

# NOAA Technical Memorandum NMFS



**JUNE 2002**

## **ICHTHYOPLANKTON AND STATION DATA FOR SURFACE (MANTA) AND OBLIQUE (BONGO) PLANKTON TOWS TAKEN DURING A SURVEY IN THE EASTERN TROPICAL PACIFIC OCEAN JULY 30 - DECEMBER 9, 1998**

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**NOAA-TM-NMFS-SWFSC-337**

U.S. DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
National Marine Fisheries Service  
Southwest Fisheries Science Center

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SURFACE (MANTA) AND OBLIQUE (BONGO) PLANKTON TOWS  
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## ABSTRACT

This report provides ichthyoplankton, juvenile/adult fish, and associated station and tow data from surface and water column plankton samples collected during the 1998 Southwest Fisheries Science Center *Stenella* Population Abundance Monitoring (SPAM98)<sup>1</sup> survey to the eastern tropical Pacific. It is the sixth in a series of reports that presents these data for all Southwest Fisheries Science Center marine mammal surveys in the eastern tropical Pacific from 1987 to the present. In total, 261 Manta net tows and 167 bongo net tows were taken between 30 July and 9 December, 1998, during which three research vessels surveyed within an area between approximately 30° N and 18° S latitude, from the Gulf of Panama westward to about 153° W. The data are presented in 11 tables, and distributions of the 20 most frequently occurring larval fish taxa from each net tow type are shown in a series of figures. The background, methodology, and necessary interpretive information are given in an accompanying text.

## INTRODUCTION

In 1998 the Southwest Fisheries Science Center (SWFSC) conducted a multiple-ship survey of the eastern tropical Pacific to monitor dolphin stocks and make oceanographic and ecological observations related to those stocks. This survey was in response to the 1997 International Dolphin Conservation Program Act (Public Law 105-42) that directed the National Marine Fisheries Service (NMFS) to determine the impacts that the purse-seine tuna fishery in the ETP may have on depleted dolphin stocks (Gerrodette et al. 1998). As part of the implementation of this act, Congress directed NMFS to conduct ETP dolphin population surveys in 1998, 1999, and 2000. These surveys are essentially a continuation of a series of six surveys, conducted in the ETP from 1986 to 1992, that monitored the abundance and distribution of dolphin stocks and, concurrently, the physical and biological variables in their habitat. A primary objective of both survey series was to determine the relationship between environmental variables and population trends in ETP dolphin stocks. The SPAM survey focused on the offshore and coastal spotted dolphin (*Stenella attenuata attenuata* and *S. attenuata graffmani*, respectively) and the eastern spinner dolphin (*S. longirostris orientalis*). This resulted in slight modifications to the sampling strategy used in the 1986–1992 surveys. Principally, the sampling area was expanded to fully encompass the stocks in question, and effort was stratified to adequately sample the habitat of four dolphin stocks: the northeastern offshore spotted, the western/southern offshore spotted, the coastal spotted, and the eastern spinner (Gerrodette et al. 1998).

As in the 1987–1992 (Moser et al. 2000; Ambrose et al. 2000; Charter et al. 2000; Sandknop et al. 2000; Watson et al. 2000) ETP dolphin surveys, ecological sampling in 1998 included collection of ichthyoplankton and juvenile fishes with a surface (Manta) net in order to examine the distributions and abundances of ETP fish larvae, and to extend the ichthyoplankton time series begun during the Eastropac Expeditions (Ahlstrom 1971, 1972). Oblique bongo tows were added in 1998 and in subsequent surveys.

This report provides ichthyoplankton and associated station and tow data from the 1998 SPAM survey in the ETP from July 30 to December 9, 1998 (surface tow data: Tables 1–6; oblique tow data: Tables 7–11). The survey was conducted aboard the UNOLS research vessel *Endeavor* and the NOAA research vessels *David Starr Jordan* and *McArthur*. Oceanographic data other than Manta and bongo tow data are reported in Philbrick et al. (2001). Usually a conductivity-temperature-depth instrument (CTD) cast to 1000m was made in the morning before sunrise and in the evening after sunset to measure temperature, salinity, oxygen, chlorophyll, phaeophytin, and nutrients, and to collect water samples for productivity (morning casts only) measurements. For the morning casts a fluorometer was attached to the CTD to measure

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<sup>1</sup>This survey, originally referred to as *Stenella* Population Abundance Monitoring 1998 (SPAM98), is now generally referred to as *Stenella* Abundance Research Project 1998 (STAR98). We use the original designation in this report to be consistent with the designation in previous data reports for this survey (e.g., Philbrick et al. 2001).

in situ fluorescence. Sea surface temperature and salinity were measured continuously while the ship was underway. Expendable bathythermograph (XBT) casts were made to 760 m depth daily at 0900, 1200, and 1500 hrs (local ship time). In addition to marine mammal observations (Kinzey et al. 1999), data on bird and turtle sightings were made throughout the survey (Olson et al. 2000). Robert Pitman made observations on surface organisms and associated environmental variables at night light stations throughout the survey and made extensive collections of fishes, squids, and other surface-living organisms (Olson et al. 2000). In addition to the nightly Manta (surface) and bongo (oblique) ichthyoplankton tows taken on each ship, oblique tows were taken from the *McArthur* with a 0.5 m ring net (0.333 mm mesh) and with a 2-m Isaacs-Kidd midwater trawl (0.505mm mesh) when time permitted. The ring net and trawl samples have been archived for later analysis.

### SAMPLING AREA AND PATTERN

The cruise protocol for each ship called for a Manta tow to be taken at night after the evening CTD cast. This was followed by a bongo tow to 200 m depth. A total of 261 Manta tows was made on the survey, 84 aboard the *Endeavor*, 82 aboard the *Jordan*, and 95 aboard the *McArthur*; 167 bongo tows were made with 79, 11, and 77 tows taken aboard the *Endeavor*, *Jordan*, and *McArthur*; respectively.

The survey was conducted in six legs on the *Jordan* and five legs on the other two vessels:

<i>Endeavor</i> Leg 1	30 July–27 August	Panama City, Panama to Hilo, Hawaii
<i>Endeavor</i> Leg 2	1 September–25 September	Hilo, Hawaii to Manzanillo, Mexico
<i>Endeavor</i> Leg 3	30 September–24 October	Manzanillo, Mexico to Puntarenas, Costa Rica
<i>Endeavor</i> Leg 4	28 October–16 November	Puntarenas, Costa Rica to Callao, Peru
<i>Endeavor</i> Leg 5	21 November–9 December	Callao, Peru to Panama City, Panama
<i>Jordan</i> Leg 1	31 July–14 August	San Diego, California to Mazatlan, Mexico
<i>Jordan</i> Leg 2	18 August–8 September	Mazatlan, Mexico to Panama City, Panama
<i>Jordan</i> Leg 3	12 September–1 October	Panama City, Panama to Manzanillo, Mexico
<i>Jordan</i> Leg 4	5 October–24 October	Manzanillo, Mexico to Puntarenas, Costa Rica
<i>Jordan</i> Leg 5	29 October–16 November	Puntarenas, Costa Rica to Panama City, Panama
<i>Jordan</i> Leg 6	22 November–9 December	Panama City, Panama to San Diego, California
<i>McArthur</i> Leg 1	31 July–16 August	San Diego, California. to Puerto Quetzal, Guatemala
<i>McArthur</i> Leg 2	21 August–8 September	Puerto Quetzal, Guatemala to Panama City, Panama
<i>McArthur</i> Leg 3	13 September–7 October	Panama City, Panama to Manzanillo, Mexico
<i>McArthur</i> Leg 4	12 October–9 November	Manzanillo, Mexico to Manzanillo, Mexico
<i>McArthur</i> Leg 5	14 November–9 December	Manzanillo, Mexico to San Diego, California

### ICHTHYOPLANKTON SAMPLING GEAR AND METHODS

Surface plankton tows were made with a Manta net (Brown and Cheng 1981) identical to that used on California Cooperative Oceanic Fisheries Investigations (CalCOFI) cruises. It consists of a rectangular mouth 15.5 cm deep and 86 cm wide attached to a frame that supports square lateral extensions covered with plywood and urethane foam. These extensions stabilize the net when it is towed and keep the top of the net at the sea surface. The net is constructed of 0.505 mm nylon mesh. The towing bridle is asymmetrical with one side longer than the other; when the net is towed this bridle arrangement forces the mouth away from the ship at a slight angle. A General Oceanics flowmeter was suspended across the center of the net mouth to measure the amount of water filtered during each tow. On the *Jordan* and *Endeavor*, net tows were initiated by attaching the tow line from the Manta bridle to the hydrographic wire above a 34 kg weight and then lowering the hydrographic wire so that the tow line was slightly below the surface. On the *McArthur*

the net was towed from a boom on the starboard side of the ship, with the tow line from the bridle attached to the end of the hydrographic wire. Hauls were made at a ship speed of 1.0–2.0 knots for 15 minutes. Samples were preserved in 5% buffered formalin and returned to the plankton sorting laboratory at the SWFSC at the end of the cruise.

Oblique net tows were made with a bongo net, consisting of a pair of circular frames connected to a central axle (McGowan and Brown 1966; Smith and Richardson 1977). The standard CalCOFI bongo used on this expedition has 71cm frames; for the SPAM cruise, nets and cod ends were constructed of 0.333 mm mesh (the standard CalCOFI net is of 0.505 mm mesh with a 0.333 mm mesh cod end). The standard haul was a 15-min double oblique haul to 200 m depth, intended to encompass the vertical range of most ichthyoplankters. Hauls were made at a ship speed of 1.5–2.0 knots and initiated by clamping the net to the hydrographic wire above a 34 kg weight suspended below the surface. The net was lowered to ~200 m depth by paying out 300 m of wire at 50 m/minute (35 m of depth/minute). After fishing at depth for 30 seconds, the net was retrieved at about 20 m/min (14 m of depth/min). The angle of stray was recorded every 30 seconds and maintained at 45° (± 3°) by adjusting ship speed and course. After reaching the surface, the nets were washed down and the sample from the outboard net was preserved in 5% formalin buffered with sodium borate. At the beginning and end of each tow, readings were made from a flowmeter suspended in the mouth of the starboard net. Detailed descriptions of gear and CalCOFI methods are given by Kramer et al. (1972) and Smith and Richardson (1977).

#### LABORATORY PROCEDURES

The volume of water filtered by each Manta net was computed from the flowmeter readings. A standard haul factor (SHF) was calculated for each bongo tow to make them comparable and to allow estimation of areal abundance. The SHF is calculated by the formula:

$$\text{SHF} = \frac{10 D}{V}$$

where  $D$  = depth of haul = cosine of the average angle of stray of the towing cable multiplied by cable length (m)

$V$  = total volume of water (m<sup>3</sup>) strained during the haul

$$V = R \cdot a \cdot p$$

where  $R$  = total number of revolutions of the current meter during the haul

$a$  = area (m<sup>2</sup>) of the mouth of the net

$p$  = length of the column of water needed to produce one revolution of the current meter

Detailed descriptions of factors involved in calculating these values are presented in Ahlstrom (1948), Kramer et al. (1972), and Smith and Richardson (1977). Zooplankton displacement volumes were determined for each bongo sample (Kramer et al. 1972). Those containing >25 ml of plankton were fractionated to ~50% of their original volume prior to being sorted. Zooplankton volumes were not determined for Manta samples; all were entirely sorted. Sorting involved the removal of all ichthyoplankton; some samples also contained limited numbers of juvenile, and occasionally adult, stages of fishes which also were removed and bottled separately in 3% formalin. Constituent taxa in the samples were identified by S. R. Charter, W. Watson, and the senior author. Early ontogenetic stages of fishes are difficult to identify and this is further complicated by the large number and diversity of species which contribute to the ichthyoplankton

in the ETP. Most identifications were based on descriptions of ontogenetic series in an identification guide to early stages of fishes in the California Current and adjacent regions (Moser 1996). Larval specimens that could not be identified with the guide were identified by establishing ontogenetic series on the basis of morphology, meristics, and pigmentation, and then linking these series through overlapping features to known metamorphic, juvenile, or adult stages (Powles and Markle 1984). Fischer et al. (1995) was a primary source of information on distribution and taxonomy of adult fishes of the ETP. Except for damaged specimens, a large proportion of the larvae and most juvenile/adults taken in these tows could be identified to species. The types of larvae most difficult to identify were those of tropical shorefishes (e.g., Sciaenidae, Gerreidae) but most oceanic fishes could be identified to species or at least to genus. In Manta tow samples a total of 157 larval fish categories (including "unidentified" and "disintegrated") was identified: 94 to species, 36 to genus, 2 to subfamily, and 23 to family. In bongo net samples a total of 206 categories (including "unidentified" and "disintegrated") was identified: 122 to species, 59 to genus, 3 to subfamily, 18 to family, and 2 to order.

The following taxonomic categories in Tables 2–5 and 8–11 require special explanation:

*Cyclothone* spp. – Small or damaged larvae lacking diagnostic characters.

Disintegrated fish larvae – Larvae that could not be identified because of their poor condition; separated from the "unidentified" category to monitor the general condition of the ichthyoplankton samples through the time series.

*Exocoetus* spp. – *E. monocirrhus* and *E. volitans* occur in the study area and their larvae smaller than about 10 mm cannot be reliably distinguished.

*Hirundichthys* spp. – Small or damaged larvae lacking diagnostic characters, probably most are *H. marginatus*.

*Lampanyctus* spp. – Small or damaged larvae lacking diagnostic characters; probably includes *Nannobranchium* spp. larvae, which can be virtually indistinguishable from *Lampanyctus* in the early larval period.

*Lestidium* spp. – Larvae are predominantly a single species, *Lestidium* sp. (Ege 1953). Adults of this species collected during other studies of the ETP resemble *Lestidium bigelowi* Graae, known from the Indian Ocean.

*Mugil* spp. – Mugilid larvae lacking the full complement of anal fin elements (larvae < ~5–6 mm) and those with 12 total anal fin elements could not be identified to species; *Mugil cephalus* has 9–11 total anal fin elements; *M. curema* has 13.

*Prognichthys* spp. – *P. sealei* and *P. tringa* occur in the study area and their larvae cannot be reliably distinguished. The former species has a primarily oceanic distribution whereas the latter is coastal; the larvae collected in 1998 were predominantly coastal and most (perhaps all) probably are *P. tringa*.

*Triphoturus* spp. – Larvae of *Triphoturus* in the region of the ETP sampled by this expedition correspond to *Triphoturus oculeus* (Garman), a species Hulley (1986) synonymized with *T. mexicanus* (Gilbert 1890). These larvae share pigment characteristics of *T. mexicanus* and *T. nigrescens* (the other *Triphoturus* species recognized by Hulley 1986).

Unidentified fish larvae – Larvae that were generally in good condition but could not be identified because of their small size or early stage of development.

*Vinciguerria lucetia* – *V. lucetia* is the most common *Vinciguerria* species in the study area, but *V. nimbaria* and *V. poweriae* also occur in the eastern Pacific, primarily west of about 130° W; larvae of the three species are very difficult to distinguish and it is possible that some *V. nimbaria* and *V. poweriae* were included within *V. lucetia*.

#### SPECIES SUMMARY

Of the five most abundant taxa taken in Manta net samples on this survey, the herring genus *Opisthomema* ranked first in abundance but tied for 12<sup>th</sup> in occurrence with 20.4% of the total larvae and 5.4% positive tows (Tables 2 and 3). Panama lightfish *Vinciguerria lucetia* ranked second in abundance and occurrence, with 13.0% of the total larvae and 29.1% positive tows. Shortwing flyingfish *Oxyporhamphus micropterus* ranked third in abundance, with 9.2% of the total larvae, and first in occurrence with 39.5% positive tows. The scombrid genus *Auxis* ranked fourth in abundance with 8.6% of the larvae and was third in occurrence with 25.7% positive tows. The flyingfish genus *Prognichthys* ranked fifth in abundance and in occurrence with 6.0% of the larvae and 16.1% positive tows. The next five most abundant taxa were anchoveta *Cetengraulis mysticetus* (4.1% of total larvae), the mullet genus *Mugil* (3.7%), Pompano dolphinfish *Coryphaena equiselis* (3.7%), the anchovy genus *Anchoa* (3.4%), and bigeye cigarfish *Cubiceps pauciradiatus* (2.5%). These species tied for 17<sup>th</sup>, ranked 8<sup>th</sup>, 4<sup>th</sup>, tied for 29<sup>th</sup>, and ranked 6<sup>th</sup> in frequency of occurrence, respectively. The ten most abundant taxa accounted for 74.6% of all the larvae collected in the survey area. The remaining 25.4% was distributed among 147 other taxa (including “disintegrated” and “unidentified”). Of the ten most abundant taxa, three (*O. micropterus*, *C. equiselis*, *C. pauciradiatus*) are epipelagic species, one (*Prognichthys*) is a genus containing both an epipelagic (*P. seali*) and a coastal pelagic species (*P. tringa*), four (*Anchoa*, *Auxis*, *Opisthomema*, *C. mysticetus*) are coastal pelagic taxa, one (*Mugil*) is a coastal, primarily epibenthic schooling taxon, and one (*V. lucetia*) is a midwater species that migrates to the epipelagic zone at night.

Of the five most abundant taxa taken in bongo net samples on this survey, Panama lightfish *Vinciguerria lucetia* ranked first in abundance and occurrence with 44.4% of the total larvae and 98.2% positive tows (Tables 8 and 9). Diogenes lanternfish *Diogenichthys laternatus* ranked second in abundance and occurrence with 20.5% of the total larvae and 88.6% positive tows. The lanternfish genus *Diaphus* ranked third in abundance and occurrence with 5.7% of the total larvae and 66.5% positive tows. The hatchetfish genus *Sternoptyx* ranked fourth in abundance with 2.5% of the larvae and was sixth in occurrence with 44.9% positive tows. Blackchin blacksmelt *Bathylagus nigrigenys* ranked fifth in abundance with 2.4% of the larvae and fourth in occurrence with 59.9% positive tows. The next five most abundant taxa were the lanternfish genus *Lampanyctus*, including *Nannobrachium*, (1.5% of total larvae), the codlet genus *Bregmaceros* (1.5%), the smoothtongue *Leuroglossus urotronus* (1.3%), bigeye cigarfish *Cubiceps pauciradiatus* (1.0%), and Pacific sardine *Sardinops sagax* (1.0%). These species ranked 7<sup>th</sup>, 5<sup>th</sup>, tied for 63<sup>rd</sup>, 14<sup>th</sup>, and tied for 136<sup>th</sup> in frequency of occurrence, respectively. The ten most abundant taxa totalled 81.8% of all the larvae collected in the survey area. The remaining 18.2% was distributed among 196 other taxa (including “disintegrated” and “unidentified”). Of the ten most abundant taxa, one (*C. pauciradiatus*) is an epipelagic species, one (*S. sagax*) is coastal pelagic species, one (*Bregmaceros*) contains neritic schooling species and epipelagic species, and the others are midwater taxa that migrate toward the surface at night.

#### EXPLANATION OF FIGURES AND TABLES

Figures 5–43. Lengths of vertical bars are proportional to total larval counts for each station.

- Table 1. This table lists for each Manta net tow the pertinent station and tow data for ichthyoplankton stations occupied by the *Endeavor*, *Jordan*, and *McArthur*. Cruises are designated by a six character alphanumeric code; the first two digits indicate the year and the second two the month, followed by the ship code, EN (*Endeavor*), JD (*David Starr Jordan*), or M4 (*McArthur*). Data are listed sequentially by tow number. Regions are based on 15° latitude × 15° longitude squares (Figure 4). Time is listed as local time at the start of each tow in 24-hour designation. Values for total fish eggs and larvae are raw counts (unadjusted for volume of water filtered or standard haul factor). In 1998 the Manta or bongo tows and hydrographic casts were made at different times of the day. The column “CTD station” gives the CTD number where a Manta or bongo sample was collected at the same location as the morning hydrographic cast.
- Table 2. Pooled occurrences of all larval fish taxa taken in Manta nets on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.
- Table 3. Pooled raw counts (unadjusted for volume of water filtered) of all larval fish taxa taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.
- Table 4. Numbers of fish larvae for each taxon taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4, listed by tow number (Figures 1–3). Numbers of larvae are listed as raw counts and number per 100 m<sup>3</sup> of water filtered. Fish orders and families are listed in phylogenetic sequence (Eschmeyer 1998); other taxa are listed alphabetically.
- Table 5. Average number of larvae (per 100 m<sup>3</sup> of water filtered) for each taxon taken in Manta net tows in the regions (see Figure 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.
- Table 6. Numbers (raw counts) and size ranges of juvenile fishes taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Orders and families are listed in phylogenetic sequence (Eschmeyer 1998); genera and species are listed in alphabetical order. For each entry, the tow number is given first in bold type, the count is next in parentheses, and size range is given last.
- Table 7. This table lists for each bongo net tow the pertinent station and tow data for ichthyoplankton stations occupied by the *Endeavor*, *Jordan*, and *McArthur* on this survey (see Table 1 explanation).
- Table 8. Pooled occurrences of all larval fish taxa taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.
- Table 9. Pooled numbers of larvae per 10 m<sup>2</sup> (adjusted for standard haul factor) of all larval fish taxa taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.
- Table 10. Numbers of fish larvae for each taxon taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4, listed by tow number (Figures 1–3). Larvae are listed as number per 10 m<sup>2</sup> of sea surface. Orders and families are listed in phylogenetic sequence (Eschmeyer 1998); other taxa are listed alphabetically.
- Table 11. Average number of larvae (per 10 m<sup>2</sup> of sea surface) for each taxon taken in bongo net tows in the regions (see Figure 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.



## ACKNOWLEDGMENTS

We are indebted to Robert Pitman for his efforts in making a large proportion of the plankton tows and for overseeing the ichthyoplankton work on the expedition. We thank Lisa Ballance for her support on all aspects of the plankton tow work. We are grateful to the following members of the scientific crews of the three vessels for their efforts in conducting the plankton work: Elyse Bixby, Lynn Butler, Katie Cramer, Kerri Danil, Nick Keller, Kerry Kopitsky, John Mason, Laura Morse, Stephanie Norman, Tom Norris, Shannon Rankin, Cheryl Rydar, and Christine Vituilli. Amy Hays trained the scientific crews in ichthyoplankton sampling and checked the field data. The samples were sorted by Lucy Dunn. Susan Manion entered the data and Susan Jacobson provided programming assistance. We thank Susan Manion for her excellent work in the production of the tables and distribution maps. The cooperation and assistance provided by the ships' crews were instrumental in making the collections and observations at sea. Steven Reilly provided support and encouragement throughout this project.

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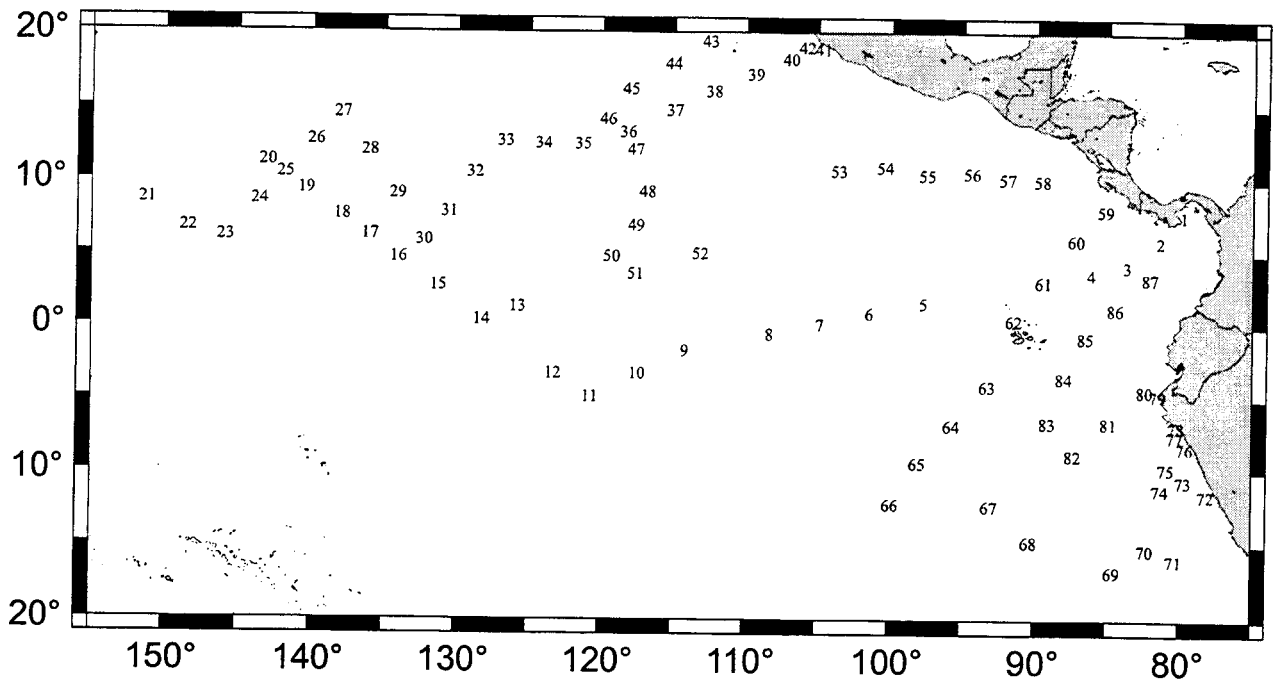


Figure 1. Manta and bongo net tow stations for *Endeavor* cruise 9810EN.

