidable and we lack collections from this area.

In total, 20 polydrums were filled with a diverse collection of fauna. All sediment, pumice and wood collected was also retained for subsequent microscopic examination.

The only disappointment of the cruise was that a Smith-McIntype Grab from AIMS which was to be left on board after a previous AIMS trip to us to use, was not on board. We subsequently learnt that the grab had been damaged on the preceding cruise and had to be returned to AIMS for repairs. This meant that no grab samples were collected.

Franklin arrived at the entrance to Townsville Harbour at 10.05 on 26th August where the pilot was picked up and we docked at Townsville at approx. 1100 hrs.

6. Summary

In most respects the cruise was a success, as our newly purchased beam trawl worked well and the weather was good. The only disappointment was the unavailability of the grab.

The samples have already been returned to the Australian Museum and additional funds are available to unpack and sort the material so that it can be distributed to the relevant specialists in the Museum. Some samples of solitary corals have been sent to the Queensland Museum, North Queensland Branch, where Dr Wallace will work on the feasibility of using this material to undertake a reproductive study on this group of corals. Large numbers of some species were collected.

The chief scientist and the scientific party in general, wish to thank the CSIRO National Facility support staff and ship's crew for their help and assistance during this cruise which enabled the Australian Museum to meet its objectives.

We should also like to record our thanks to the Movement and Transport Division of the Australian Army who transported our gear from Sydney to Cairns and from Townsville to Sydney, rapidly and efficiently.

7. Personnel

The Australian Museum -
Pat Hutchings (Chief Scientist)
Margaret Atkinson
Ian Loch
Robert Paterson

The Queensland Museum -
Len McKenzie

CSIRO Division of Oceanology (National Facility Support) -
Jan Peterson (Cruise Manager)
Erik Madsen
Bob Edwards
Angus McEwan

Pat Hutchings
Chief Scientist.