

**JIMAR, PFRP ANNUAL PROGRESS REPORT
FY 2001**

P.I. Name: Richard E. Young

Project Proposal Title: Aspects of the ecology of the red squid, *Ommastrephes bartramii*, a potential target for a major Hawaiian fishery

Funding Agency: NOAA/JIMAR and NOAA/Sea Grant

1. Purpose of the project and indicative results.

Our goal is to examine the ecology of the red squid, especially its distribution, spawning grounds and feeding ecology

2. Progress during FY 2001. Provide a thorough discussion of accomplishments and problems.

Our February cruise aboard the FTS HOKUSEI MARU took place as scheduled. The Sea-Grant Program funded this year's cruise. The cruise was broken into two legs. Our plan was to go north to the subtropical front for the first leg and sample further to the east than on previous cruises. Our plan for the second leg was to go south off the windward sides of Maui and Hawaii and repeat stations that were taken in this region a year earlier. The previous year we had captured large numbers of red squid paralarvae here, which was far south of where they are usually found. We also planned on taking one station at Cross Seamount.

As usual bad weather caused us to greatly alter our plans. We were unable to go north or to the windward of the southern islands. Instead we began with a station in the lee of the Big Island. We then moved further leeward to Cobb Seamount where we had a successful station. The remainder of the first leg was spent on the leeward sides of the southern islands. The second leg also began on the lee side of the Big Island but weather conditions improved and we were able to occupy most of the windward stations as per our initial plans.

No red squid or paralarvae were captured to the lee side of the archipelago. Only a small number of the purple squid, *Sthenoteuthis oualaniensis*, were captured in spite of their abundance in the water. The squid were not interested in our jigs. On the windward stations the red squid was surprisingly abundant for such a southern locality. Paralarvae, in contrast, were virtually absent. We were also able to make good catches of the purple squid including a number of mature females.

We removed stomachs with their contents from all squid captured and took tissue samples for stable-isotope analyses from most. Water and plankton samples were also taken for stable-isotope analyses.

Few squid were captured at Cobb Seamount. We were successful, however, in making a long, evening tow with the HOKUSEI rectangular trawl over the seamount. Individuals of the mesopelagic boundary fauna were absent from catch of this tow. We had previously suspected that the abundance of small tunas around this seamount was due to the forage offered by the mesopelagic boundary fauna. Our limited sampling, however, suggests that a mesopelagic boundary fauna is absent from the seamount.

Stomach contents have been analyzed for fishes but not yet for squids. Numerous stable isotope samples have been analyzed but many more remain.

3. Plans for the next fiscal year.

We plan to complete the project during this fiscal year.

4. List of papers published in refereed journals during FY 2001.

None

5. Other papers, technical reports, meeting presentations, etc.

Parry, Matt, 2000. The Trophic Ecology of Two Oceanic Squids in Hawaiian Waters. Presentation at PFRP Principal Investigators Meeting, December 5-7, 2000, Honolulu.

6. Names of students graduating with MS or Ph.D. degrees during FY 2001.

Include title of thesis or dissertation.

None