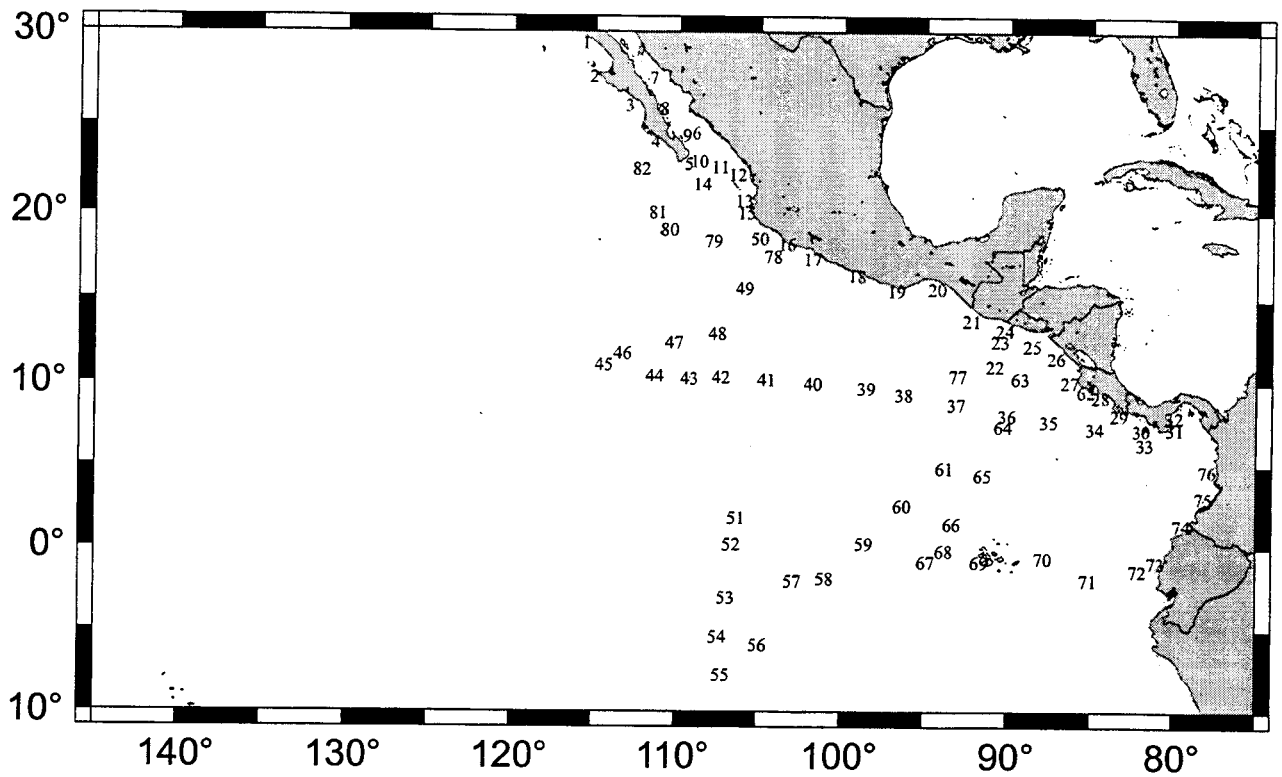


Figure 2. Manta and bongo net tow stations for *Jordan* cruise 9810JD.

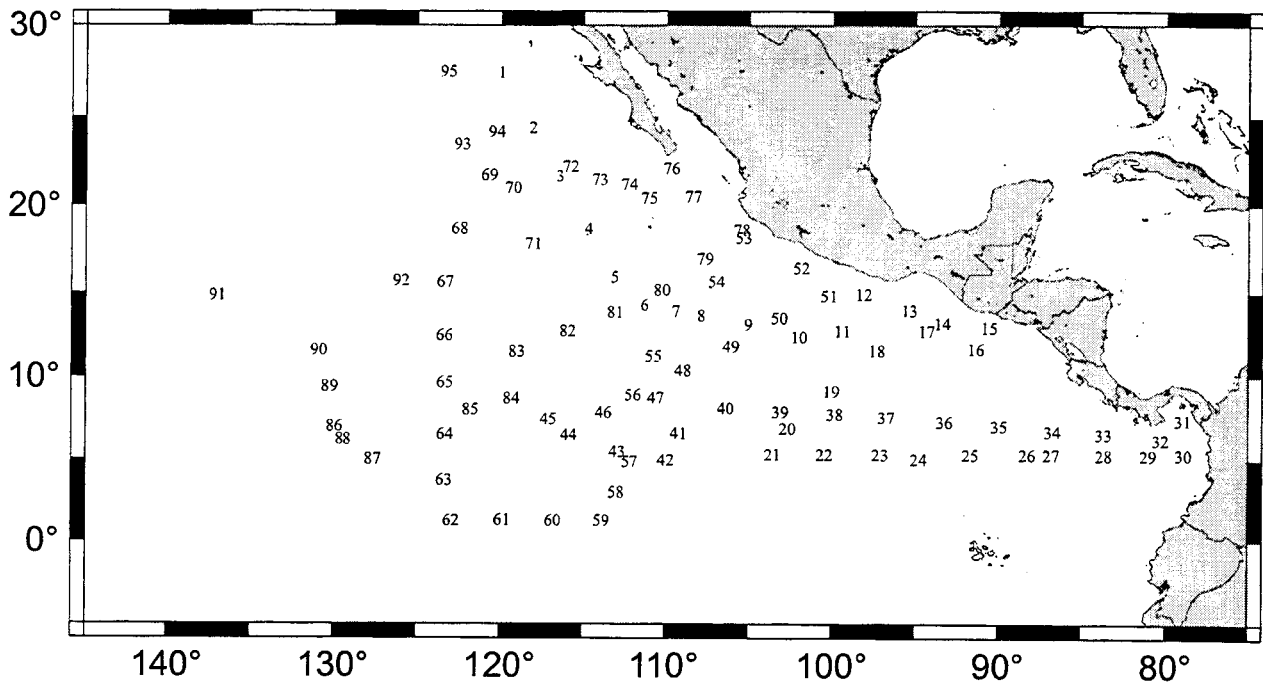


Figure 3. Manta and bongo net tow stations for *McArthur* cruise 9810M4.

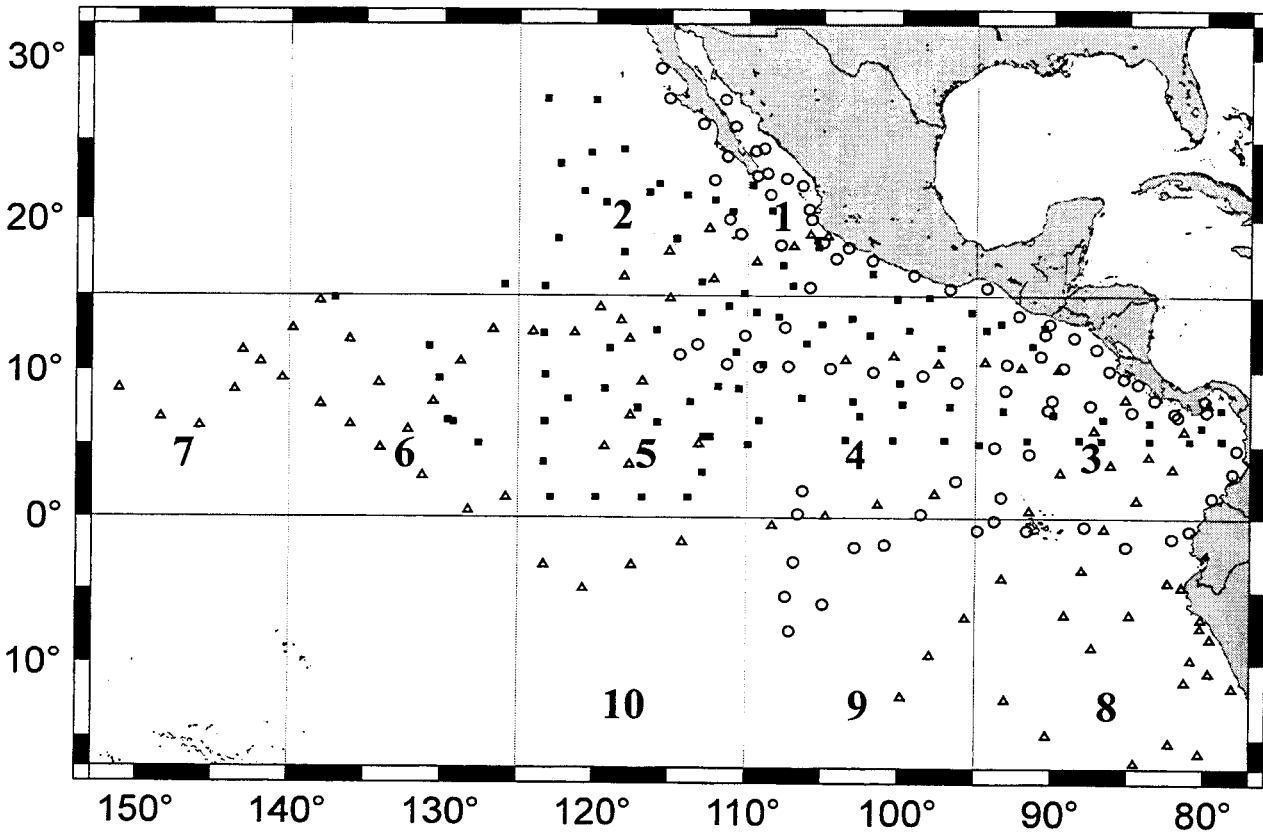


Figure 4. Sampling regions for 1998 eastern tropical Pacific ocean survey indicated by numbers 1 to 10: Manta and bongo net tow stations for *Endeavor* cruise 9810EN are indicated by triangles, for *Jordan* cruise 9810JD by circles, and for *McArthur* cruise 9810M4 by solid squares. *McArthur* tow 92, to the left of region 2, was included in region 2.

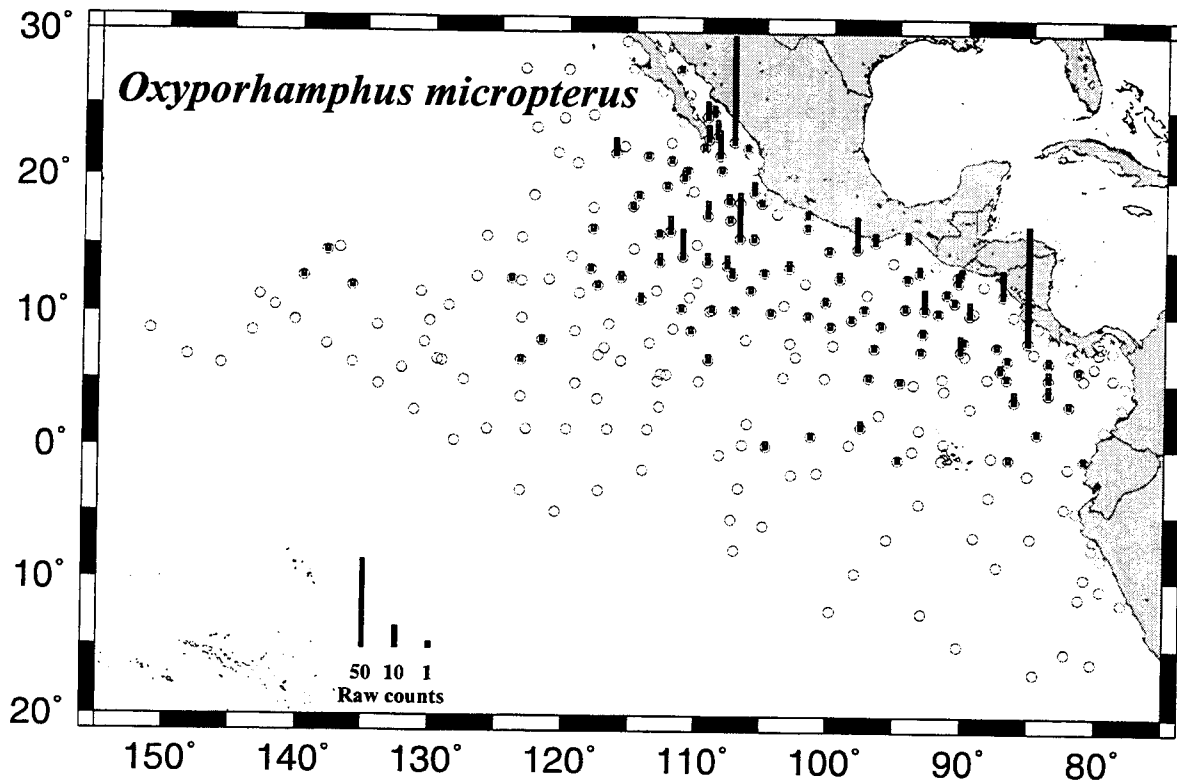


Figure 5. Distribution of *Oxyporhamphus micropterus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

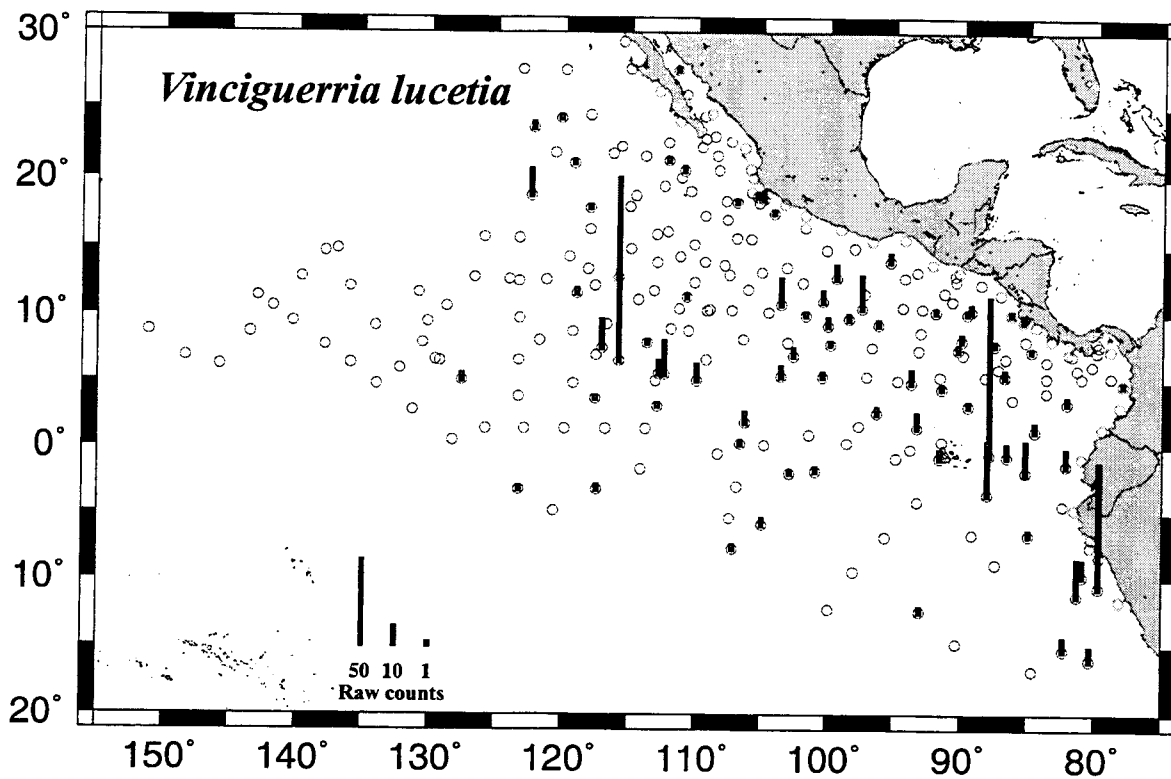


Figure 6. Distribution of *Vinciguerria lucetia* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

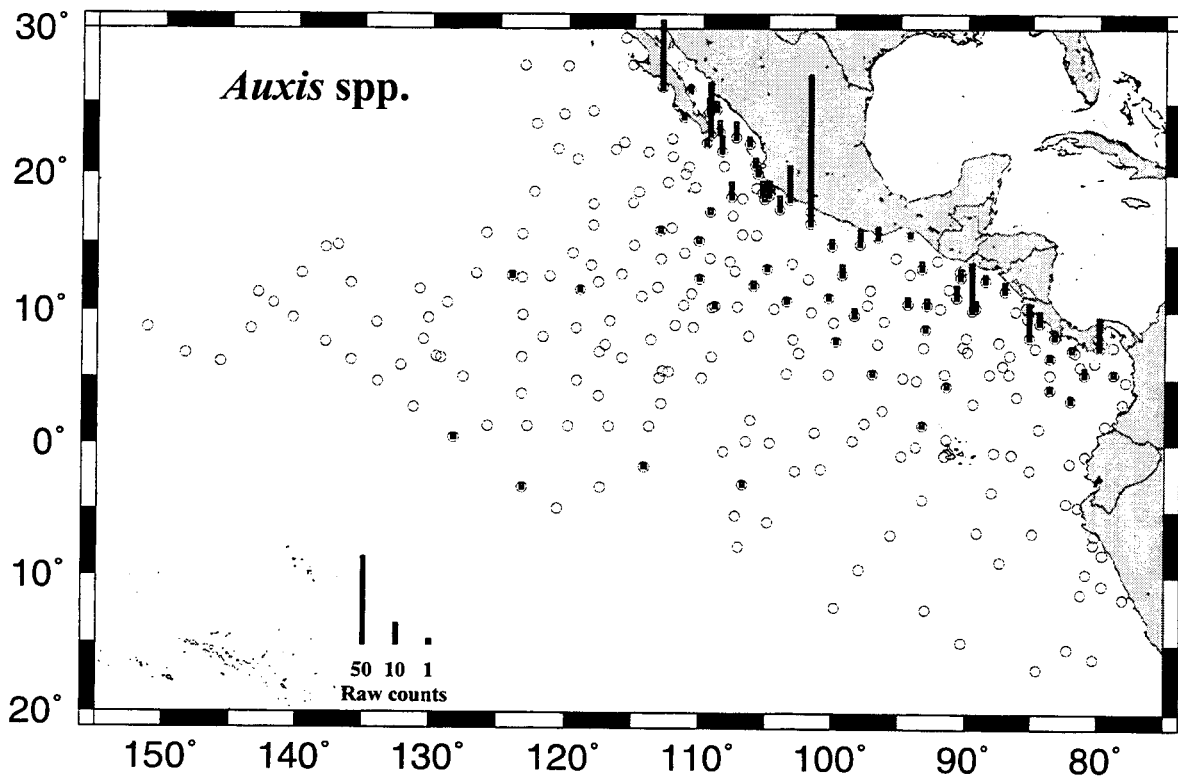


Figure 7. Distribution of *Auxis* spp. larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

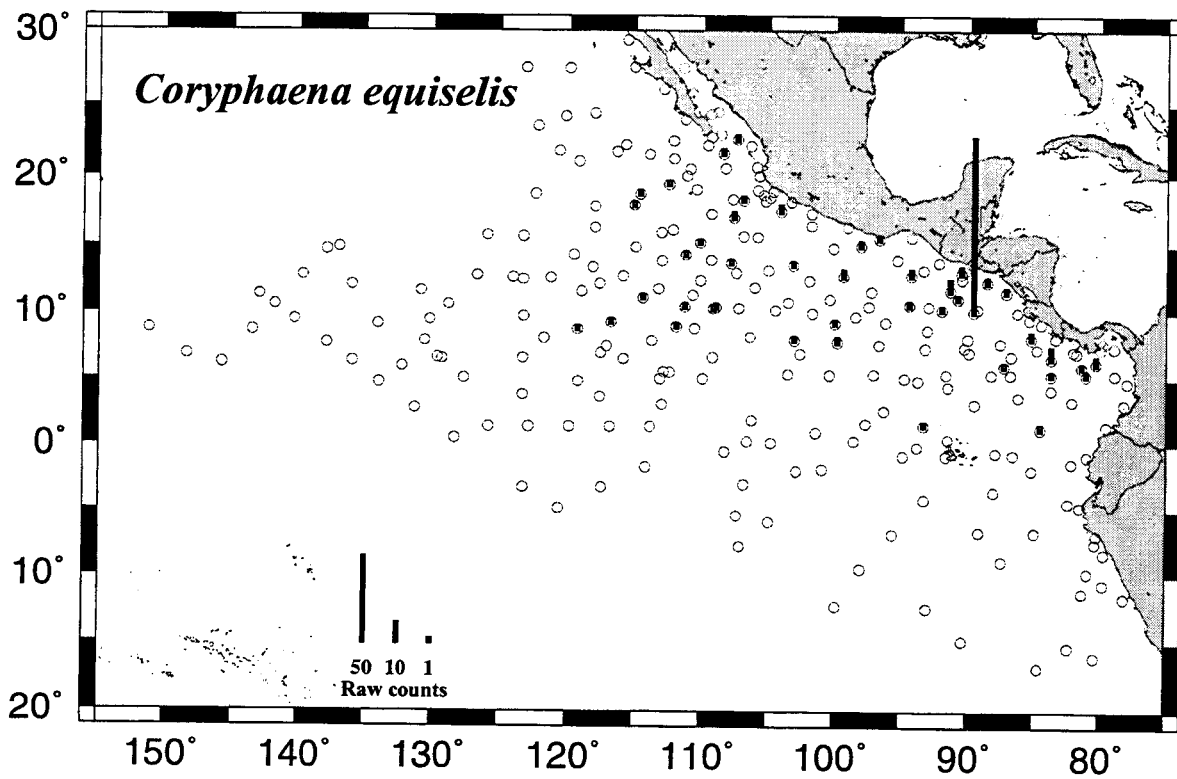


Figure 8. Distribution of *Coryphaena equiselis* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

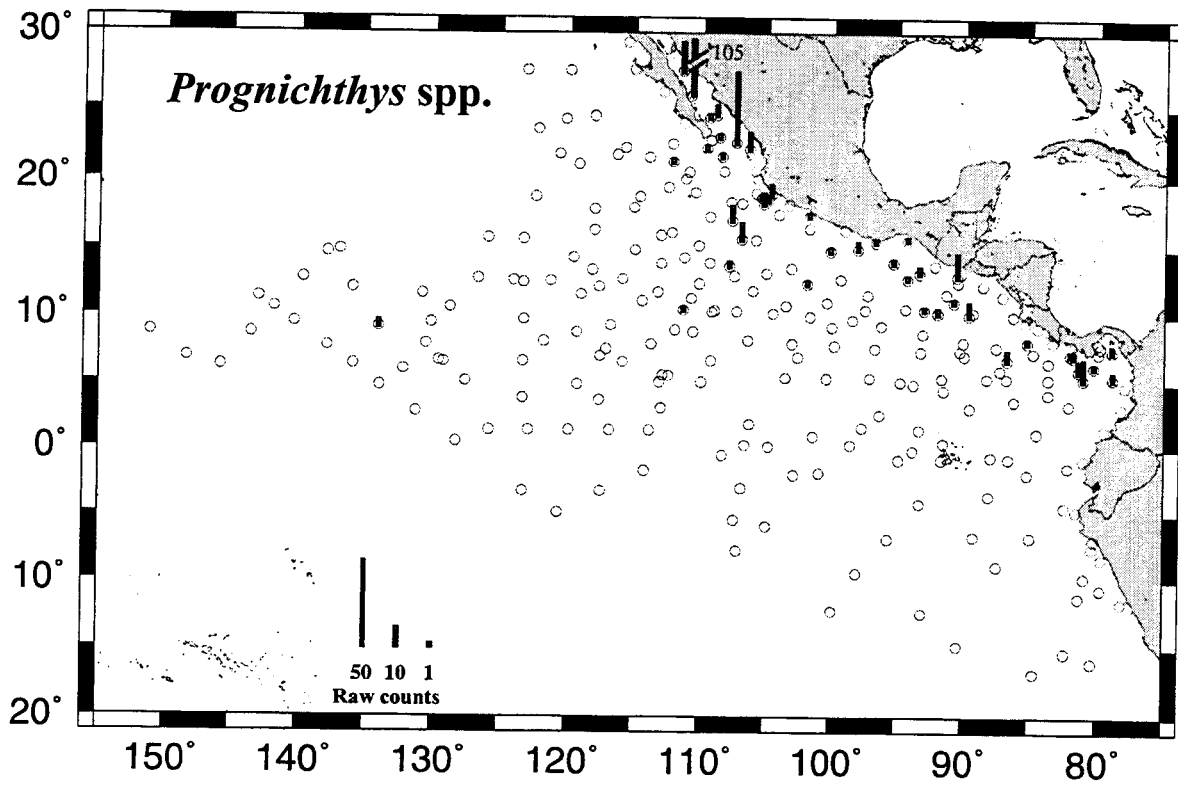


Figure 9. Distribution of *Prognichthys* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

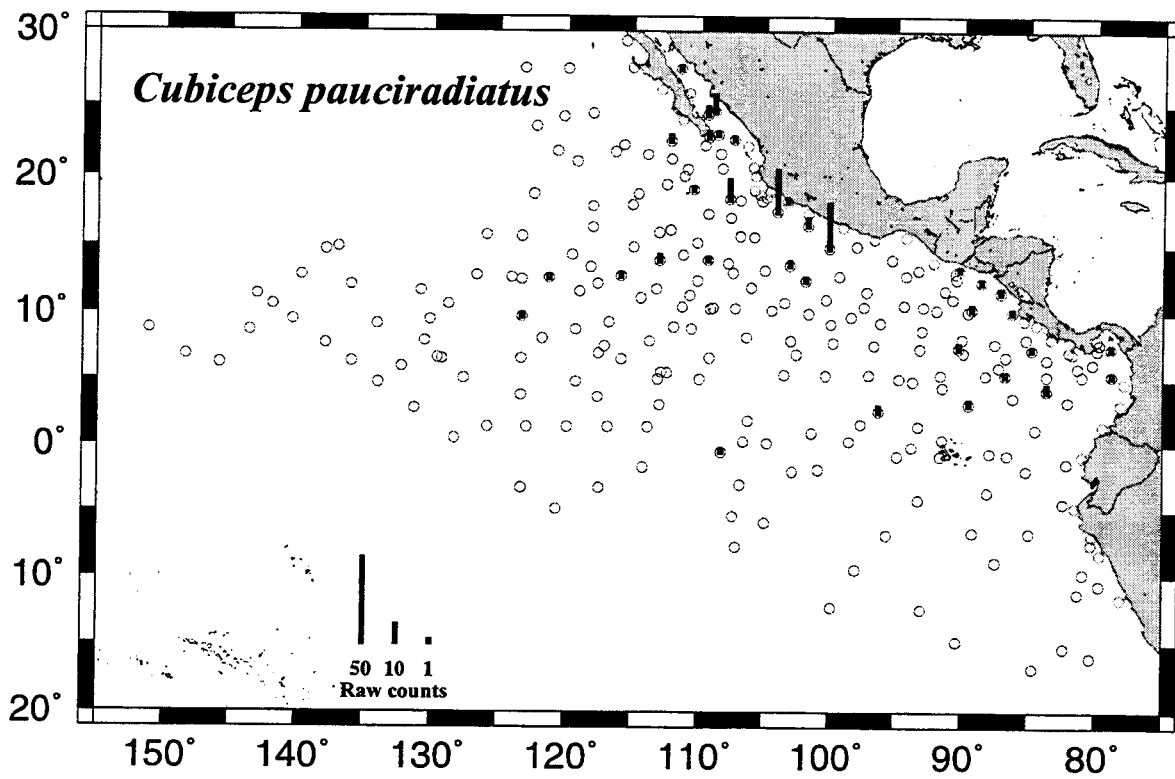


Figure 10. Distribution of *Cubiceps pauciradiatus* larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

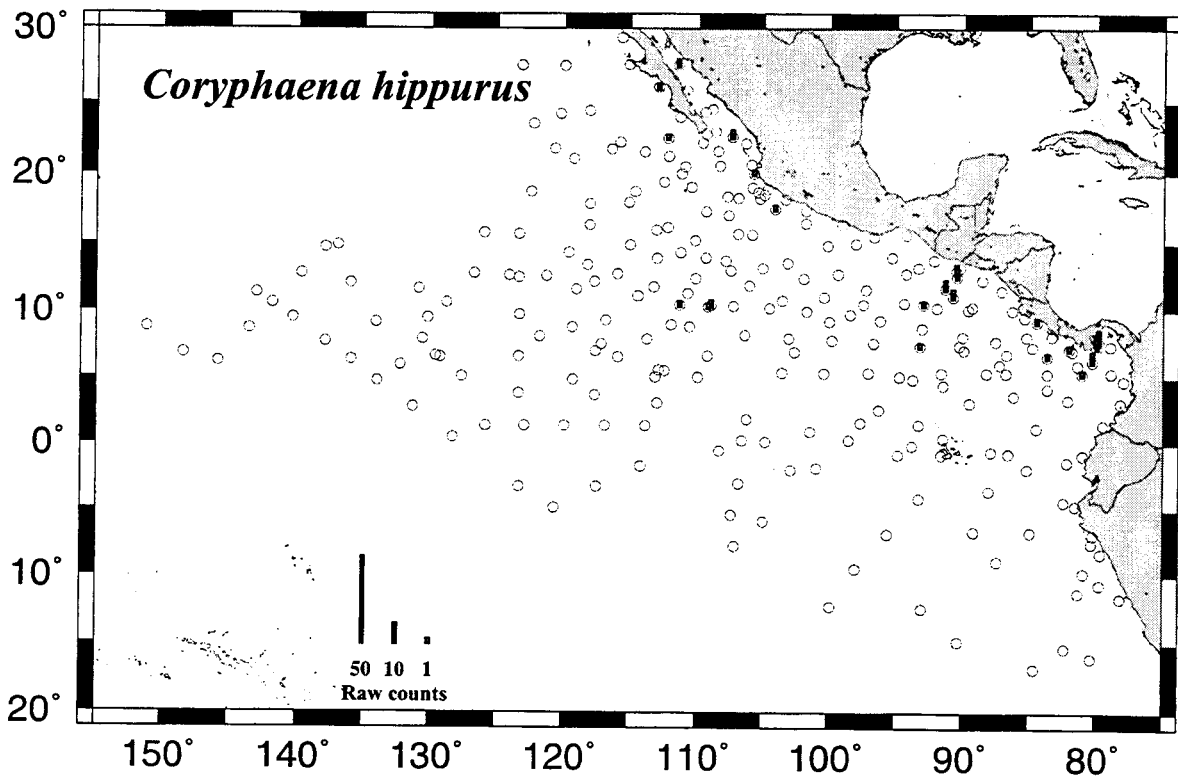


Figure 11. Distribution of *Coryphaena hippurus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

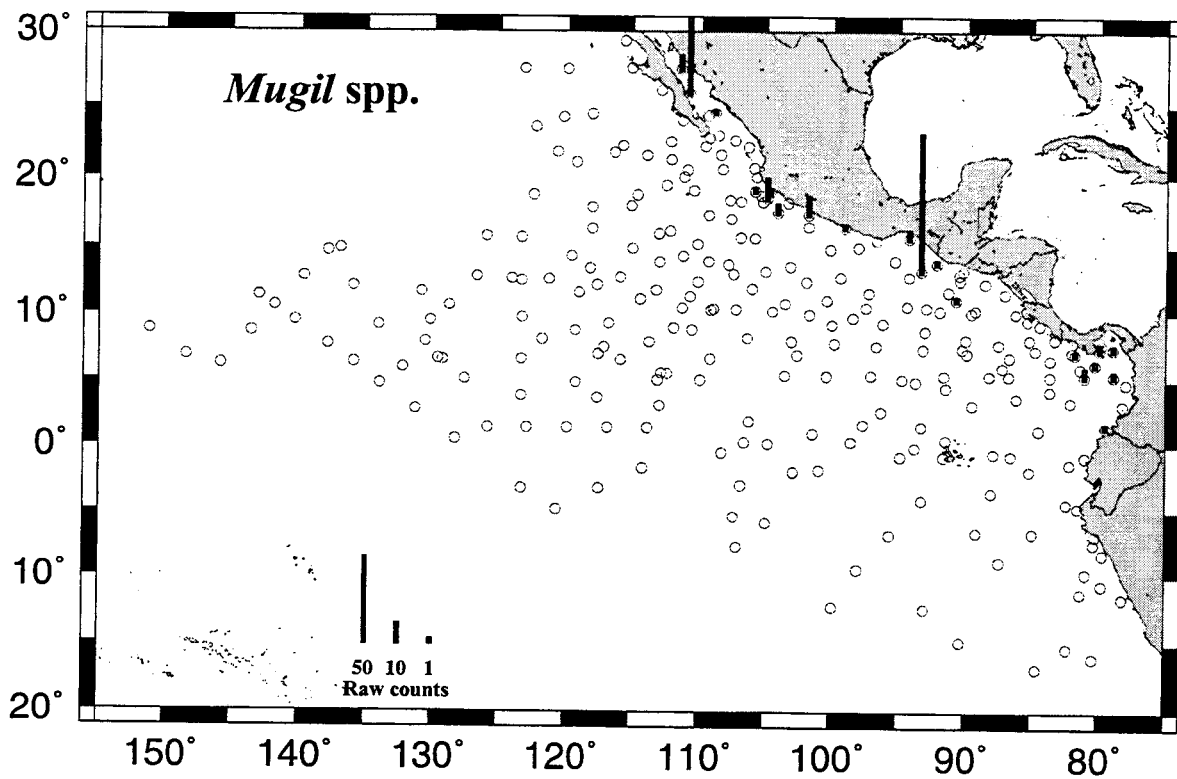


Figure 12. Distribution of *Mugil* spp. larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.



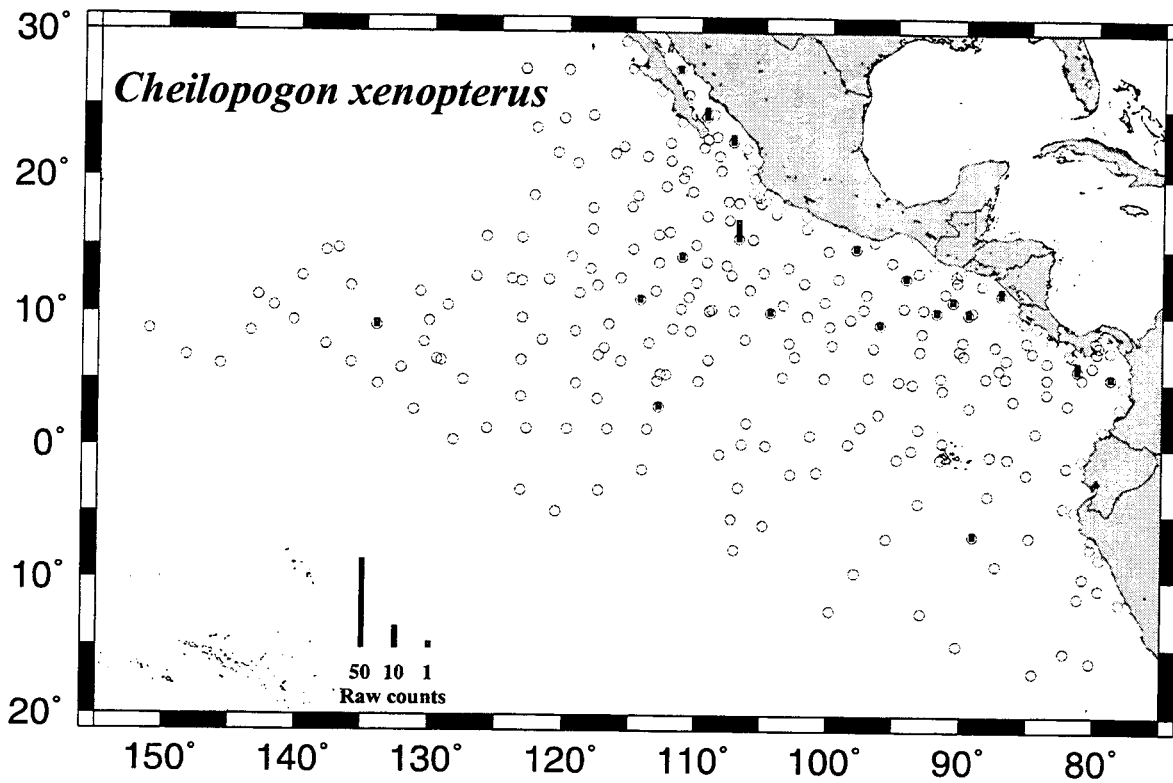


Figure 13. Distribution of *Cheilopogon xenopterus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

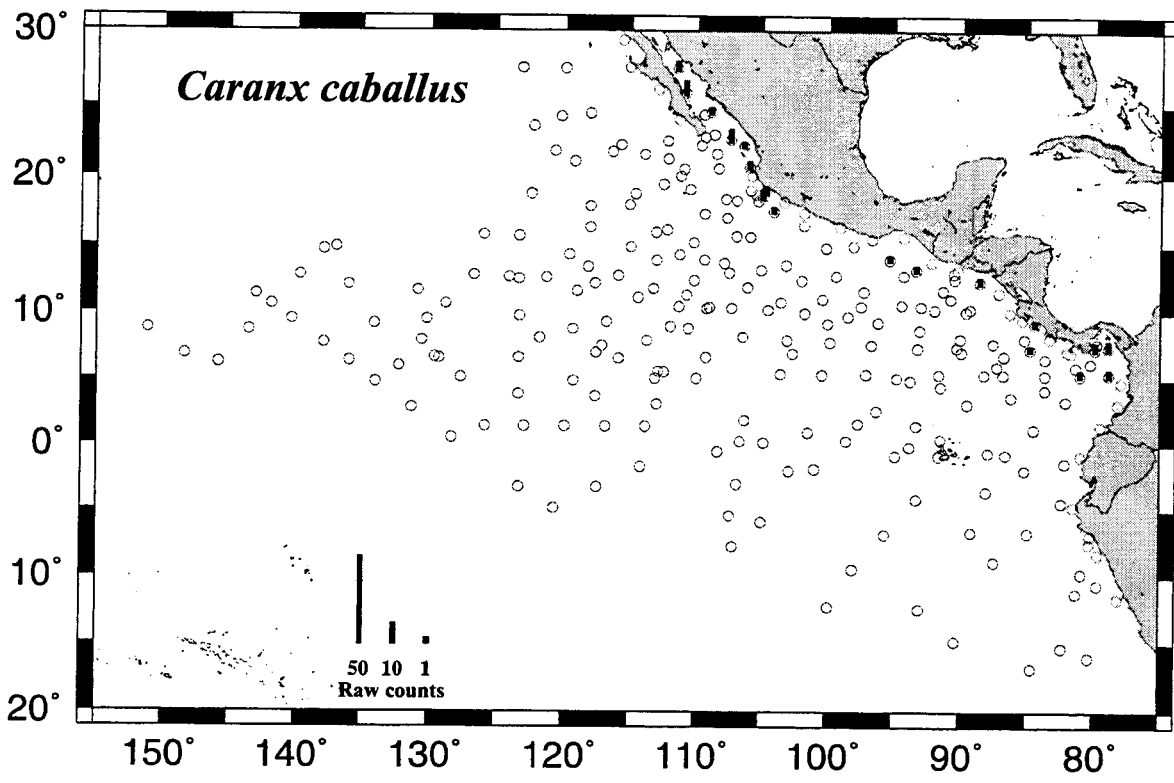


Figure 14. Distribution of *Caranx caballus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

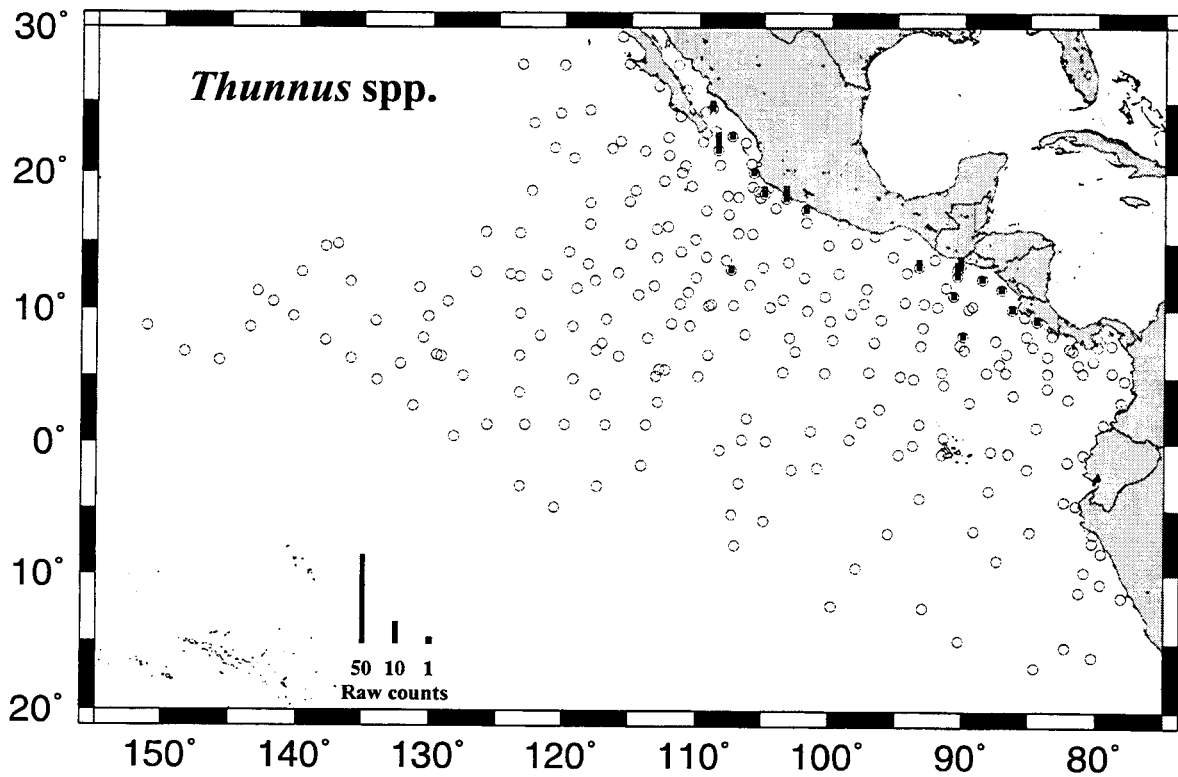


Figure 15. Distribution of *Thunnus* spp. larvae from Manta net tows: 9810JD and 9810M4.

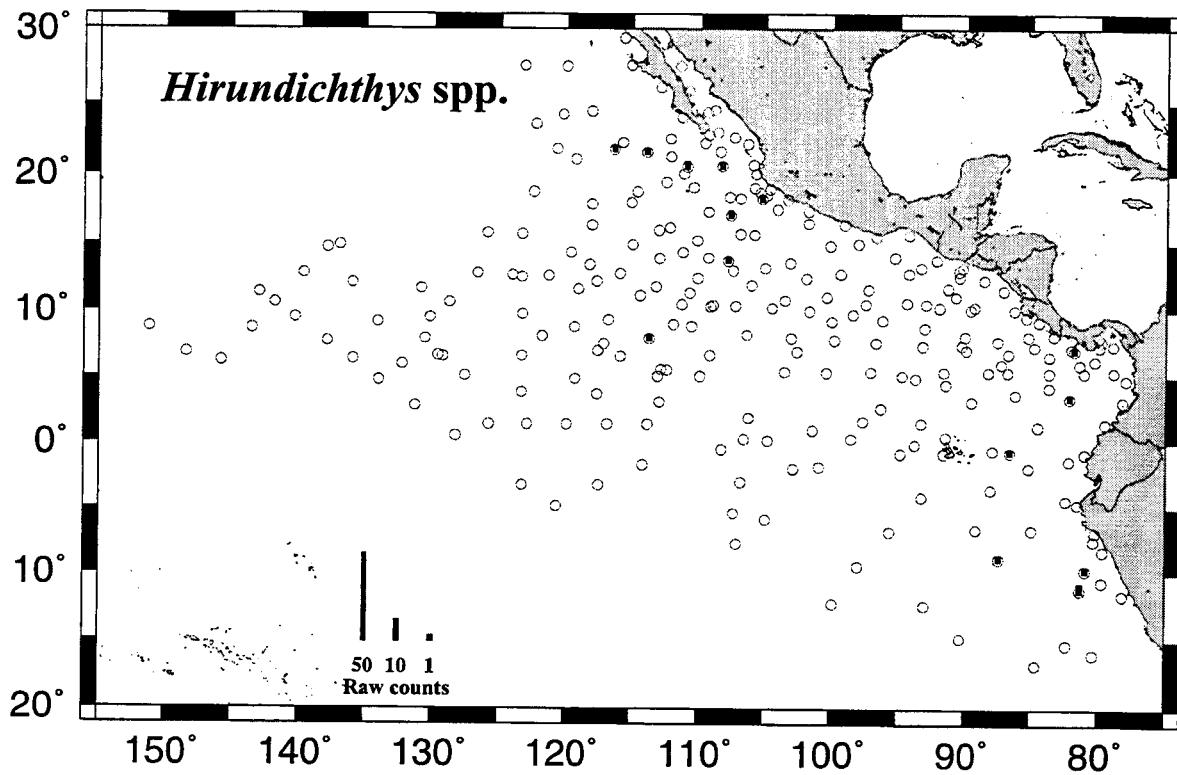


Figure 16. Distribution of *Hirundichthys* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

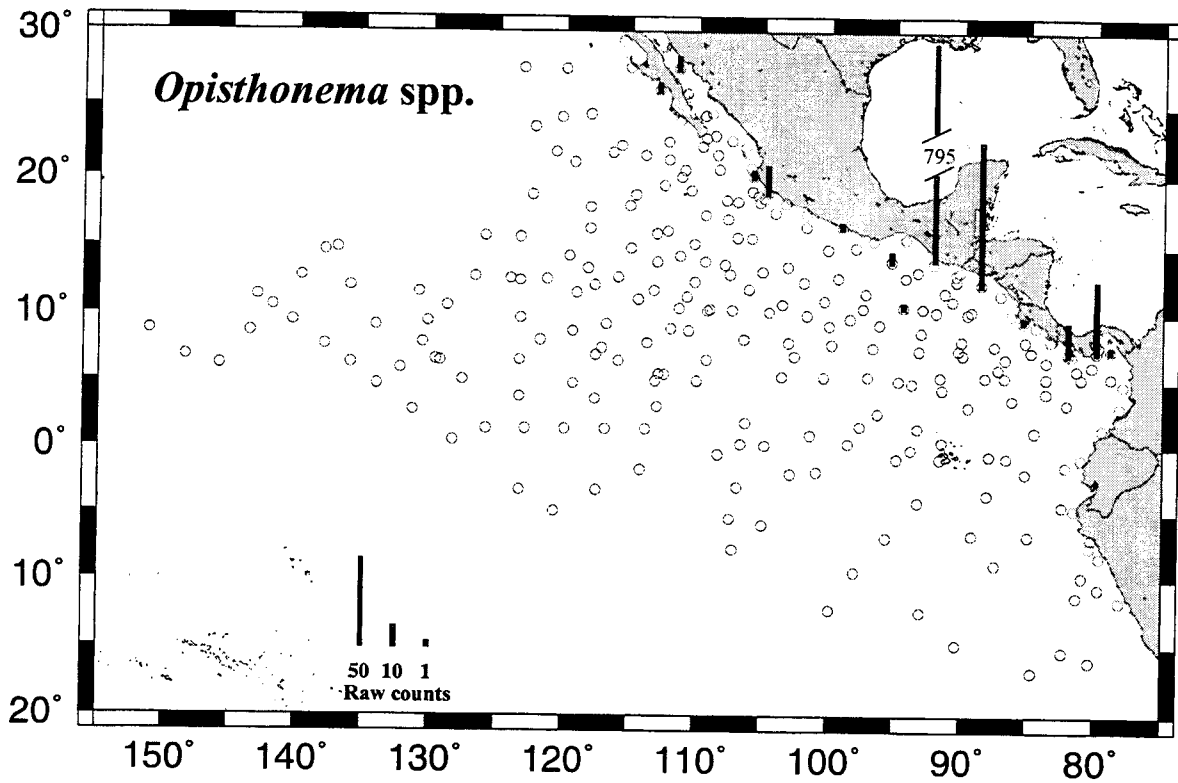


Figure 17. Distribution of *Opisthonema* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

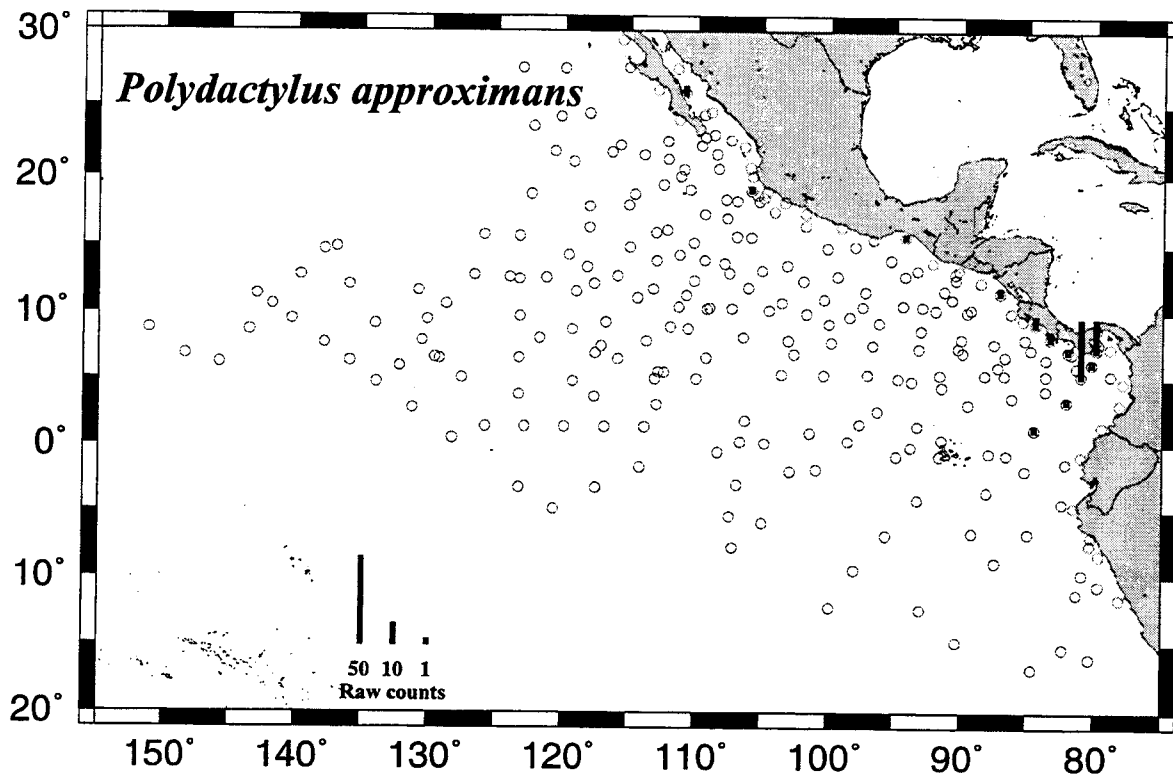


Figure 18. Distribution of *Polydactylus approximans* larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

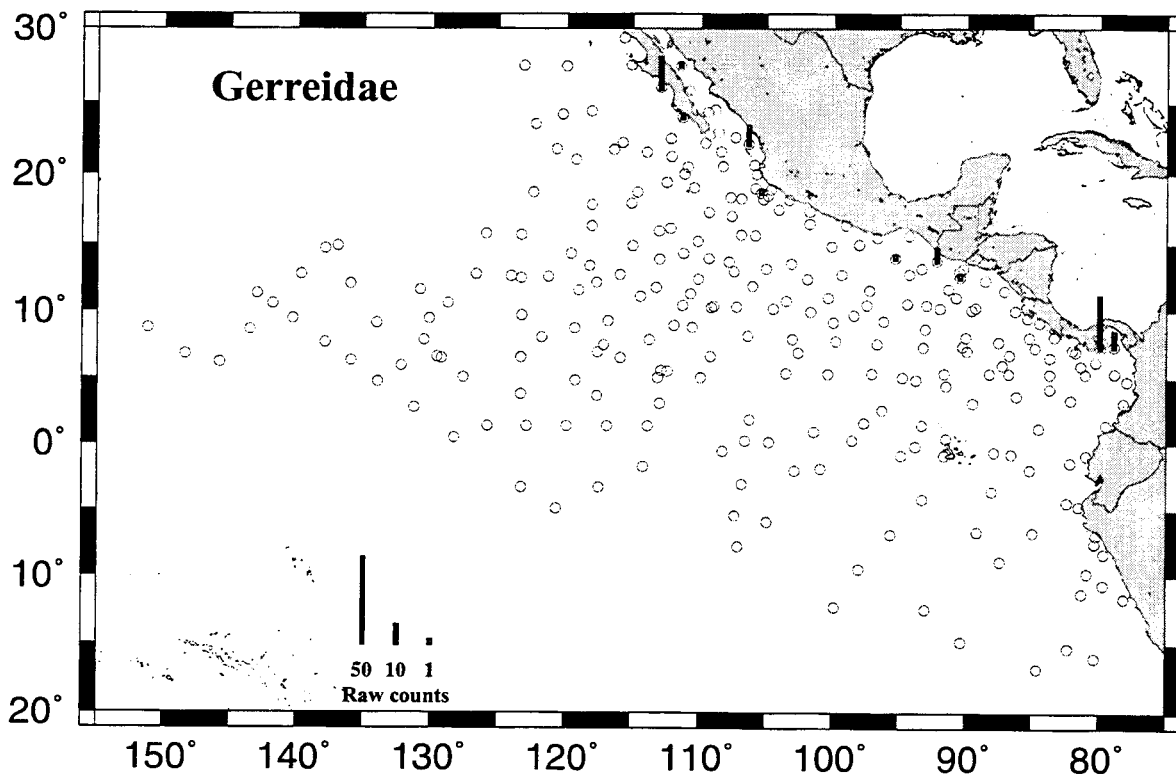


Figure 19. Distribution of Gerreidae larvae from Manta net tows: 9810JD and 9810M4.

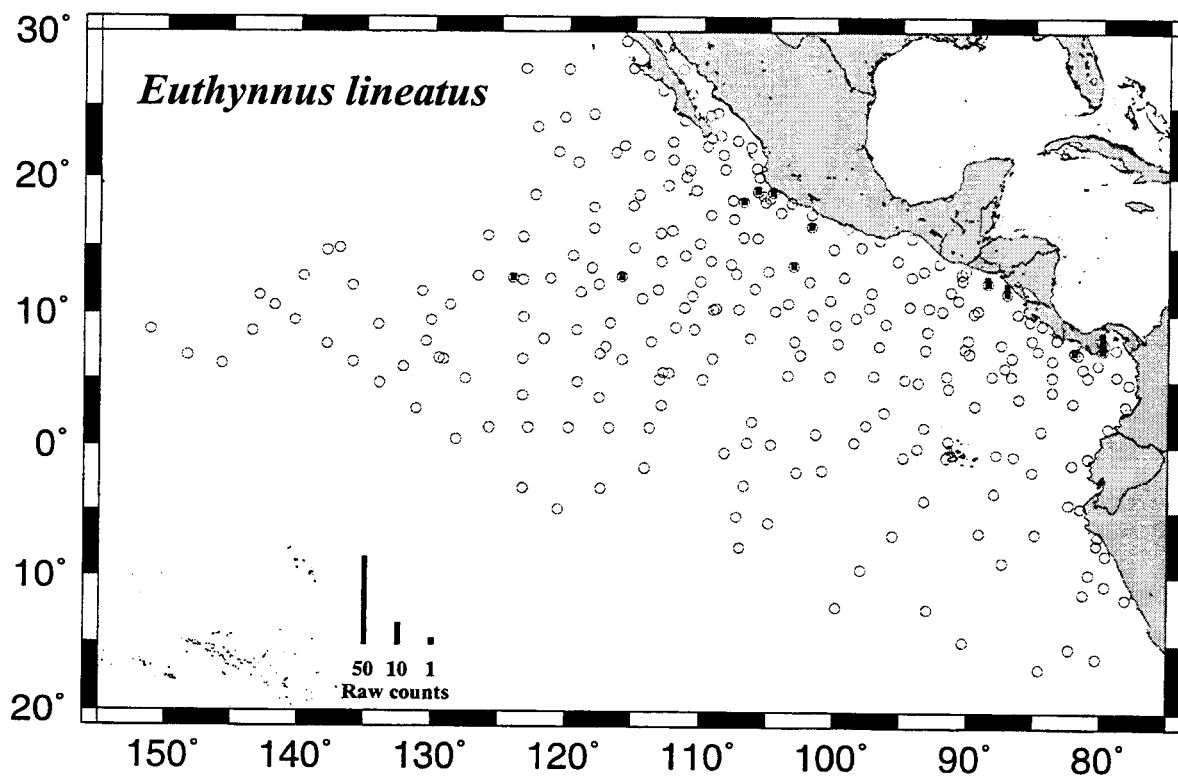


Figure 20. Distribution of *Euthynnus lineatus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

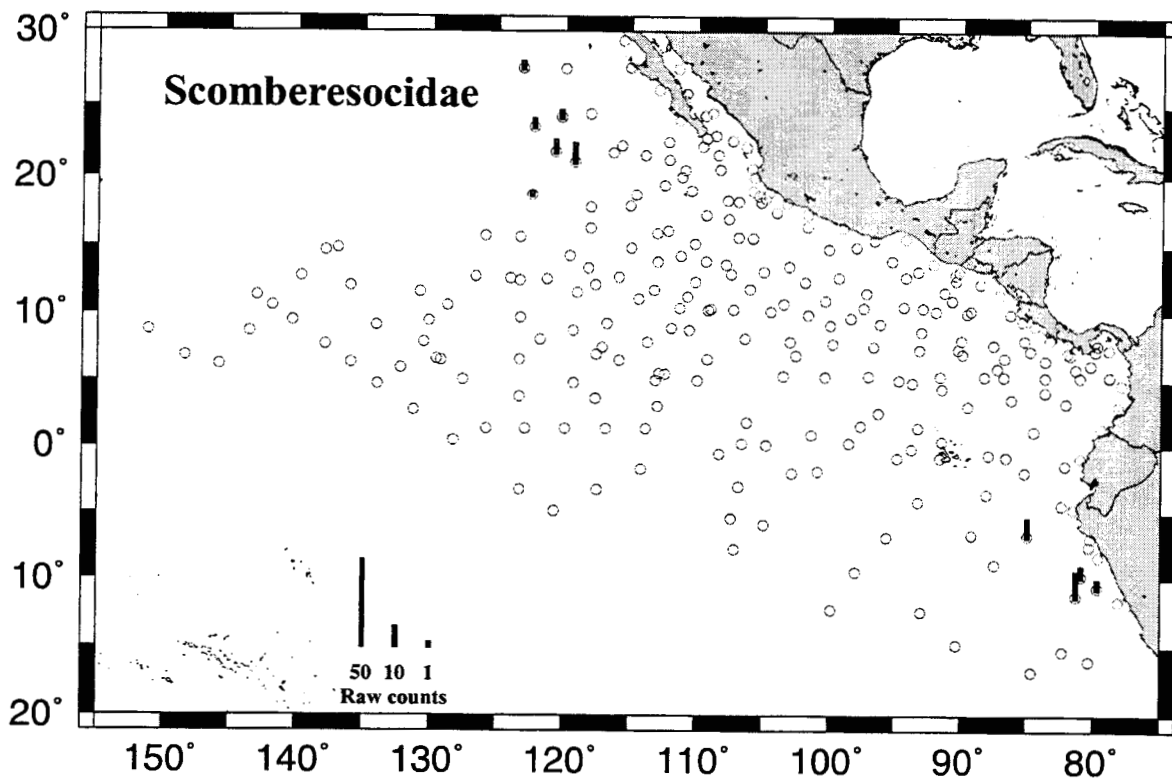


Figure 21. Distribution of *Scomberesocidae* larvae from Manta net tows: 9810EN and 9810M4.

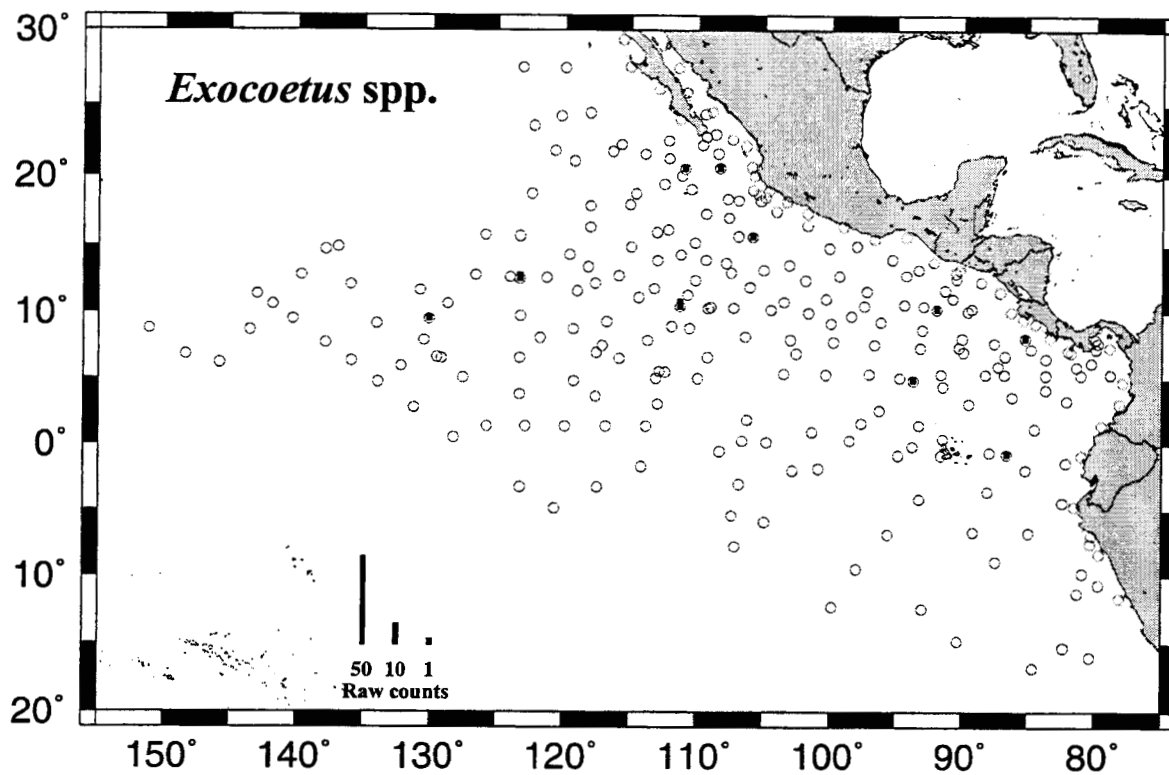


Figure 22. Distribution of *Exocoetus* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

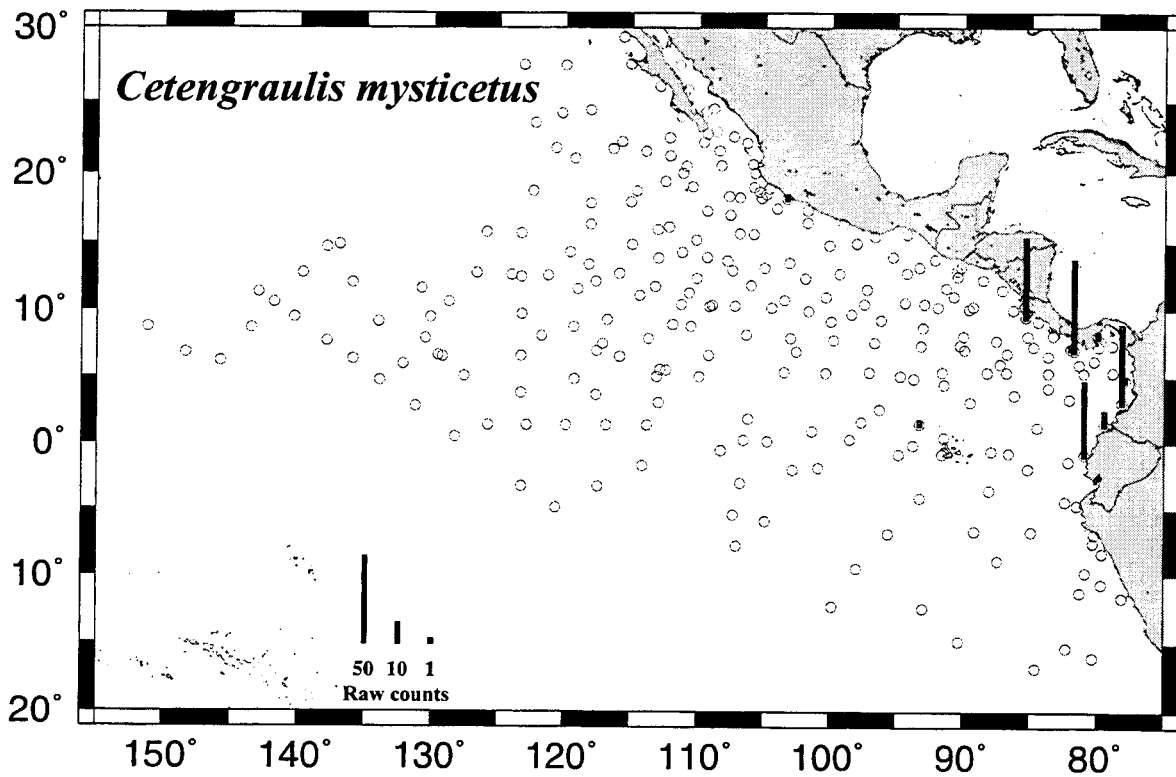


Figure 23. Distribution of *Cetengraulis mysticetus* larvae from Manta net tows: 9810JD.

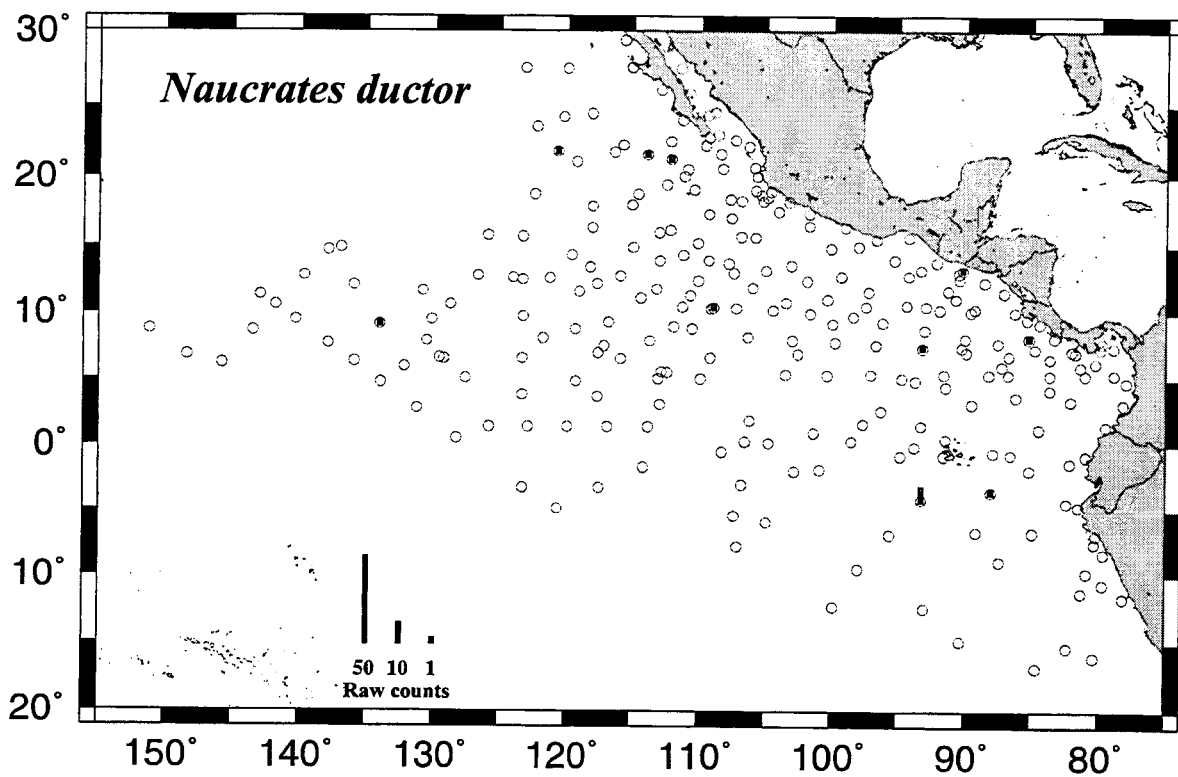


Figure 24. Distribution of *Naucrates ductor* larvae from Manta net tows: 9810EN and 9810M4.

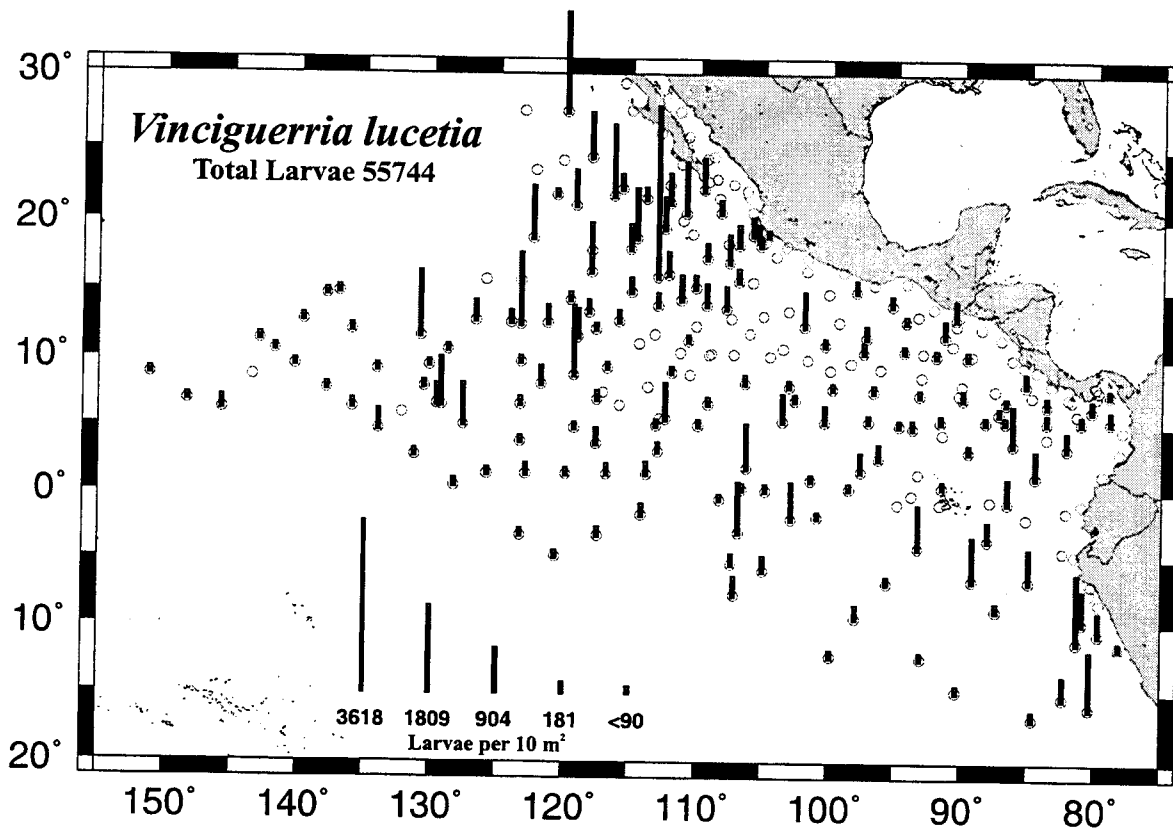


Figure 25. Distribution of *Vinciguerria lucetia* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

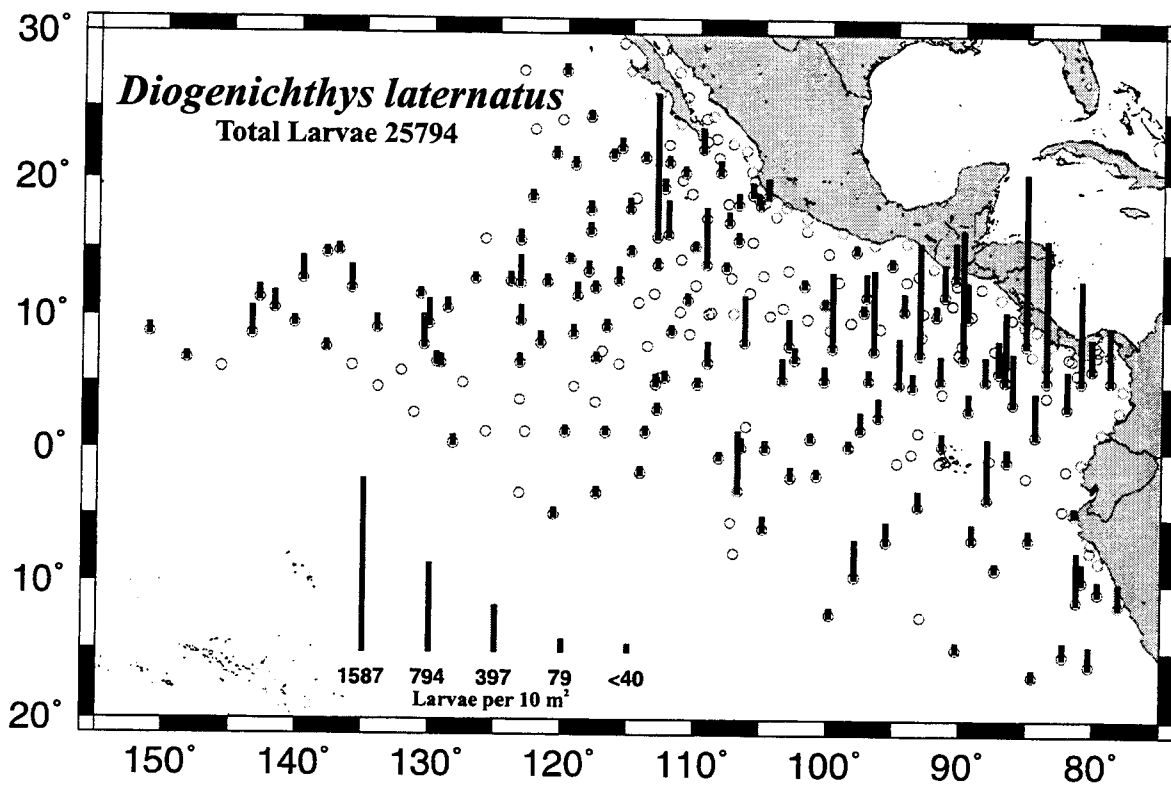


Figure 26. Distribution of *Diogenichthys laternatus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

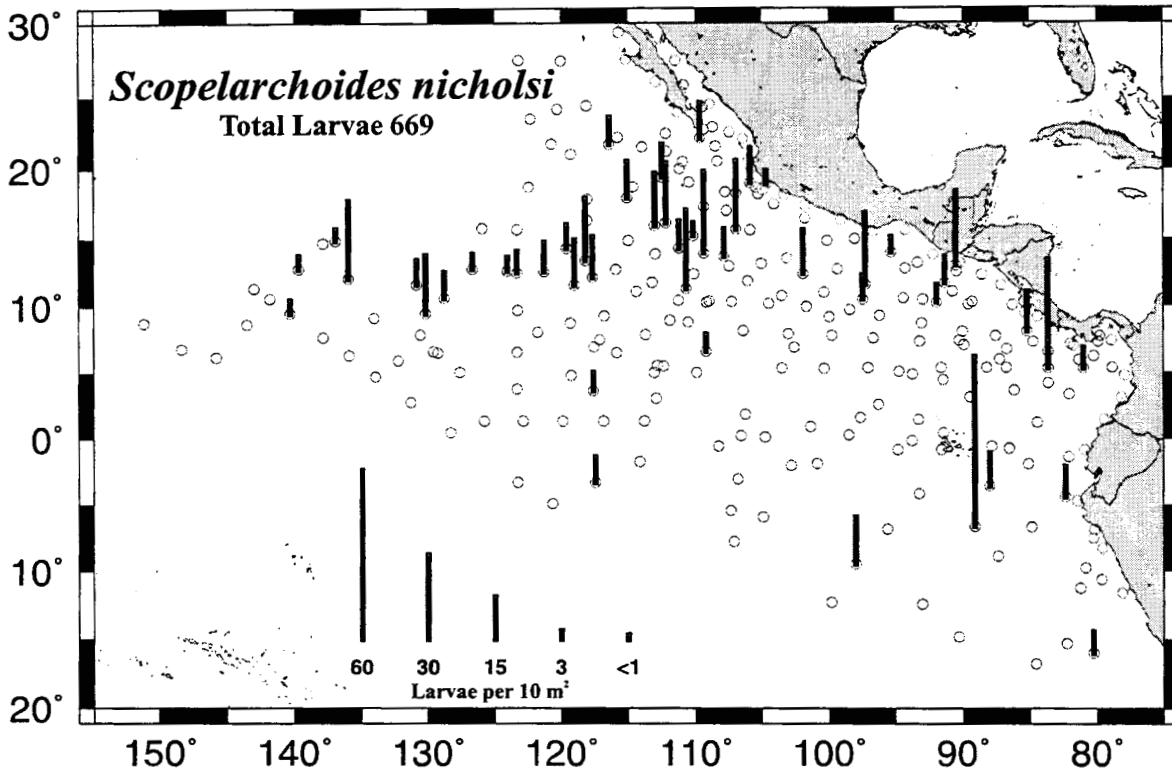


Figure 31. Distribution of *Scopelarchoides nicholsi* larvae from bongo net tows: 9810EN and 9810M4.

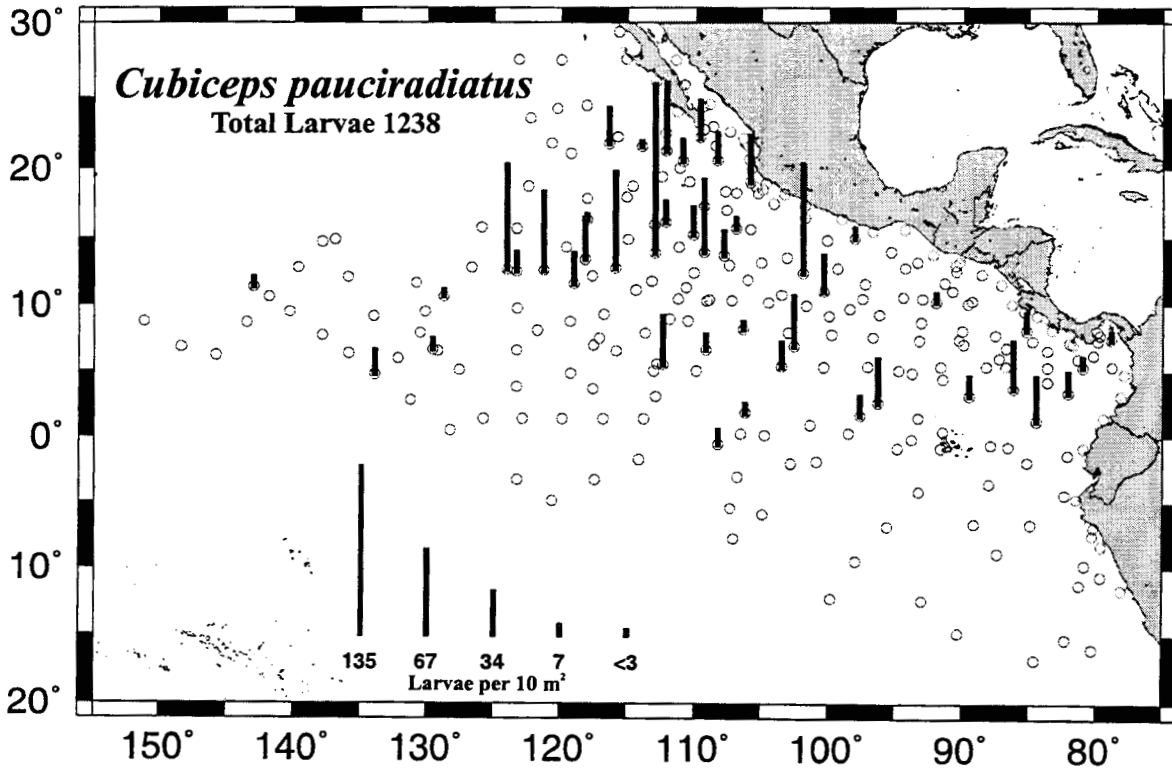


Figure 32. Distribution of *Cubiceps pauciradiatus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.



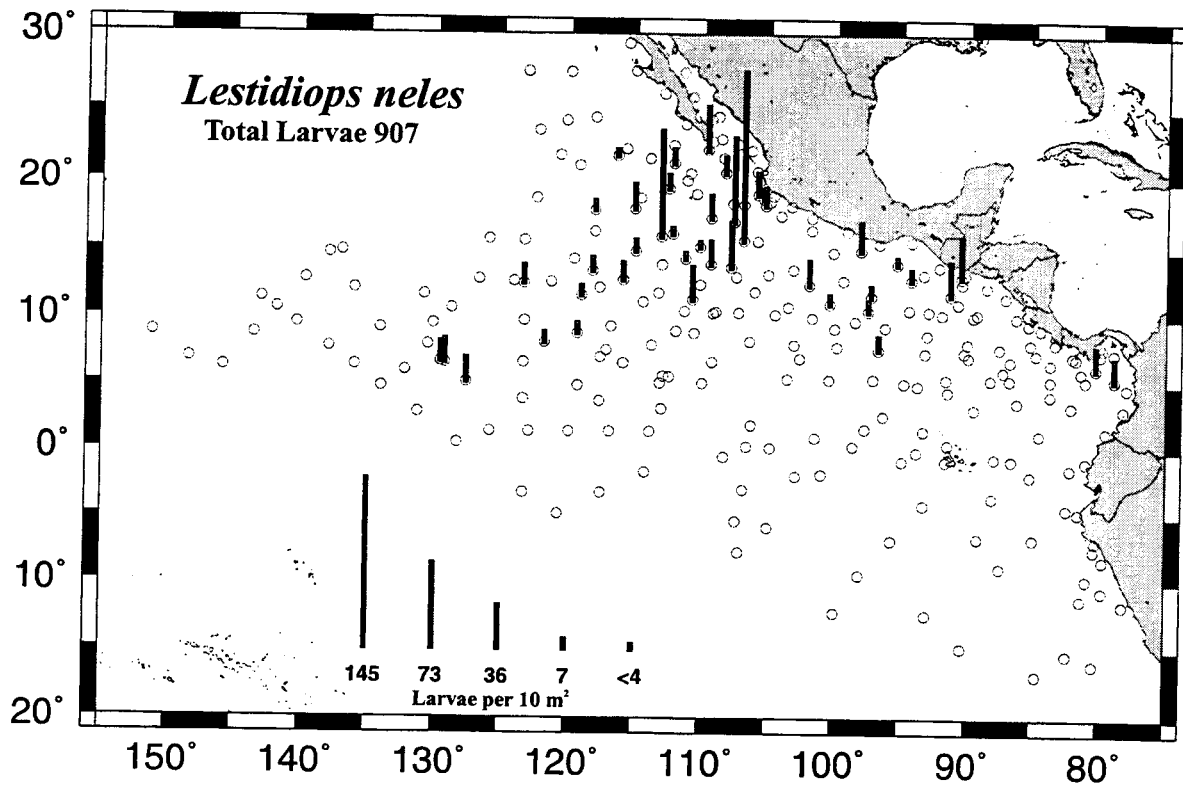


Figure 33. Distribution of *Lestidiops neles* larvae from bongo net tows: 9810EN and 9810M4.

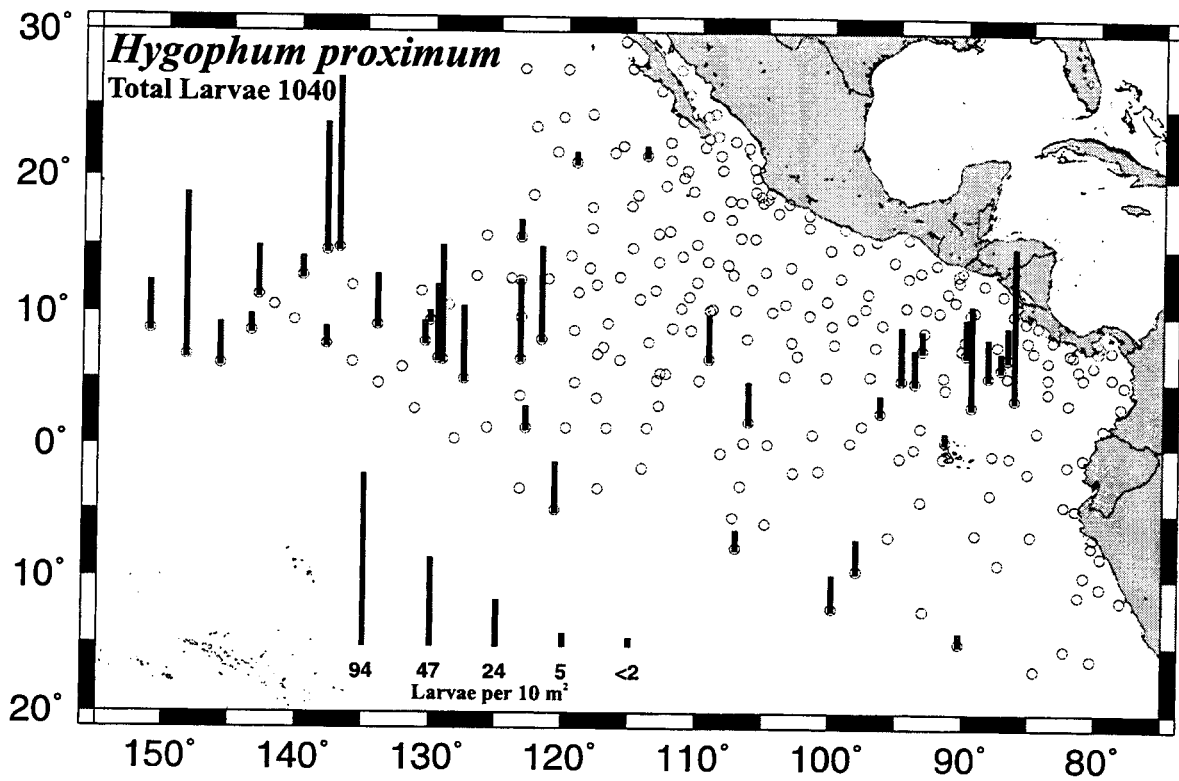


Figure 34. Distribution of *Hygophum proximum* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

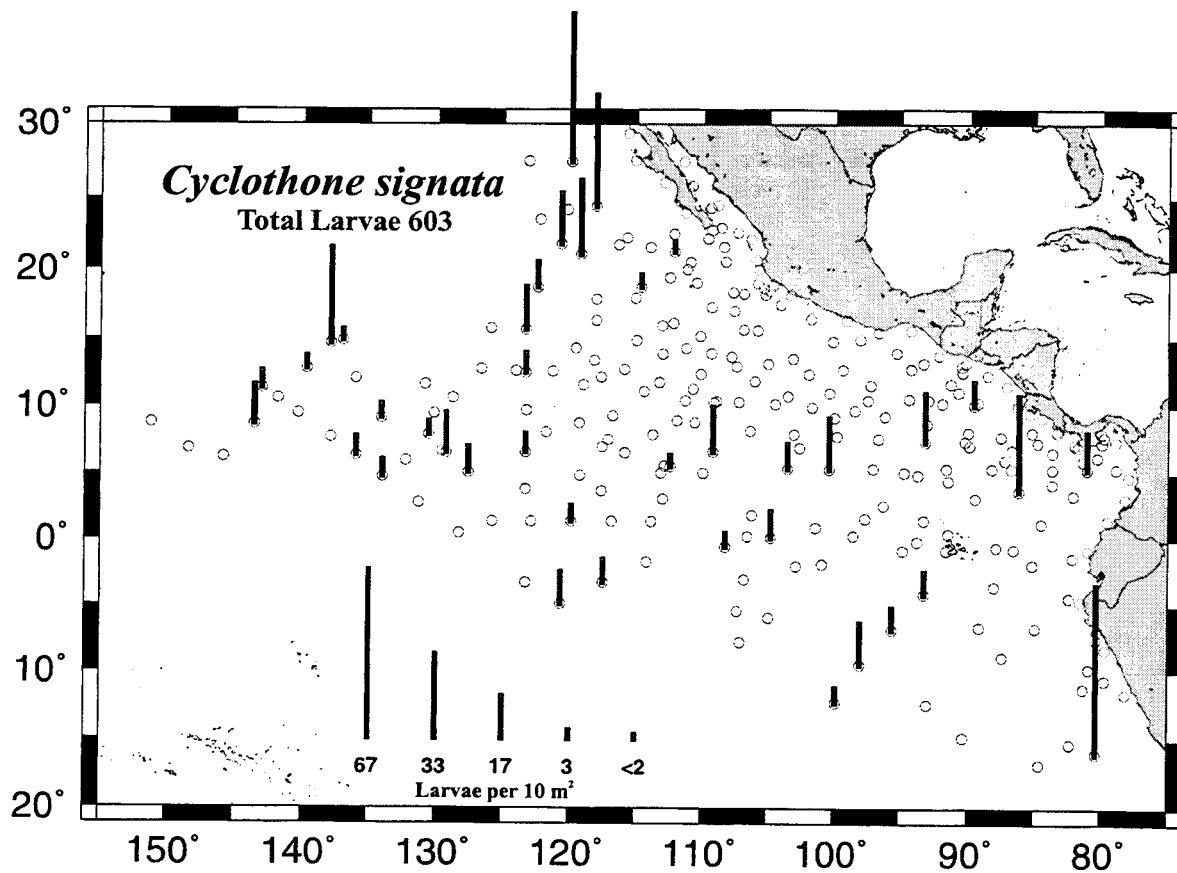


Figure 35. Distribution of *Cyclothone signata* larvae from bongo net tows: 9810EN and 9810M4.

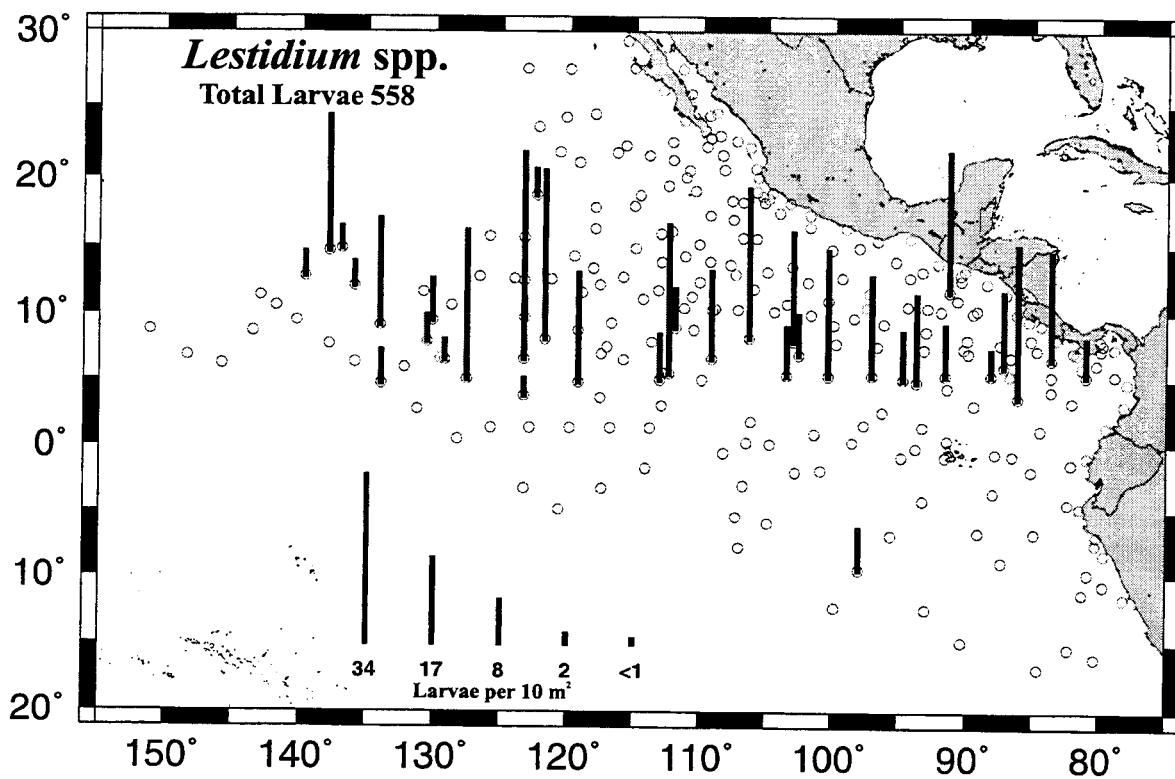


Figure 36. Distribution of *Lestidium* spp. larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

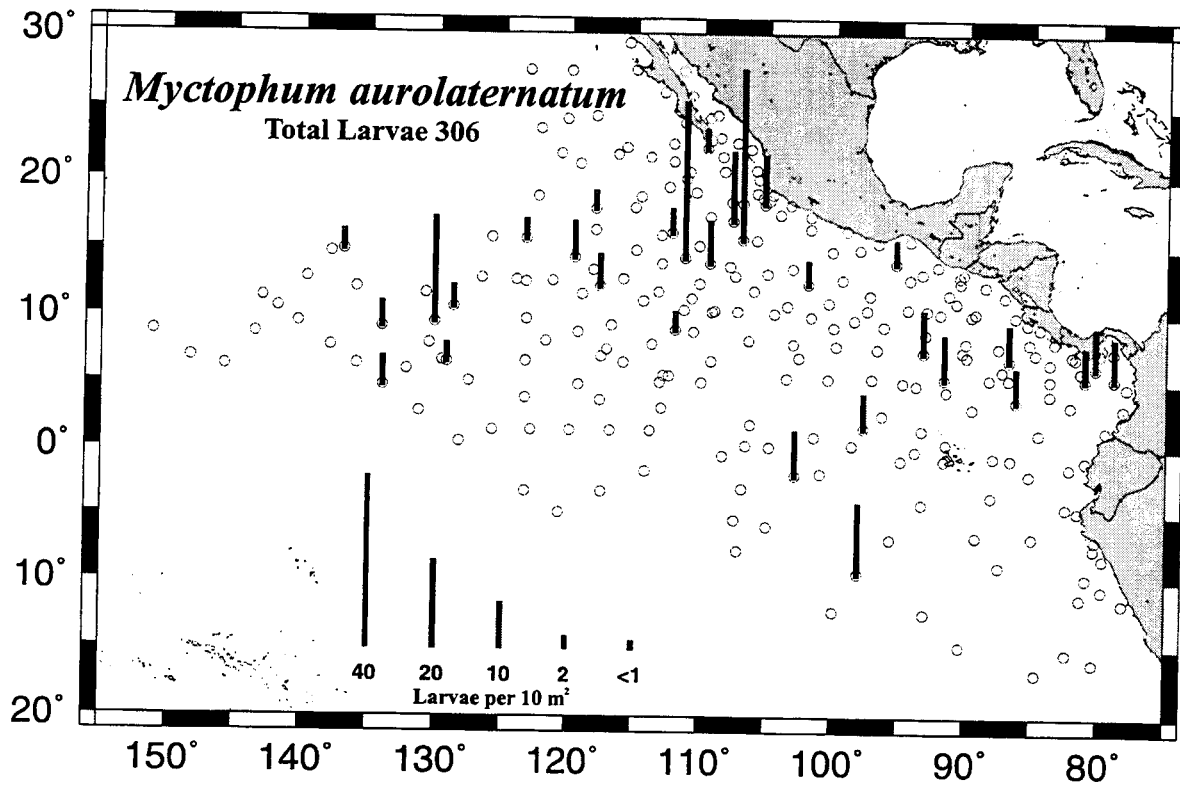


Figure 37. Distribution of *Myctophum aurolaternatum* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

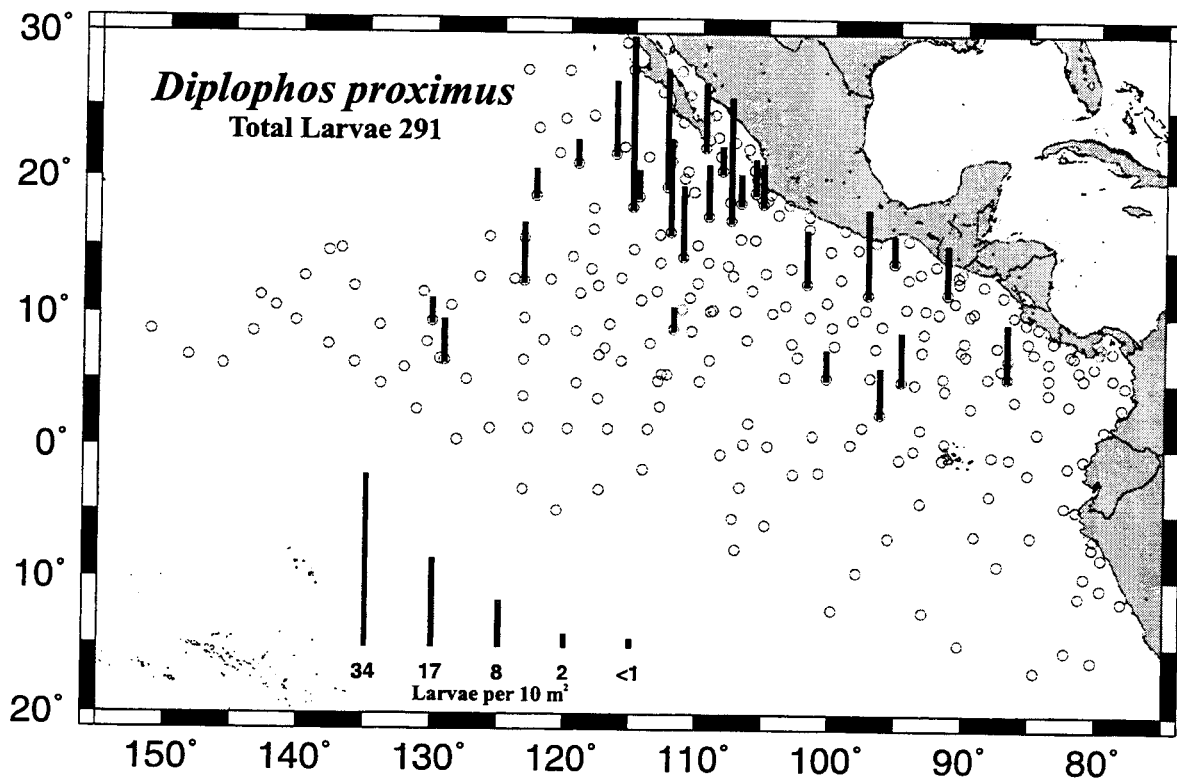


Figure 38. Distribution of *Diplophos proximus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

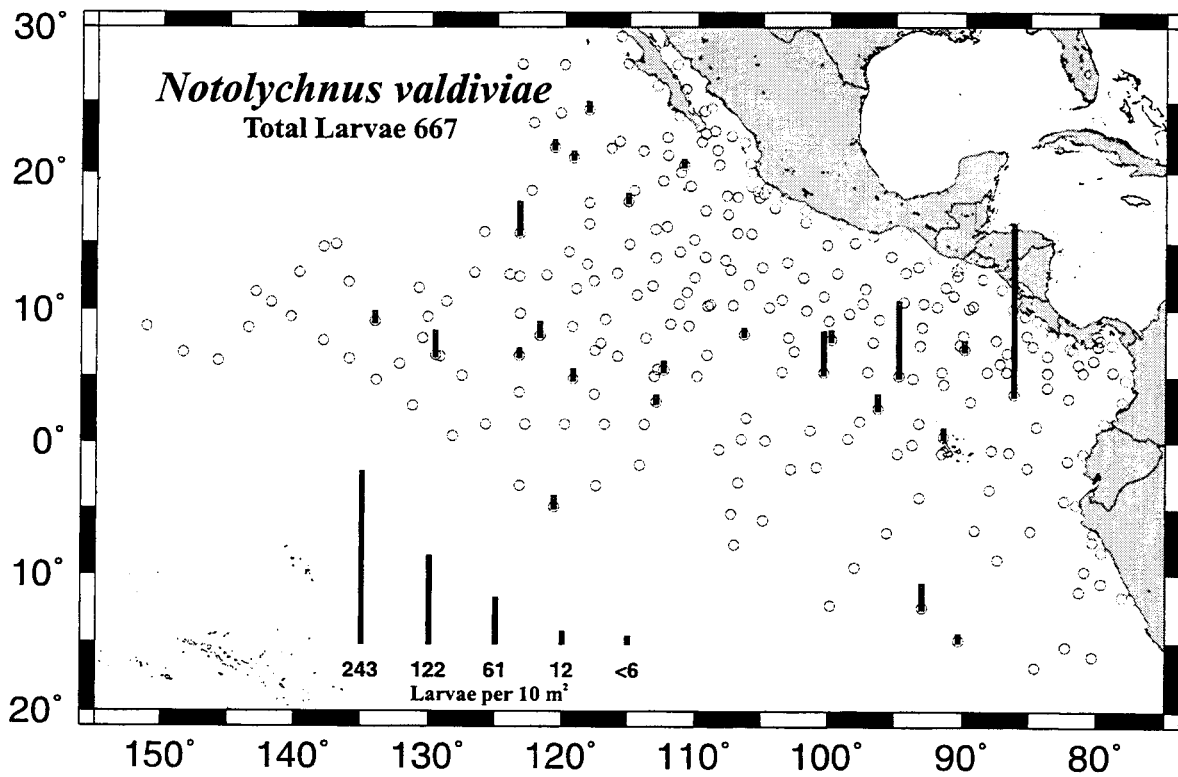


Figure 39. Distribution of *Notolychnus valdiviae* larvae from bongo net tows: 9810JD and 9810M4.

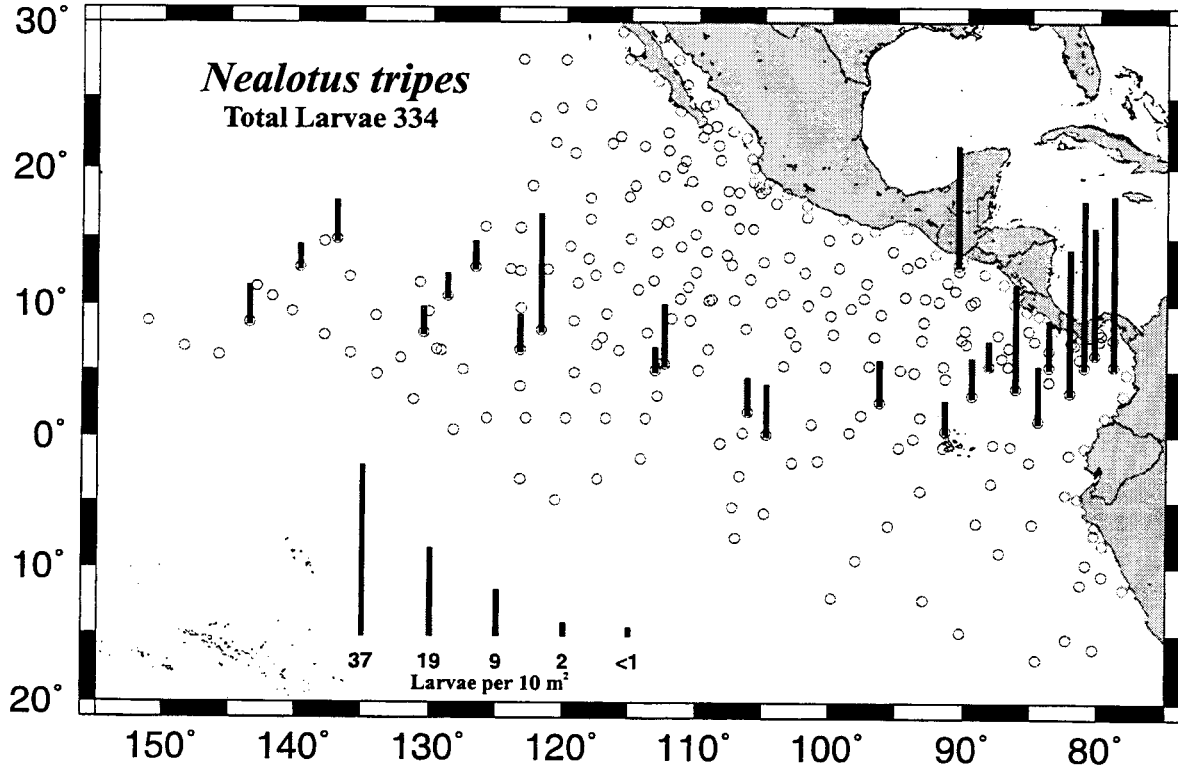


Figure 40. Distribution of *Nealotus tripes* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

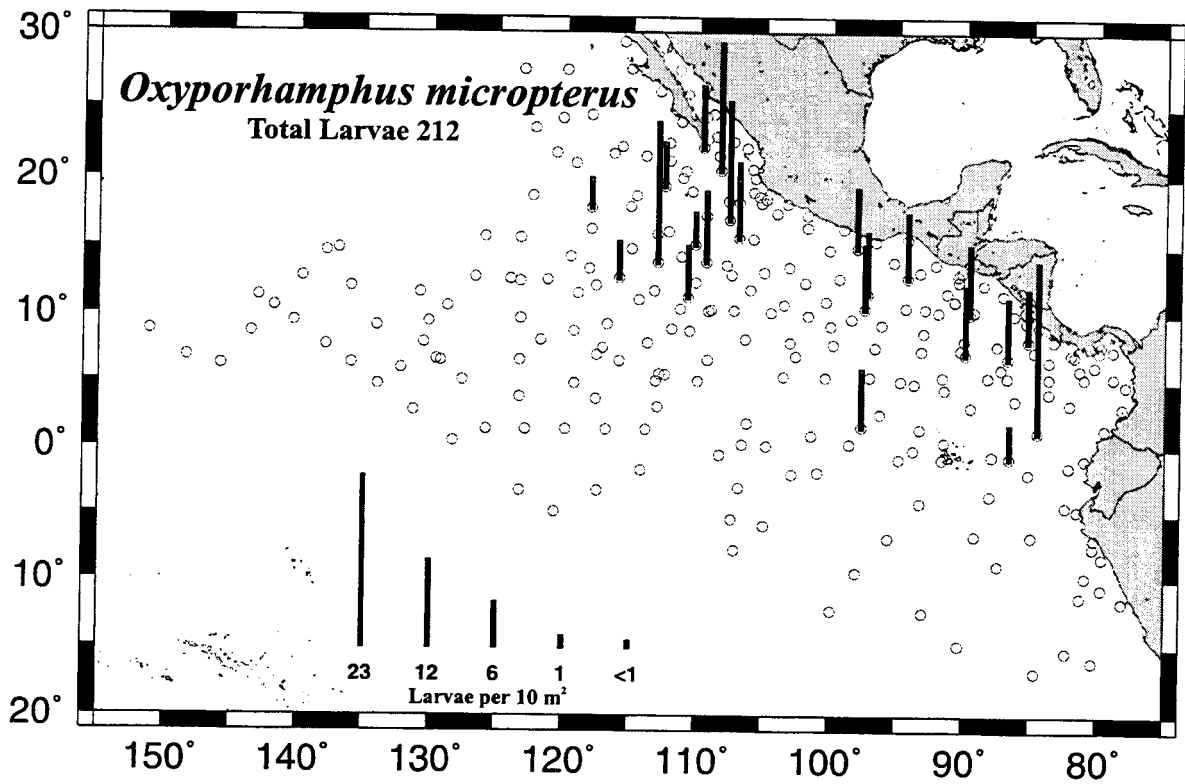


Figure 41. Distribution of *Oxyporhamphus micropterus* larvae from bongo net tows: 9810EN and 9810M4.

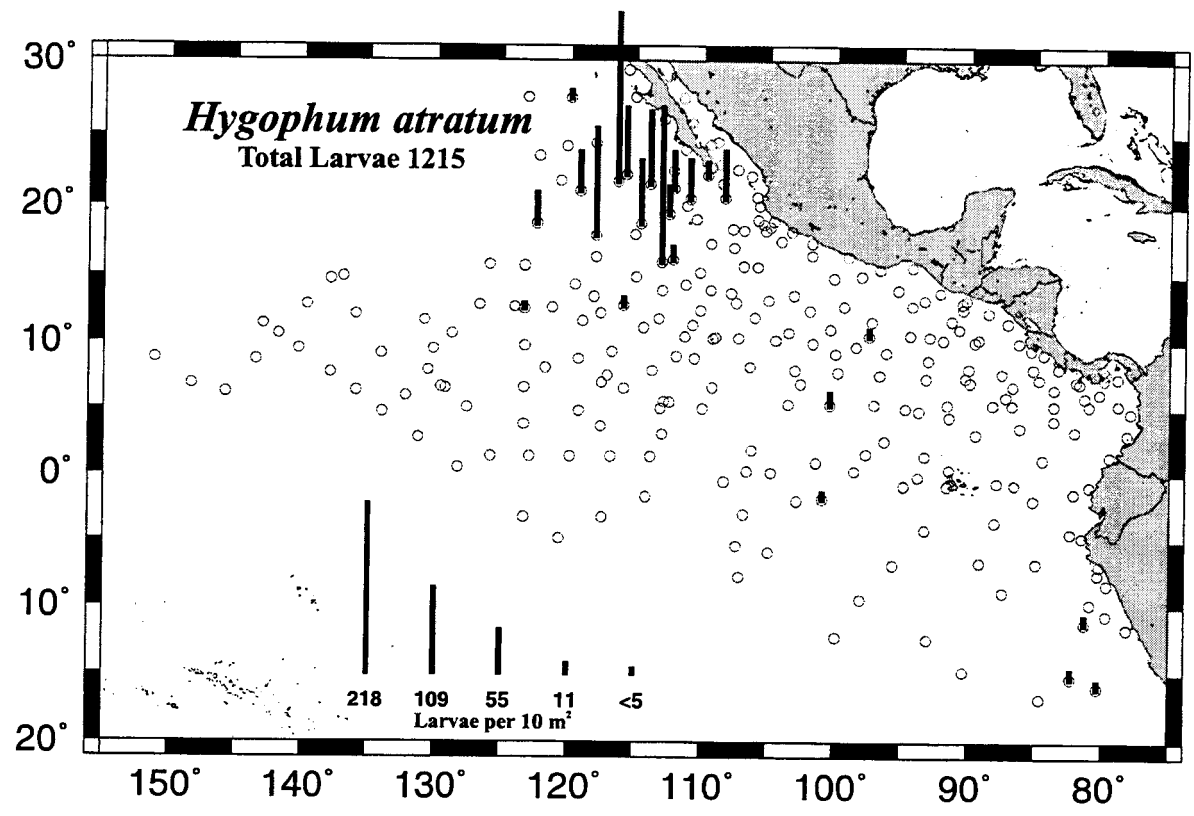


Figure 42. Distribution of *Hygophum atratum* larvae from bongo net tows: 9810EN and 9810M4.

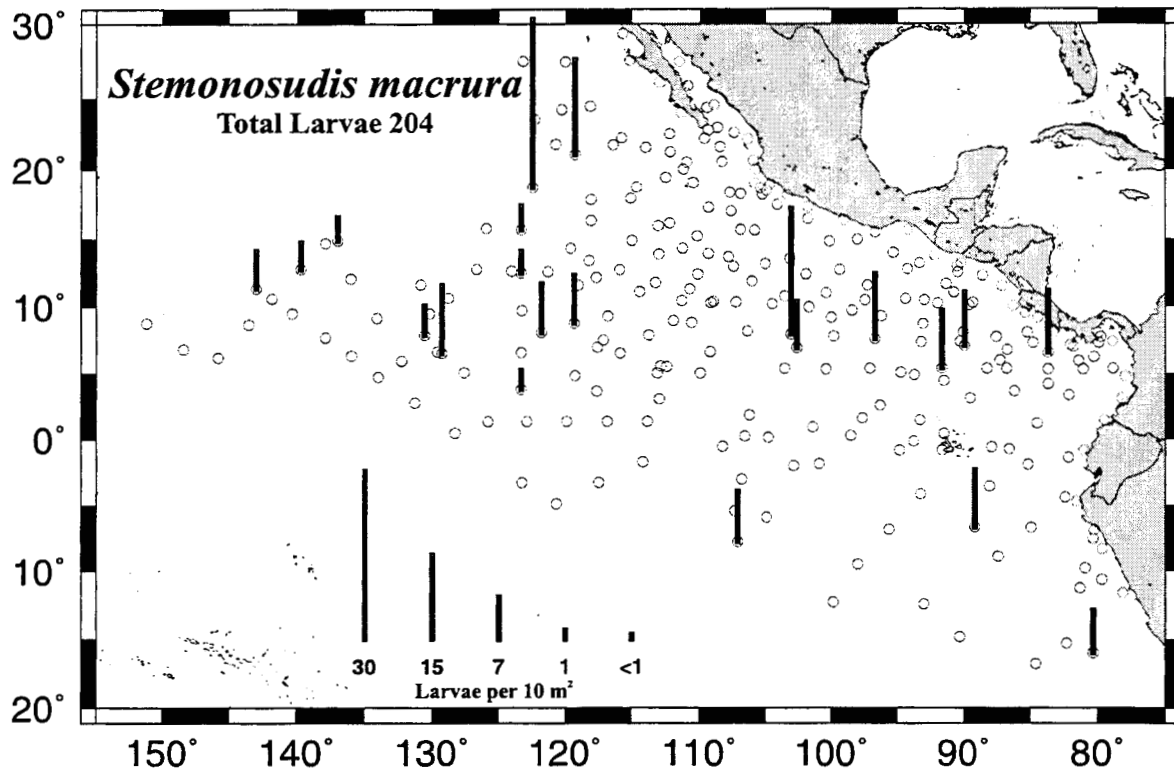


Figure 43. Distribution of *Stemonosudis macrura* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

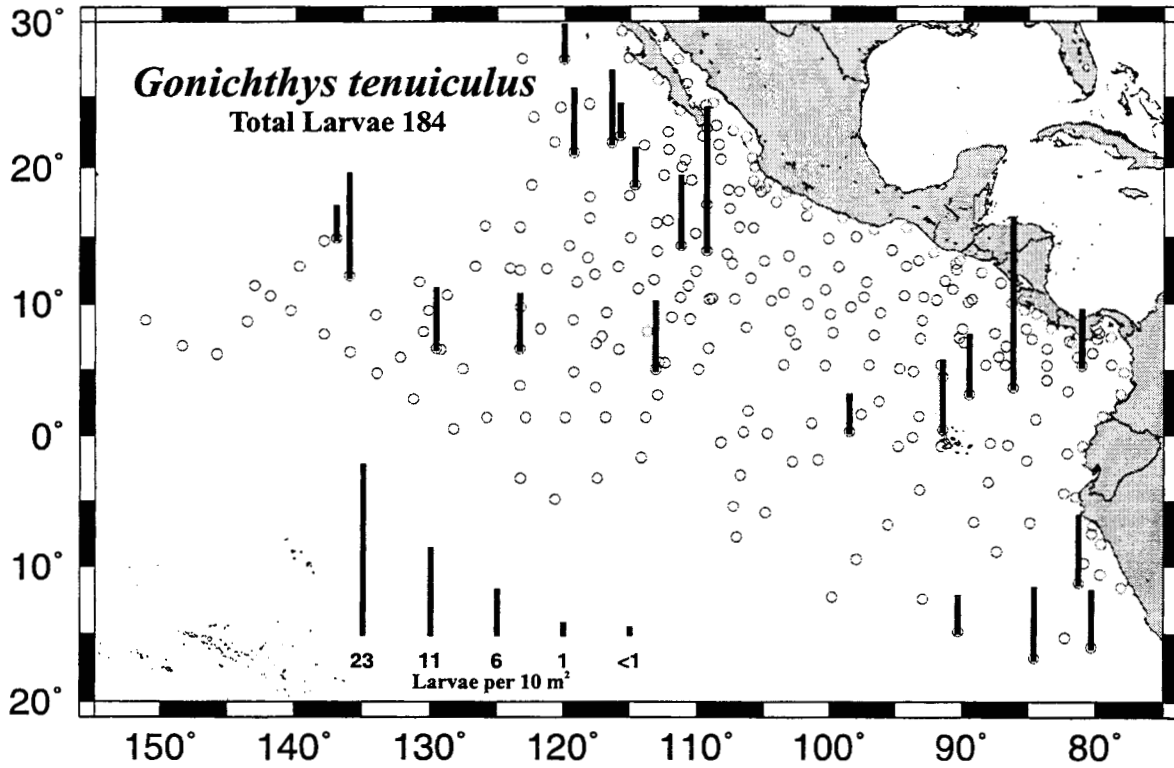


Figure 44. Distribution of *Gonichthys tenuiculus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

Table 1. Station and Manta net tow data for *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
1	1-001	7 44.0 N	79 48.1	3	EN	980730	2305	88.9	47	0
2	1-003	5 55.5 N	81 23.0	3	EN	980731	2146	103.4	13	28
3	1-005	4 10.4 N	83 41.6	3	EN	980801	2030	95.0	8	71
4	1-007	3 37.3 N	86 11.8	3	EN	980802	2153	89.5	7	54
5	1-010	1 35.2 N	97 41.5	4	EN	980805	2129	171.4	4	39
6	1-012	0 54.1 N	101 24.8	4	EN	980806	2124	105.6	3	11
7	1-014	0 07.3 N	104 49.2	4	EN	980807	2110	116.8	2	59
8	1-016	0 34.3 S	108 18.2	9	EN	980808	2115	128.4	1	139
9	1-020	1 43.3 S	114 11.6	10	EN	980810	2050	103.5	3	168
10	1-022	3 16.0 S	117 27.7	10	EN	980811	2053	115.0	2	63
11	1-024	4 53.7 S	120 41.8	10	EN	980812	2121	106.6	1	6
12	1-026	3 16.1 S	123 18.0	10	EN	980813	2130	122.5	3	3
14	1-030	0 27.2 N	128 16.6	6	EN	980815	2044	139.2	1	43
15	1-032	2 46.6 N	131 17.0	6	EN	980816	2103	112.2	0	3
16	1-034	4 43.3 N	134 01.7	6	EN	980817	2123	108.2	1	1
17	1-036	6 17.3 N	135 59.3	6	EN	980818	2127	80.4	0	1
18	1-038	7 40.3 N	137 55.7	6	EN	980819	2141	122.9	0	0
19	1-040	9 26.1 N	140 22.8	7	EN	980820	2133	83.5	1	0
20	1-042	11 19.6 N	143 02.4	7	EN	980821	2137	64.7	0	12
21	2-049	8 43.2 N	151 10.0	7	EN	980904	2030	97.3	0	0
22	2-051	6 47.2 N	148 23.7	7	EN	980905	2020	106.5	0	1
23	2-053	6 10.7 N	145 51.6	7	EN	980906	2107	102.2	0	0
24	2-055	8 38.7 N	143 32.6	7	EN	980907	2033	88.8	0	0
25	2-057	10 32.8 N	141 50.9	7	EN	980908	2058	18.7	0	0
26	2-059	12 46.4 N	139 44.6	6	EN	980909	2031	80.5	1	22
27	2-061	14 38.7 N	137 56.1	6	EN	980910	2120	91.6	1	2
28	2-063	12 03.9 N	136 02.0	6	EN	980911	2115	80.8	1	3
29	2-065	9 07.5 N	134 07.1	6	EN	980912	2127	72.6	7	1
30	2-067	5 55.2 N	132 15.1	6	EN	980913	2125	121.1	0	2
31	2-069	7 52.2 N	130 33.0	6	EN	980914	2049	77.6	2	1
32	2-071	10 36.3 N	128 46.3	6	EN	980915	2040	108.5	0	26
33	2-073	12 45.1 N	126 41.8	6	EN	980916	2022	106.1	0	14
34	2-075	12 35.8 N	124 02.9	5	EN	980917	2109	77.9	3	419
35	2-077	12 32.8 N	121 19.3	5	EN	980918	2116	95.5	1	228
36	2-079	13 22.0 N	118 12.0	5	EN	980919	2051	101.5	1	137
37	2-081	14 50.1 N	115 00.8	5	EN	980920	2040	69.5	0	46
38	2-083	16 06.2 N	112 14.8	2	EN	980921	2125	75.9	9	500
39	2-085	17 15.6 N	109 22.6	1	EN	980922	2110	94.2	9	29
40	2-087	18 14.0 N	106 57.3	1	EN	980923	2102	104.2	9	18
41		18 54.7 N	104 43.8	1	EN	980924	2213	85.7	40	43
42	3-089	19 00.9 N	105 52.0	1	EN	980930	2148	83.1	9	37
43	3-094	19 24.0 N	112 32.0	2	EN	981003	2117	105.7	2	26
44	3-096	17 56.0 N	115 06.9	2	EN	981004	2030	120.2	2	44
45	3-098	16 16.7 N	118 03.1	2	EN	981005	2046	90.8	1	5916
46	3-100	14 15.2 N	119 36.1	5	EN	981006	2048	72.1	1	22
47	3-102	12 08.7 N	117 39.3	5	EN	981007	2041	113.3	1	55
48	3-104	9 15.9 N	116 48.4	5	EN	981008	2044	63.2	1	0
49	3-106	6 56.3 N	117 34.8	5	EN	981009	2044	70.5	0	1

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
50	3-108	4 49.4 N	119 17.2	5	EN	981010	2043	38.4	0	0
51	3-110	3 37.4 N	117 37.9	5	EN	981011	2042	150.4	1	20
52	3-114	5 01.0 N	113 07.9	5	EN	981013	2019	100.9	1	10
53	3-118	10 44.3 N	103 33.0	4	EN	981016	1948	101.7	17	10
54	3-120	10 58.3 N	100 24.5	4	EN	981017	2046	103.9	10	149
55	3-122	10 26.7 N	97 28.9	4	EN	981018	2015	69.1	20	12
56	3-124	10 34.3 N	94 25.4	3	EN	981019	1959	101.8	6	21
57	3-126	10 12.5 N	91 59.4	3	EN	981020	2006	100.6	7	63
58		10 05.1 N	89 37.0	3	EN	981021	2042	132.0	147	224
59		8 03.9 N	85 13.7	3	EN	981029	1907	109.8	94	61
60		5 59.4 N	87 16.6	3	EN	981030	1904	114.1	3	10
61	4-131	3 04.8 N	89 28.6	3	EN	981131	2007	102.5	6	222
62	4-133	0 25.9 N	91 29.3	3	EN	981101	2008	163.5	0	8
63	4-135	4 09.8 S	93 15.3	8	EN	981104	2017	127.8	7	10671
64	4-137	6 51.6 S	95 39.9	9	EN	981105	2036	130.3	0	76
65	4-139	9 27.3 S	98 00.4	9	EN	981106	2046	87.8	0	3
66	4-141	12 15.4 S	99 51.7	9	EN	981107	2120	94.2	0	1
67	4-145	12 24.9 S	93 02.4	8	EN	981109	2031	112.7	2	8
68	4-147	14 49.2 S	90 20.6	8	EN	981110	2031	98.4	0	12
69	4-151	16 47.5 S	84 35.4	8	EN	981112	2015	114.2	1	22
70	4-153	15 19.3 S	82 18.4	8	EN	981113	2057	98.3	15	69
71	4-155	15 60.0 S	80 20.8	8	EN	981114	2100	106.1	26	52
72	5-156	11 35.2 S	78 10.1	8	EN	981121	2109	118.3	1	2047
73		10 37.4 S	79 43.0	8	EN	981122	2044	63.4	163	392
74	5-159	11 14.0 S	81 19.1	8	EN	981123	2055	106.1	42	423
75	5-161	9 44.6 S	80 53.8	8	EN	981124	2059	101.0	17	268
76	5-163	8 16.7 S	79 38.4	8	EN	981125	2035	90.8	0	0
78		6 54.4 S	80 14.3	8	EN	981127	2036	121.2	1	0
79	5-168	4 43.3 S	81 31.8	8	EN	981128	2046	80.3	4	3
81	5-172	6 40.2 S	84 56.9	8	EN	981230	2056	114.3	14	542
82	5-174	8 51.5 S	87 23.7	8	EN	981201	2124	82.9	1	273
83	5-176	6 38.6 S	89 08.8	8	EN	981202	2129	83.1	1	2677
84	5-178	3 34.3 S	88 01.8	8	EN	981203	2111	83.3	35	643
85	5-180	0 46.0 S	86 34.1	8	EN	981204	2104	153.7	11	211
86	5-182	1 12.1 N	84 30.1	3	EN	981205	2046	78.1	8	41
87	5-184	3 21.2 N	82 06.9	3	EN	981206	2041	65.0	10	248
1	1-001	29 23.9 N	115 40.7	2	JD	980801	2147	96.4	1	7
2	1-002	27 35.7 N	115 07.3	2	JD	980802	2135	125.5	14	69
3	1-004	26 02.3 N	112 57.0	2	JD	980803	2119	93.8	119	15
4	1-006	24 00.2 N	111 22.9	2	JD	980804	2113	122.2	3	2759
5	1-008	22 47.3 N	109 22.6	1	JD	980805	2107	90.6	40	807
6	1-010	24 30.3 N	108 55.8	1	JD	980806	2107	124.0	45	780
7	1-012	27 31.0 N	111 30.3	2	JD	980809	2144	90.2	48	208
8	1-014	25 51.3 N	110 51.3	2	JD	980810	2103	116.7	171	143
9	1-016	24 20.9 N	109 29.0	1	JD	980811	2107	103.4	27	94
10	1-018	22 56.5 N	108 42.3	1	JD	980812	2221	112.8	18	469
11		22 36.2 N	107 25.7	1	JD	980813	2137	101.1	136	514
12	2-020	22 09.5 N	106 24.0	1	JD	980818	2058	88.7	31	112
13	2-021	20 39.9 N	105 58.3	1	JD	980819	2134	43.6	12	36
14	2-023	21 36.9 N	108 30.3	1	JD	980820	2143	95.8	34	56



Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
15	2-025	19 59.5 N	105 47.2	1	JD	980821	2124	73.3	22	133
16	2-027	18 09.7 N	103 22.0	1	JD	980822	2125	74.0	32	0
17	2-030	17 19.3 N	101 48.4	1	JD	980823	2106	90.7	95	31
18		16 21.5 N	99 05.9	1	JD	980824	2110	100.3	7	2405
19	2-032	15 27.8 N	96 43.9	1	JD	980825	2056	78.0	11	168
20	2-034	15 34.4 N	94 16.7	1	JD	980826	2028	92.6	12	594
21	2-036	13 44.2 N	92 12.5	3	JD	980827	2033	92.7	1025	35
22	2-038	11 02.3 N	90 46.5	3	JD	980828	2015	79.1	19	8
23	2-040	12 30.6 N	90 27.7	3	JD	980829	2007	88.0	22	0
24	2-042	13 10.3 N	90 12.7	3	JD	980830	2006	74.5	9	0
25	2-043	12 15.7 N	88 35.2	3	JD	980831	2212	77.4	115	1
26	2-045	11 31.2 N	87 08.7	3	JD	980901	2104	89.2	34	5
27	2-047	10 02.4 N	86 19.0	3	JD	980902	2107	69.7	3	11
28	2-049	9 09.2 N	84 26.8	3	JD	980903	2030	94.7	14	25
29	2-051	8 05.9 N	83 20.5	3	JD	980904	2046	73.4	10	305
30	2-053	7 09.4 N	82 02.1	3	JD	980905	2052	106.4	25	59
31	2-055	7 17.0 N	79 56.8	3	JD	980906	2038	87.9	122	64
32		8 00.7 N	79 59.7	3	JD	980912	2028	120.7	54	1
33	3-058	6 58.1 N	81 48.4	3	JD	980913	2040	106.8	60	9
34	3-060	7 16.4 N	84 48.9	3	JD	980914	2110	74.9	3	113
35	3-062	7 41.6 N	87 32.6	3	JD	980915	2054	72.2	4	8
36	3-064	8 02.6 N	90 02.0	3	JD	980916	2112	76.3	5	3
37	3-066	8 41.6 N	93 04.8	3	JD	980917	2124	74.8	3	7
38	3-068	9 16.7 N	96 14.7	4	JD	980918	2143	80.6	4	1
39	3-070	9 41.4 N	98 28.9	4	JD	980919	2044	68.7	6	20
40	3-072	9 55.8 N	101 42.6	4	JD	980920	2050	79.5	2	7
41	3-074	10 10.9 N	104 31.5	4	JD	980921	2106	114.9	2	4
42	3-076	10 18.6 N	107 17.2	4	JD	980922	2109	95.1	1	17
43	3-078	10 15.4 N	109 12.2	4	JD	980923	2119	103.7	2	190
44	3-080	10 25.3 N	111 18.8	5	JD	980924	2126	119.7	8	92
45	3-082	11 03.8 N	114 24.0	5	JD	980925	2135	85.1	5	31
46	3-084	11 45.8 N	113 15.0	5	JD	980926	2141	97.9	0	48
47	3-086	12 22.9 N	110 09.4	5	JD	980927	2132	73.9	1	39
48	3-088	12 56.1 N	107 30.4	4	JD	980928	2107	115.7	4	302
49	3-090	15 34.4 N	105 53.2	1	JD	980929	2106	90.5	3	105
50		18 30.0 N	104 58.8	1	JD	980930	2112	93.3	38	183
51	4-102	1 48.7 N	106 17.5	4	JD	981010	2252	73.4	6	1
52	4-104	0 13.5 N	106 35.6	4	JD	981011	2054	131.2	1	8
53	4-106	3 03.6 S	106 52.4	9	JD	981012	2119	118.5	1	285
54	4-108	5 26.0 S	107 23.8	9	JD	981013	2105	101.7	0	21
55	4-110	7 46.0 S	107 08.8	9	JD	981014	2112	99.5	2	5
56	4-112	5 55.8 S	104 57.5	9	JD	981015	2111	97.8	3	13
57	4-114	2 01.8 S	102 52.9	9	JD	981016	2050	103.8	1	2557
58	4-116	1 53.3 S	100 55.9	9	JD	981017	2043	115.2	2	303
59	4-118	0 15.6 N	98 35.0	4	JD	981018	2016	107.5	0	242
60	4-120	2 32.9 N	96 18.9	4	JD	981019	2019	92.6	9	47
61	4-122	4 52.1 N	93 47.0	3	JD	981020	2006	93.2	9	22
62		9 30.1 N	85 21.7	3	JD	981029	1941	71.6	54	63
63	5-130	10 16.3 N	89 17.4	3	JD	981031	2011	47.7	8	20
64	5-132	7 23.4 N	90 17.7	3	JD	981101	2006	74.0	12	4

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
65	5-134	4 25.3 N	91 29.7	3	JD	981102	2010	73.3	3	153
66	5-136	1 26.6 N	93 19.6	3	JD	981103	2007	86.8	12	108
67	5-138	0 51.4 S	94 51.4	8	JD	981104	2034	94.6	2	14
68	5-140	0 11.3 S	93 47.3	8	JD	981105	2036	94.7	0	1583
69	5-142	0 50.7 S	91 39.2	8	JD	981106	2035	68.8	4	0
70	5-144	0 36.0 S	87 52.9	8	JD	981108	2010	81.6	96	6123
71	5-146	1 56.9 S	85 09.6	8	JD	981109	2051	64.1	21	117
72	5-148	1 22.5 S	82 09.8	8	JD	981110	2035	79.3	13	4035
73		0 50.7 S	81 00.6	8	JD	981111	2040	77.3	131	116
74	5-151	1 25.4 N	79 31.0	3	JD	981112	2049	67.1	49	6
75	5-153	3 05.1 N	78 10.8	3	JD	981113	2038	74.1	96	9
76	5-154	4 44.1 N	77 56.2	3	JD	981114	2007	66.0	3	10
77	6-160	10 27.1 N	92 59.9	3	JD	981126	1952	49.5	18	204
78	6-164	17 28.5 N	104 09.4	1	JD	981130	2034	100.2	41	3054
79	6-166	18 20.8 N	107 47.3	1	JD	981201	2006	86.7	23	102
80	6-168	19 01.9 N	110 28.1	2	JD	981202	2035	75.5	2	1054
81	6-169	20 00.6 N	111 12.3	2	JD	981203	2009	97.5	4	10
82	6-171	22 30.2 N	112 12.9	2	JD	981204	2006	90.1	4	89
1		27 28.8 N	119 59.0	2	M4	980801	2104	142.6	0	77
2	1-003	24 27.0 N	118 05.3	2	M4	980802	2159	134.6	0	7
3	1-005	21 44.6 N	116 25.7	2	M4	980803	2119	130.6	9	1147
4	1-007	18 43.5 N	114 39.2	2	M4	980804	2114	129.1	2	9388
5	1-009	15 55.0 N	113 02.3	2	M4	980805	2103	120.9	2	1000
6	1-011	14 17.6 N	111 15.0	5	M4	980806	2035	124.6	18	2002
7		13 54.8 N	109 22.6	4	M4	980807	2019	122.6	6	73
8	1-014	13 38.3 N	107 53.8	4	M4	980808	2029	124.3	10	17
9	1-016	13 07.5 N	105 03.4	4	M4	980809	2020	130.7	2	21
10	1-018	12 23.8 N	101 58.1	4	M4	980810	2021	121.8	2	435
11	1-020	12 43.5 N	99 22.5	4	M4	980811	1943	145.8	18	287
12	1-022	14 55.2 N	98 03.9	4	M4	980812	2102	125.7	34	8
13	1-024	13 57.3 N	95 21.0	4	M4	980813	2042	136.4	13	96
14	1-026	13 12.4 N	93 23.1	3	M4	980814	2014	138.1	94	6
15	2-028	12 56.6 N	90 32.1	3	M4	980821	2018	141.1	22	5
16	2-030	11 41.0 N	91 19.1	3	M4	980822	1959	149.7	12	2
17	2-032	12 45.0 N	94 18.9	3	M4	980823	2007	135.0	6	4
18	2-034	11 34.5 N	97 18.2	4	M4	980824	2038	144.3	0	11
19	2-036	9 10.4 N	100 01.4	4	M4	980825	2121	168.8	9	14
20	2-038	6 54.5 N	102 38.3	4	M4	980826	2049	137.8	6	7
21	2-040	5 19.1 N	103 33.2	4	M4	980827	2047	120.4	7	0
22	2-042	5 18.4 N	100 25.4	4	M4	980828	2035	123.7	2	0
23	2-044	5 19.6 N	97 05.3	4	M4	980829	2021	143.8	2	1
24	2-046	5 02.8 N	94 47.2	3	M4	980830	2029	128.2	1	5
25	2-048	5 19.6 N	91 38.5	3	M4	980831	1955	146.6	0	1
26	2-050	5 20.1 N	88 15.1	3	M4	980901	1938	117.2	0	60
27		5 19.6 N	86 47.6	3	M4	980902	1949	130.2	8	16
28	2-053	5 17.3 N	83 40.8	3	M4	980903	1955	126.7	6	120
29	2-054	5 17.7 N	81 02.4	3	M4	980904	2113	148.0	58	222
30	2-056	5 20.0 N	78 53.9	3	M4	980905	2004	146.9	11	4940
31		7 23.2 N	78 55.9	3	M4	980906	2004	135.4	17	157
32	3-060	6 13.1 N	80 16.7	3	M4	980913	2004	146.7	17	309

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
33	3-062	6 33.0 N	83 41.0	3	M4	980914	2014	126.1	12	5685
34	3-064	6 44.0 N	86 44.7	3	M4	980915	2025	123.8	6	0
35	3-066	7 03.7 N	89 57.0	3	M4	980916	2042	126.1	0	0
36	3-068	7 18.5 N	93 13.1	3	M4	980917	1946	124.5	3	21
37	3-070	7 34.0 N	96 42.6	4	M4	980918	2002	122.5	2	5
38	3-072	7 45.0 N	99 49.3	4	M4	980919	2016	125.5	4	12
39	3-074	7 54.8 N	103 03.3	4	M4	980920	2035	130.0	1	1
40	3-076	8 08.3 N	106 23.8	4	M4	980921	2046	137.6	0	11
41	3-078	6 37.5 N	109 13.4	4	M4	980922	2048	153.0	2	26
42	3-080	5 00.0 N	109 58.9	4	M4	980923	2010	142.1	9	0
43	3-082	5 30.8 N	112 52.7	5	M4	980924	2006	133.5	7	108
44	3-084	6 29.7 N	115 52.1	5	M4	980925	2044	118.4	111	6
45	3-086	7 27.5 N	117 07.5	5	M4	980927	2038	113.6	17	1
46	3-088	7 52.4 N	113 43.4	5	M4	980928	2028	127.6	2	0
47	3-090	8 46.4 N	110 34.5	5	M4	980929	2004	114.9	1	4
48	3-092	10 23.4 N	108 58.2	4	M4	981001	1957	137.1	7	163
49	3-094	11 50.1 N	106 04.4	4	M4	981002	1939	149.7	3	73
50	3-096	13 30.9 N	103 09.0	4	M4	981003	1925	146.7	7	14
51	3-098	14 48.0 N	100 10.7	4	M4	981004	2027	105.0	31	2957
52	3-100	16 27.3 N	101 48.9	1	M4	981005	2040	107.0	24	321
53	4-102	18 12.0 N	105 19.1	1	M4	981012	2150	106.2	9	229
54	4-104	15 39.2 N	106 58.5	1	M4	981013	2159	130.9	46	428
55	4-106	11 16.0 N	110 43.8	5	M4	981015	2125	111.0	2	18
56	4-108	8 55.8 N	111 55.5	5	M4	981016	2128	149.9	2	2
57	4-110	5 30.5 N	112 26.5	5	M4	981017	2127	134.1	19	5
58	4-112	3 04.1 N	112 57.3	5	M4	981018	2139	140.0	2	136
59	4-114	1 20.1 N	113 51.4	5	M4	981019	2124	118.0	0	4
60	4-116	1 20.0 N	116 49.5	5	M4	981020	2041	133.3	0	12
61	4-118	1 21.4 N	119 52.9	5	M4	981021	2049	131.8	0	9
62	4-120	1 20.1 N	122 54.4	5	M4	981022	2109	135.0	0	39
63	4-122	3 45.8 N	123 21.2	5	M4	981023	2112	134.5	0	10
64	4-124	6 33.0 N	123 19.7	5	M4	981024	2106	142.5	1	1206
65	4-126	9 42.2 N	123 18.3	5	M4	981025	2107	131.9	1	18
66	4-128	12 29.4 N	123 21.1	5	M4	981026	2101	134.9	2	11
67	4-130	15 37.9 N	123 19.8	2	M4	981027	2052	122.7	0	32
68	4-132	18 44.0 N	122 28.2	2	M4	981028	2041	132.0	20	128
69	4-134	21 47.1 N	120 42.2	2	M4	981029	2032	136.8	8	0
70	4-136	21 04.4 N	119 16.2	2	M4	981030	2031	145.1	16	105
71	4-138	17 51.3 N	118 03.2	2	M4	981031	2040	133.3	3	103
72	4-142	22 15.4 N	115 46.6	2	M4	981102	2011	143.9	0	601
73	4-144	21 32.6 N	113 59.9	2	M4	981103	2004	135.3	4	5153
74	4-146	21 15.5 N	112 10.6	2	M4	981104	1954	124.6	4	259
75	4-148	20 29.7 N	110 59.7	2	M4	981105	1951	146.0	7	168
76	4-150	22 10.1 N	109 40.8	1	M4	981106	1947	134.9	4	323
77	4-152	20 34.0 N	108 22.5	1	M4	981107	1935	128.4	4	394
78	5-154	18 39.5 N	105 26.2	1	M4	981114	2027	124.7	10	124
79	5-156	16 59.6 N	107 39.8	1	M4	981115	2039	145.3	15	211
80	5-158	15 09.3 N	110 12.8	2	M4	981116	2054	128.0	2	27
81	5-160	13 51.7 N	113 00.4	5	M4	981117	2003	140.7	9	123
82	5-162	12 43.6 N	115 55.4	5	M4	981118	2017	127.7	9	132

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m <sup>3</sup> ) Water Strained	Total Larvae	Total Eggs
83	5-164	11 32.5 N	119 00.2	5	M4	981119	2031	146.0	3	117
84	5-166	8 44.2 N	119 19.5	5	M4	981120	2038	148.3	1	5
85	5-168	8 03.8 N	121 46.3	5	M4	981121	2050	139.2	1	5
86	5-170	6 37.5 N	129 36.8	6	M4	981122	2109	127.9	0	1
87	5-172	5 02.8 N	127 36.9	6	M4	981123	2126	152.1	3	24
88	5-174	6 29.5 N	129 15.6	6	M4	981124	2129	132.7	0	35
89	5-176	9 27.0 N	130 11.9	6	M4	981125	2141	120.1	2	12
90	5-178	11 35.9 N	130 51.6	6	M4	981126	2020	128.4	0	149
91	5-180	14 50.8 N	136 59.9	6	M4	981127	2020	148.4	0	13
92	5-182	15 42.9 N	125 58.2	6	M4	981131	1957	118.3	0	3
93	5-184	23 31.4 N	122 19.2	2	M4	981203	1945	131.9	8	0
94	5-185	24 12.7 N	120 15.9	2	M4	981204	1920	149.6	4	6
95	5-187	27 32.8 N	123 11.1	2	M4	981206	1923	145.9	3	2

Table 2. Pooled occurrences of fish larvae taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Rank	Taxon	Occurrences
1	<i>Oxyporhamphus micropterus</i>	103
2	<i>Vinciguerrria lucetia</i>	76
3	<i>Auxis</i> spp.	67
4	<i>Coryphaena equiselis</i>	43
5	<i>Prognichthys</i> spp.	42
6	<i>Cubiceps pauciradiatus</i>	34
7	<i>Coryphaena hippurus</i>	23
8	<i>Mugil</i> spp.	20
9	<i>Cheilopogon xenopterus</i>	19
10	<i>Caranx caballus</i>	18
11	<i>Thunnus</i> spp.	17
12	<i>Hirundichthys</i> spp.	14
12	<i>Opisthonema</i> spp.	14
14	<i>Polydactylus approximans</i>	12
15	Gerreidae	11
15	<i>Euthynnus lineatus</i>	11
17	<i>Cetengraulis mysticetus</i>	10
17	<i>Naucrates ductor</i>	10
17	<i>Exocoetus</i> spp.	10
17	Scomberesocidae	10
21	<i>Hirundichthys marginatus</i>	8
21	Gobiidae	8
21	<i>Diplophos proximus</i>	8
21	<i>Lestidium</i> spp.	8
25	<i>Canthidermis maculatus</i>	7
26	<i>Caranx sexfasciatus</i>	6
26	<i>Benthoosema panamense</i>	6
26	<i>Cyclothone</i> spp.	6
29	<i>Trachinotus kennedyi</i>	5
29	Sciaenidae	5
29	<i>Oneirodes</i> spp.	5
29	<i>Anchoa</i> spp.	5
33	Haemulidae	4
33	<i>Lampanyctus</i> spp.	4
33	<i>Lampanyctus parvicauda</i>	4
33	<i>Lactoria diaphana</i>	4
33	<i>Synodus</i> spp.	4
33	<i>Microspathodon</i> spp.	4
39	<i>Haemulon</i> spp.	3
39	<i>Lobotes surinamensis</i>	3
39	<i>Lutjanus</i> spp.	3
39	<i>Caranx</i> spp.	3
39	<i>Chloroscombrus orqueta</i>	3
39	<i>Cyclothone acclinidens</i>	3
39	<i>Ariosoma gilberti</i>	3
39	<i>Elassichthys adocetus</i>	3
39	Carangidae	3
39	<i>Bregmaceros</i> spp.	3
39	<i>Diaphus</i> spp.	3

Table 2. (cont.)

Rank	Taxon	Occurrences
39	<i>Ceratoscopelus warmingii</i>	3
39	<i>Exocoetus monocirrhus</i>	3
39	<i>Cheilopogon pinnatibarbus</i>	3
39	<i>Selar crumenophthalmus</i>	3
39	<i>Entomacrodus chiostictus</i>	3
39	<i>Symphurus</i> spp.	3
39	<i>Scomber japonicus</i>	3
39	Disintegrated fish larvae	3
39	<i>Bothus</i> spp.	3
59	<i>Citharichthys platophrys</i>	2
59	<i>Diplophos taenia</i>	2
59	<i>Howella pammelas</i>	2
59	Exocoetidae	2
59	<i>Synodus evermanni</i>	2
59	<i>Bregmaceros bathymaster</i>	2
59	<i>Centropomus</i> spp.	2
59	Eleotridae	2
59	<i>Etropus crossotus</i>	2
59	Epinephelinae	2
59	<i>Triphoturus nigrescens</i>	2
59	<i>Trichiurus lepturus</i>	2
59	Istiophoridae	2
59	Mullidae	2
59	<i>Alectis ciliaris</i>	2
59	<i>Cololabis saira</i>	2
59	<i>Scomberomorus sierra</i>	2
59	Ophidiidae	2
59	<i>Syacium</i> spp.	2
59	<i>Trachinotus rhodopus</i>	2
59	<i>Xenistius californiensis</i>	2
59	<i>Kyphosus</i> spp.	2
59	<i>Lutjanus peru</i>	2
59	<i>Nematistius pectoralis</i>	2
59	Unidentified fish larvae	2
59	<i>Trachinotus paitensis</i>	2
59	<i>Chanos chanos</i>	2
59	<i>Hypsoblennius</i> spp.	2
59	<i>Oligoplites saurus</i>	2
59	<i>Hypsoblennius jenkinsi</i>	2
89	<i>Diodon</i> spp.	1
89	<i>Sternoptyx</i> spp.	1
89	<i>Hygophum atratum</i>	1
89	<i>Harengula thrissina</i>	1
89	<i>Hygophum proximum</i>	1
89	<i>Lactoria fornasini</i>	1
89	<i>Ophichthus zophochir</i>	1
89	<i>Psenes sio</i>	1
89	<i>Hygophum reinhardtii</i>	1
89	<i>Myctophum nitidulum</i>	1
89	<i>Symbolophorus evermanni</i>	1
89	<i>Psenes pellucidus</i>	1
89	Congridae	1

Table 2. (cont.)

Rank	Taxon	Occurrences
89	<i>Stemonosudis macrura</i>	1
89	<i>Synodus lacertinus</i>	1
89	<i>Engraulis mordax</i>	1
89	<i>Synodus scituliceps</i>	1
89	<i>Synodus sechurae</i>	1
89	<i>Lestidiops</i> spp.	1
89	Engraulidae	1
89	<i>Bathophilus filifer</i>	1
89	<i>Diogenichthys atlanticus</i>	1
89	<i>Syacium ovale</i>	1
89	<i>Perissias taeniopterus</i>	1
89	Balistidae	1
89	<i>Monolene</i> spp.	1
89	Tetraodontidae	1
89	<i>Balistes polylepis</i>	1
89	<i>Lestidiops neles</i>	1
89	<i>Halichoeres semicinctus</i>	1
89	<i>Istiophorus platypterus</i>	1
89	Priacanthidae	1
89	Apogonidae	1
89	<i>Phtheirichthys lineatus</i>	1
89	<i>Gymnothorax mordax</i>	1
89	<i>Elagatis bipinnulatus</i>	1
89	<i>Labrisomus multiporosus</i>	1
89	<i>Paralabrax</i> spp.	1
89	<i>Seriola rivoliana</i>	1
89	Serraninae	1
89	<i>Trachurus symmetricus</i>	1
89	Labridae	1
89	<i>Chromis punctipinnis</i>	1
89	Pomacentridae	1
89	<i>Polydactylus opercularis</i>	1
89	Chaetodontidae	1
89	<i>Eucinostomus</i> spp.	1
89	Kyphosidae	1
89	Scaridae	1
89	<i>Sphyræna</i> spp.	1
89	<i>Dolopichthys</i> spp.	1
89	<i>Nomeus gronovii</i>	1
89	<i>Gobiesox eugrammus</i>	1
89	<i>Hemiramphus saltator</i>	1
89	<i>Cheilopogon heterurus</i>	1
89	<i>Nealotus tripes</i>	1
89	<i>Sphyræna argentea</i>	1
89	<i>Pronotogrammus multifasciatus</i>	1
89	<i>Fodiator acutus</i>	1
89	<i>Lepophidium</i> spp.	1
89	<i>Chaetodipterus zonatus</i>	1
89	<i>Microdesmus</i> spp.	1
89	<i>Myripristis leiognathos</i>	1
89	<i>Sargocentron suborbitalis</i>	1
89	<i>Scorpaena</i> spp.	1

Table 2. (cont.)

Rank		Taxon	Occurrences
89		<i>Scorpaena guttata</i>	1
89		<i>Scorpaenodes xyris</i>	1
89		Triglidae	1
89		<i>Exocoetus volitans</i>	1
		Total	854



Table 3. Pooled raw counts of fish larvae taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Rank	Taxon	Count
1	<i>Opisthonema</i> spp.	990
2	<i>Vinciguerria lucetia</i>	630
3	<i>Oxyporhamphus micropterus</i>	444
4	<i>Auxis</i> spp.	418
5	<i>Prognichthys</i> spp.	289
6	<i>Cetengraulis mysticetus</i>	199
7	<i>Mugil</i> spp.	180
8	<i>Coryphaena equiselis</i>	178
9	<i>Anchoa</i> spp.	164
10	<i>Cubiceps pauciradiatus</i>	122
11	Sciaenidae	81
12	Gerreidae	73
12	<i>Benthoosema panamense</i>	73
14	<i>Polydactylus approximans</i>	68
15	Scomberesocidae	59
16	<i>Coryphaena hippurus</i>	51
17	<i>Thunnus</i> spp.	47
18	Engraulidae	46
19	<i>Caranx caballus</i>	41
20	<i>Cheilopogon xenopterus</i>	40
21	<i>Scomber japonicus</i>	38
22	<i>Trachinotus kennedyi</i>	30
22	<i>Pronotogrammus multifasciatus</i>	30
24	Gobiidae	29
25	<i>Euthynnus lineatus</i>	25
26	<i>Hirundichthys</i> spp.	18
26	<i>Trichiurus lepturus</i>	18
28	<i>Polydactylus opercularis</i>	16
28	<i>Naucrates ductor</i>	16
30	<i>Canthidermis maculatus</i>	15
30	<i>Scomberomorus sierra</i>	15
32	<i>Exocoetus</i> spp.	13
32	Carangidae	13
32	<i>Ceratoscopelus warmingii</i>	13
35	<i>Chloroscombrus orqueta</i>	12
36	<i>Lestidium</i> spp.	11
36	Haemulidae	11
36	<i>Diplophos proximus</i>	11
39	<i>Cyclothone</i> spp.	10
40	<i>Lobotes surinamensis</i>	9
40	<i>Haemulon</i> spp.	9
42	<i>Hemiramphus saltator</i>	8
42	<i>Hirundichthys marginatus</i>	8
44	<i>Hypsoblennius jenkinsi</i>	7
44	<i>Bregmaceros</i> spp.	7
44	<i>Diaphus</i> spp.	7
44	<i>Centropomus</i> spp.	7
48	<i>Chanos chanos</i>	6
48	<i>Entomacrodus chiostictus</i>	6

Table 3. (cont.)

Rank	Taxon	Count
48	Serraninae	6
48	<i>Caranx sexfasciatus</i>	6
48	<i>Selar crumenophthalmus</i>	6
53	<i>Oneirodes</i> spp.	5
53	Kyphosidae	5
53	<i>Citharichthys platophrys</i>	5
53	<i>Cololabis saira</i>	5
53	<i>Paralabrax</i> spp.	5
53	<i>Synodus</i> spp.	5
53	<i>Lampanyctus parvicauda</i>	5
53	<i>Elassichthys adocetus</i>	5
61	<i>Trachinotus rhodopus</i>	4
61	<i>Synodus scituliceps</i>	4
61	<i>Microspathodon</i> spp.	4
61	<i>Bothus</i> spp.	4
61	<i>Lutjanus</i> spp.	4
61	<i>Cyclothone acclinidens</i>	4
61	<i>Lactoria diaphana</i>	4
61	<i>Lampanyctus</i> spp.	4
61	<i>Synodus evermanni</i>	4
61	<i>Caranx</i> spp.	4
71	<i>Howella pammelas</i>	3
71	<i>Bregmaceros bathymaster</i>	3
71	<i>Cheilopogon pinnatibarbatus</i>	3
71	Disintegrated fish larvae	3
71	<i>Eucinostomus</i> spp.	3
71	<i>Oligoplites saurus</i>	3
71	<i>Exocoetus monocirrhus</i>	3
71	<i>Ariosoma gilberti</i>	3
71	<i>Symphurus</i> spp.	3
71	<i>Chromis punctipinnis</i>	3
71	<i>Trachinotus paitensis</i>	3
71	<i>Engraulis mordax</i>	3
71	<i>Psenes sio</i>	3
71	<i>Trachurus symmetricus</i>	3
85	Ophidiidae	2
85	<i>Triphoturus nigrescens</i>	2
85	<i>Hypsoblennius</i> spp.	2
85	<i>Balistes polylepis</i>	2
85	Unidentified fish larvae	2
85	Exocoetidae	2
85	Mullidae	2
85	<i>Synodus lacertinus</i>	2
85	<i>Diplophos taenia</i>	2
85	Istiophoridae	2
85	<i>Chaetodipterus zonatus</i>	2
85	<i>Halichoeres semicinctus</i>	2
85	<i>Etropus crossotus</i>	2
85	<i>Nematistius pectoralis</i>	2
85	<i>Kyphosus</i> spp.	2
85	Epinephelinae	2

Table 3. (cont.)

Rank	Taxon	Count
85	<i>Alectis ciliaris</i>	2
85	<i>Myripristis leiognathos</i>	2
85	<i>Syacium</i> spp.	2
85	<i>Xenistius californiensis</i>	2
85	<i>Lutjanus peru</i>	2
85	Eleotridae	2
107	<i>Exocoetus volitans</i>	1
107	<i>Bathophilus filifer</i>	1
107	<i>Fodiator acutus</i>	1
107	<i>Cheilopogon heterurus</i>	1
107	<i>Syacium ovale</i>	1
107	<i>Monolene</i> spp.	1
107	<i>Lepophidium</i> spp.	1
107	<i>Synodus sechurae</i>	1
107	<i>Harengula thrissina</i>	1
107	<i>Sternoptyx</i> spp.	1
107	<i>Dolopichthys</i> spp.	1
107	<i>Perissias taeniopterus</i>	1
107	<i>Nomeus gronovii</i>	1
107	<i>Microdesmus</i> spp.	1
107	<i>Sphyaena argentea</i>	1
107	<i>Sphyaena</i> spp.	1
107	Triglidae	1
107	<i>Scorpaena guttata</i>	1
107	<i>Scorpaena</i> spp.	1
107	<i>Scorpaenodes xyris</i>	1
107	<i>Ophichthus zophochir</i>	1
107	<i>Seriola rivoliana</i>	1
107	<i>Phtheichthys lineatus</i>	1
107	<i>Psenes pellucidus</i>	1
107	Scaridae	1
107	Labridae	1
107	Pomacentridae	1
107	Chaetodontidae	1
107	<i>Istiophorus platypterus</i>	1
107	<i>Nealotus tripes</i>	1
107	<i>Elagatis bipinnulatus</i>	1
107	<i>Gymnothorax mordax</i>	1
107	<i>Hygophum atratum</i>	1
107	<i>Hygophum reinhardtii</i>	1
107	<i>Hygophum proximum</i>	1
107	<i>Myctophum nitidulum</i>	1
107	<i>Symbolophorus evermanni</i>	1
107	<i>Lestidiops</i> spp.	1
107	<i>Lestidiops neles</i>	1
107	Apogonidae	1
107	Congridae	1
107	Priacanthidae	1
107	<i>Sargocentron suborbitalis</i>	1
107	<i>Lactoria fornasini</i>	1
107	Balistidae	1

Table 3. (cont.)

Rank	Taxon	Count
107	<i>Labrisomus multiporosus</i>	1
107	Tetraodontidae	1
107	<i>Diodon</i> spp.	1
107	<i>Gobiesox eugrammus</i>	1
107	<i>Diogenichthys atlanticus</i>	1
107	<i>Stemonosudis macrura</i>	1
	Total	4846

Table 4. Numbers (raw counts) of fish larvae taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4 listed by taxon, tow number, and region.

<i>Gymnothorax mordax</i>						<i>Anchoa</i> spp. (cont.)					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>	Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
12	JD	2-020	1	1	1.13	21	JD	2-036	3	136	146.71
<i>Ophichthus zophochir</i>						<i>Cetengraulis mysticetus</i>					
8	JD	1-014	2	1	0.86	25	JD	2-043	3	17	21.96
Congridae						41	EN		1	8	9.33
3	JD	1-004	2	1	1.07	16	JD	2-027	1	1	1.35
<i>Ariosoma gilberti</i>						30	JD	2-053	3	1	0.94
8	JD	1-014	2	1	0.86	32	JD		3	2	1.66
9	EN	1-020	10	1	0.97	33	JD	3-058	3	53	49.63
10	JD	1-018	1	1	0.89	62	JD		3	46	64.25
<i>Harengula thrissina</i>						66	JD	5-136	3	1	1.15
20	JD	2-034	1	1	1.08	73	JD		8	42	54.33
<i>Opisthonema</i> spp.						74	JD	5-151	3	7	10.43
3	JD	1-004	2	3	3.20	75	JD	5-153	3	45	60.73
7	JD	1-012	2	6	6.65	76	JD	5-154	3	1	1.52
13	M4	1-024	4	4	2.93	<i>Engraulis mordax</i>					
15	JD	2-025	1	3	4.09	2	JD	1-002	2	3	2.39
18	JD		1	2	1.99	<i>Chanos chanos</i>					
21	JD	2-036	3	795	857.61	11	JD		1	4	3.96
25	JD	2-043	3	84	108.53	18	JD		1	2	1.99
30	JD	2-053	3	17	15.98	<i>Cyclothone</i> spp.					
31	M4		3	1	0.74	19	EN	1-040	7	1	1.20
31	JD	2-055	3	41	46.64	66	JD	5-136	3	1	1.15
32	JD		3	17	14.08	68	M4	4-132	2	1	0.76
41	EN		1	15	17.50	70	EN	4-153	8	1	1.02
56	EN	3-124	3	1	0.98	71	EN	4-155	8	5	4.71
62	JD		3	1	1.40	84	EN	5-178	8	1	1.20
Engraulidae						<i>Cyclothone acclinidens</i>					
73	EN		8	46	72.56	6	EN	1-012	4	1	0.95
<i>Anchoa</i> spp.						27	M4		3	1	0.77
3	JD	1-004	2	2	2.13	70	M4	4-136	2	2	1.38
12	JD	2-020	1	1	1.13	<i>Diplophos proximus</i>					
						6	JD	1-010	1	1	0.81
						16	JD	2-027	1	2	2.70

*Diplophos proximus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
37	M4	3-070	4	1	0.82
50	JD		1	3	3.22
79	JD	6-166	1	1	1.15
81	JD	6-169	2	1	1.03
81	M4	5-160	5	1	0.71
82	M4	5-162	5	1	0.78

*Diplophos taenia*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
38	EN	2-083	2	1	1.32
40	EN	2-087	1	1	0.96

*Sternoptyx* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
68	M4	4-132	2	1	0.76

*Vinciguerria lucetia*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	1	1.11
10	EN	1-022	10	2	1.74
11	M4	1-020	4	7	4.80
12	EN	1-026	10	1	0.82
13	M4	1-024	4	4	2.93
19	M4	2-036	4	4	2.37
20	M4	2-038	4	4	2.90
21	M4	2-040	4	6	4.98
22	M4	2-042	4	2	1.62
27	M4		3	3	2.30
27	JD	2-047	3	1	1.43
34	JD	3-060	3	1	1.34
35	JD	3-062	3	2	2.77
36	JD	3-064	3	3	3.93
38	JD	3-068	4	2	2.48
38	M4	3-072	4	1	0.80
39	JD	3-070	4	2	2.91
40	JD	3-072	4	1	1.26
40	EN	2-087	1	1	0.96
42	M4	3-080	4	9	6.33
43	M4	3-082	5	7	5.24
44	M4	3-084	5	108	91.22
45	M4	3-086	5	16	14.08
46	M4	3-088	5	1	0.78
50	JD		1	4	4.29
51	EN	3-110	5	1	0.66
51	JD	4-102	4	6	8.17
52	JD	4-104	4	1	0.76
53	EN	3-118	4	15	14.75
54	EN	3-120	4	6	5.77

*Vinciguerria lucetia* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
55	JD	4-110	9	2	2.01
55	EN	3-122	4	19	27.50
55	M4	4-106	5	1	0.90
56	JD	4-112	9	3	3.07
57	EN	3-126	3	1	0.99
57	M4	4-110	5	19	14.17
57	JD	4-114	9	1	0.96
58	JD	4-116	9	2	1.74
58	M4	4-112	5	1	0.71
58	EN		3	1	0.76
60	JD	4-120	4	3	3.24
61	EN	4-131	3	2	1.95
61	JD	4-122	3	7	7.51
62	JD		3	3	4.19
63	JD	5-130	3	3	6.29
64	JD	5-132	3	2	2.70
65	JD	5-134	3	2	2.73
66	JD	5-136	3	8	9.22
67	EN	4-145	8	2	1.77
68	M4	4-132	2	15	11.36
69	JD	5-142	8	4	5.81
70	EN	4-153	8	7	7.12
70	JD	5-144	8	93	113.97
70	M4	4-136	2	1	0.69
71	JD	5-146	8	18	28.08
71	M4	4-138	2	1	0.75
71	EN	4-155	8	7	6.60
72	JD	5-148	8	9	11.35
73	EN		8	74	116.72
74	EN	5-159	8	21	19.79
74	M4	4-146	2	1	0.80
75	M4	4-148	2	2	1.37
75	EN	5-161	8	9	8.91
76	JD	5-154	3	1	1.52
78	JD	6-164	1	1	1.00
78	M4	5-154	1	2	1.60
81	EN	5-172	8	2	1.75
82	M4	5-162	5	4	3.13
83	M4	5-164	5	2	1.37
84	EN	5-178	8	31	37.21
85	EN	5-180	8	7	4.55
86	EN	5-182	3	4	5.12
87	M4	5-172	6	3	1.97
87	EN	5-184	3	3	4.62
93	M4	5-184	2	3	2.27
94	M4	5-185	2	1	0.67

<i>Bathophilus filifer</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
44	M4	3-084	5	1	0.84
<i>Synodus spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
9	JD	1-016	1	1	0.97
41	EN		1	1	1.17
73	JD		8	2	2.59
74	JD	5-151	3	1	1.49
<i>Synodus evermanni</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	3	3.24
74	JD	5-151	3	1	1.49
<i>Synodus lacertinus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	JD	2-021	1	2	4.59
<i>Synodus scituliceps</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
32	JD		3	4	3.31
<i>Synodus sechurae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
<i>Lestidiops spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
31	EN	2-069	6	1	1.29
<i>Lestidiops neles</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
16	EN	1-034	6	1	0.92
<i>Lestidium spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
19	M4	2-036	4	3	1.78
20	M4	2-038	4	1	0.73
31	EN	2-069	6	1	1.29
44	M4	3-084	5	1	0.84
45	M4	3-086	5	1	0.88
61	EN	4-131	3	1	0.98
74	JD	5-151	3	2	2.98
89	M4	5-176	6	1	0.83
<i>Stemonosudis macrura</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
20	M4	2-038	4	1	0.73

<i>Ceratoscopelus warmingii</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
68	M4	4-132	2	1	0.76
70	EN	4-153	8	1	1.02
71	EN	4-155	8	11	10.37
<i>Diaphus spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	M4		4	1	0.82
70	EN	4-153	8	5	5.09
84	EN	5-178	8	1	1.20
<i>Lampanyctus spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
56	M4	4-108	5	1	0.67
60	JD	4-120	4	1	1.08
68	M4	4-132	2	1	0.76
70	JD	5-144	8	1	1.23
<i>Lampanyctus parvicauda</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
61	JD	4-122	3	1	1.07
73	EN		8	2	3.15
75	EN	5-161	8	1	0.99
77	JD	6-160	3	1	2.02
<i>Triphoturus nigrescens</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
71	EN	4-155	8	1	0.94
72	JD	5-148	8	1	1.26
<i>Benthoosema panamense</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	JD	1-010	1	13	10.48
7	JD	1-012	2	1	1.11
62	JD		3	4	5.59
73	JD		8	34	43.98
74	JD	5-151	3	13	19.37
75	JD	5-153	3	8	10.80
<i>Diogenichthys atlanticus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	M4	1-024	4	1	0.73
<i>Hygophum atratum</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
70	EN	4-153	8	1	1.02

<i>Hygophum proximum</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
44	M4	3-084	5	1	0.84
<i>Hygophum reinhardtii</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
71	EN	4-155	8	1	0.94
<i>Myctophum nitidulum</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
69	EN	4-151	8	1	0.88
<i>Symbolophorus evermanni</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
71	EN	4-155	8	1	0.94
<i>Bregmaceros</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
73	EN		8	2	3.15
79	EN	5-168	8	4	4.98
84	EN	5-178	8	1	1.20
<i>Bregmaceros bathymaster</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
72	JD	5-148	8	2	2.52
73	JD		8	1	1.29
Ophidiidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	JD	1-010	1	1	0.81
73	JD		8	1	1.29
<i>Lepophidium</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
<i>Dolopichthys</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
27	M4		3	1	0.77
<i>Oneirodes</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
4	EN	1-007	3	1	1.12
11	EN	1-024	10	1	0.94
61	EN	4-131	3	1	0.98
70	JD	5-144	8	1	1.23
71	M4	4-138	2	1	0.75

<i>Gobiesox eugrammus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
Scomberesocidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
68	M4	4-132	2	1	0.76
69	M4	4-134	2	6	4.39
70	M4	4-136	2	10	6.89
73	EN		8	4	6.31
74	EN	5-159	8	14	13.20
75	EN	5-161	8	5	4.95
81	EN	5-172	8	9	7.87
93	M4	5-184	2	4	3.03
94	M4	5-185	2	3	2.01
95	M4	5-187	2	3	2.06
<i>Cololabis saira</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
74	EN	5-159	8	2	1.89
81	EN	5-172	8	3	2.62
<i>Elassichthys adocetus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
69	M4	4-134	2	1	0.73
70	M4	4-136	2	3	2.07
93	M4	5-184	2	1	0.76
<i>Hemiramphus saltator</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	8	9.00
Exocoetidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
8	M4	1-014	4	1	0.80
71	M4	4-138	2	1	0.75
<i>Cheilopogon heterurus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
77	M4	4-152	1	1	0.78
<i>Cheilopogon pinnatibarbatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
5	EN	1-010	4	1	0.58
9	EN	1-020	10	1	0.97
12	EN	1-026	10	1	0.82
<i>Cheilopogon xenopterus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	4	3.87



*Cheilopogon xenopterus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	M4	1-011	5	1	0.80
7	JD	1-012	2	1	1.11
9	JD	1-016	1	4	3.87
11	JD		1	3	2.97
12	M4	1-022	4	1	0.80
17	M4	2-032	3	1	0.74
22	JD	2-038	3	1	1.26
26	JD	2-045	3	3	3.36
29	EN	2-065	6	2	2.75
30	M4	2-056	3	1	0.68
38	JD	3-068	4	1	1.24
41	JD	3-074	4	1	0.87
45	JD	3-082	5	1	1.18
54	M4	4-104	1	10	7.64
57	EN	3-126	3	1	0.99
58	EN		3	2	1.52
58	M4	4-112	5	1	0.71
83	EN	5-176	8	1	1.20

*Exocoetus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
44	JD	3-080	5	3	2.51
49	JD	3-090	1	1	1.10
57	EN	3-126	3	1	0.99
59	EN		3	1	0.91
61	JD	4-122	3	1	1.07
66	M4	4-128	5	2	1.48
75	M4	4-148	2	1	0.68
77	M4	4-152	1	1	0.78
85	EN	5-180	8	1	0.65
89	M4	5-176	6	1	0.83

*Exocoetus monocirrhus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
11	JD		1	1	0.99
12	M4	1-022	4	1	0.80
85	EN	5-180	8	1	0.65

*Exocoetus volitans*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
76	M4	4-150	1	1	0.74

*Fodiator acutus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	1	1.08

*Hirundichthys* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	M4	1-005	2	1	0.77
8	M4	1-014	4	1	0.80
33	JD	3-058	3	1	0.94
46	M4	3-088	5	1	0.78
53	M4	4-102	1	1	0.94
73	M4	4-144	2	1	0.74
74	EN	5-159	8	3	2.83
75	EN	5-161	8	1	0.99
75	M4	4-148	2	2	1.37
77	M4	4-152	1	1	0.78
79	M4	5-156	1	2	1.38
82	EN	5-174	8	1	1.21
85	EN	5-180	8	1	0.65
87	EN	5-184	3	1	1.54

*Hirundichthys marginatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
16	M4	2-030	3	1	0.67
21	M4	2-040	4	1	0.83
29	EN	2-065	6	1	1.38
33	M4	3-062	3	1	0.79
44	JD	3-080	5	1	0.84
52	EN	3-114	5	1	0.99
54	M4	4-104	1	1	0.76
79	M4	5-156	1	1	0.69

*Oxyporhamphus micropterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	1	0.97
3	M4	1-005	2	8	6.13
3	EN	1-005	3	4	4.21
4	EN	1-007	3	5	5.59
4	M4	1-007	2	1	0.77
5	EN	1-010	4	3	1.75
5	M4	1-009	2	1	0.83
5	JD	1-008	1	7	7.73
6	JD	1-010	1	4	3.23
6	M4	1-011	5	15	12.04
6	EN	1-012	4	1	0.95
7	M4		4	4	3.26
7	JD	1-012	2	1	1.11
7	EN	1-014	4	2	1.71
8	M4	1-014	4	5	4.02
9	M4	1-016	4	1	0.77
9	JD	1-016	1	8	7.74
10	JD	1-018	1	9	7.98
11	JD		1	62	61.33
11	M4	1-020	4	3	2.06

*Oxyporhamphus micropterus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
12	M4	1-022	4	18	14.32
12	JD	2-020	1	1	1.13
14	M4	1-026	3	3	2.17
14	JD	2-023	1	14	14.61
15	M4	2-028	3	1	0.71
16	M4	2-030	3	1	0.67
17	M4	2-032	3	1	0.74
17	JD	2-030	1	2	2.21
19	JD	2-032	1	4	5.13
19	M4	2-036	4	1	0.59
20	JD	2-034	1	4	4.32
22	JD	2-038	3	1	1.26
23	M4	2-044	4	1	0.70
23	JD	2-040	3	5	5.68
24	M4	2-046	3	1	0.78
24	JD	2-042	3	2	2.68
26	JD	2-045	3	14	15.70
26	EN	2-059	6	1	1.24
27	EN	2-061	6	1	1.09
27	M4		3	1	0.77
28	EN	2-063	6	1	1.24
28	M4	2-053	3	4	3.16
33	M4	3-062	3	2	1.59
34	EN	2-075	5	1	1.28
34	M4	3-064	3	1	0.81
35	JD	3-062	3	1	1.39
36	M4	3-068	3	1	0.80
36	EN	2-079	5	1	0.99
36	JD	3-064	3	1	1.31
37	JD	3-066	3	2	2.67
37	M4	3-070	4	1	0.82
38	JD	3-068	4	1	1.24
38	EN	2-083	2	8	10.54
39	JD	3-070	4	1	1.46
39	EN	2-085	1	8	8.49
40	EN	2-087	1	4	3.84
40	JD	3-072	4	1	1.26
41	JD	3-074	4	1	0.87
41	M4	3-078	4	2	1.31
42	JD	3-076	4	1	1.05
42	EN	3-089	1	5	6.02
43	EN	3-094	2	1	0.95
44	JD	3-080	5	1	0.84
44	EN	3-096	2	1	0.83
45	EN	3-098	2	1	1.10
45	JD	3-082	5	3	3.53
47	EN	3-102	5	1	0.88
47	M4	3-090	5	1	0.87

*Oxyporhamphus micropterus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
48	M4	3-092	4	1	0.73
48	JD	3-088	4	3	2.59
49	M4	3-094	4	1	0.67
49	JD	3-090	1	2	2.21
50	M4	3-096	4	3	2.04
51	M4	3-098	4	1	0.95
52	M4	3-100	1	1	0.93
53	M4	4-102	1	1	0.94
54	EN	3-120	4	2	1.92
54	M4	4-104	1	26	19.86
55	EN	3-122	4	1	1.45
56	EN	3-124	3	1	0.98
57	EN	3-126	3	1	0.99
58	EN		3	7	5.30
59	EN		3	68	61.93
60	EN		3	2	1.75
64	M4	4-124	5	1	0.70
64	JD	5-132	3	8	10.81
67	JD	5-138	8	1	1.06
73	M4	4-144	2	1	0.74
73	JD		8	1	1.29
74	M4	4-146	2	1	0.80
75	M4	4-148	2	1	0.68
76	M4	4-150	1	1	0.74
77	JD	6-160	3	11	22.22
77	M4	4-152	1	1	0.78
79	M4	5-156	1	1	0.69
79	JD	6-166	1	3	3.46
81	JD	6-169	2	3	3.08
81	M4	5-160	5	4	2.84
82	M4	5-162	5	2	1.57
85	M4	5-168	5	1	0.72
85	EN	5-180	8	1	0.65
86	EN	5-182	3	1	1.28
87	EN	5-184	3	1	1.54

*Prognichthys* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	5	4.84
6	JD	1-010	1	5	4.03
7	JD	1-012	2	16	17.74
8	JD	1-014	2	105	89.97
8	M4	1-014	4	2	1.61
9	JD	1-016	1	1	0.97
10	JD	1-018	1	1	0.89
10	M4	1-018	4	1	0.82
11	JD		1	41	40.55
12	JD	2-020	1	9	10.15

*Prognichthys* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
12	M4	1-022	4	4	3.18
13	M4	1-024	4	1	0.73
14	JD	2-023	1	1	1.04
14	M4	1-026	3	3	2.17
15	M4	2-028	3	13	9.21
17	JD	2-030	1	1	1.10
17	M4	2-032	3	1	0.74
19	JD	2-032	1	1	1.28
20	JD	2-034	1	1	1.08
22	JD	2-038	3	1	1.26
29	M4	2-054	3	11	7.43
29	EN	2-065	6	3	4.13
30	JD	2-053	3	1	0.94
30	M4	2-056	3	3	2.04
31	M4		3	3	2.22
32	M4	3-060	3	1	0.68
33	JD	3-058	3	3	2.81
34	M4	3-064	3	5	4.04
41	EN		1	5	5.83
44	JD	3-080	5	1	0.84
50	JD		1	2	2.14
51	M4	3-098	4	1	0.95
53	M4	4-102	1	6	5.65
54	M4	4-104	1	9	6.88
57	EN	3-126	3	2	1.99
58	EN		3	7	5.30
59	EN		3	1	0.91
74	M4	4-146	2	1	0.80
76	M4	4-150	1	1	0.74
77	JD	6-160	3	1	2.02
78	M4	5-154	1	1	0.80
79	M4	5-156	1	8	5.51

*Myripristis leiognathos*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
11	JD		1	2	1.98

*Sargocentron suborbitalis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
50	JD		1	1	1.07

*Scorpaena* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
76	JD	5-154	3	1	1.52

*Scorpaena guttata*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	1	0.80

*Scorpaenodes xyris*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	1	1.11

## Triglidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
74	JD	5-151	3	1	1.49

*Howella pammelas*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
27	M4		3	1	0.77
60	JD	4-120	4	2	2.16

*Centropomus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
25	JD	2-043	3	1	1.29
75	JD	5-153	3	6	8.10

## Serraninae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	6	6.47

*Paralabrax* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	5	5.33

*Pronotogrammus multifasciatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	30	31.98

## Epinephelinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
9	JD	1-016	1	1	0.97
29	JD	2-051	3	1	1.36

## Priacanthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
9	JD	1-016	1	1	0.97

## Apogonidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	1	1.12

*Phtheichthys lineatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
42	EN	3-089	1	1	1.20

Carangidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
4	EN	1-007	3	1	1.12
21	JD	2-036	3	11	11.87
31	JD	2-055	3	1	1.14

<i>Alectis ciliaris</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
22	JD	2-038	3	1	1.26
50	JD		1	1	1.07

<i>Caranx spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
15	JD	2-025	1	1	1.36
16	JD	2-027	1	2	2.70
22	JD	2-038	3	1	1.26

<i>Caranx caballus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	JD	1-010	1	2	1.61
7	JD	1-012	2	3	3.33
8	JD	1-014	2	6	5.14
11	JD		1	5	4.95
12	JD	2-020	1	1	1.13
13	M4	1-024	4	1	0.73
13	JD	2-021	1	2	4.59
14	M4	1-026	3	1	0.72
25	JD	2-043	3	2	2.58
28	JD	2-049	3	1	1.06
29	M4	2-054	3	2	1.35
30	M4	2-056	3	2	1.36
31	JD	2-055	3	3	3.41
31	M4		3	3	2.22
34	JD	3-060	3	1	1.34
41	EN		1	2	2.33
50	JD		1	3	3.22
78	JD	6-164	1	1	1.00

<i>Caranx sexfasciatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	1	0.97
22	JD	2-038	3	1	1.26
25	JD	2-043	3	1	1.29
28	JD	2-049	3	1	1.06
74	JD	5-151	3	1	1.49
87	EN	5-184	3	1	1.54

<i>Chloroscombrus orqueta</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	1	1.08

<i>Chloroscombrus orqueta (cont.)</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
29	JD	2-051	3	1	1.36
73	JD		8	10	12.94

<i>Elagatis bipinnulatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
41	EN		1	1	1.17

<i>Naucrates ductor</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
24	JD	2-042	3	1	1.34
29	EN	2-065	6	1	1.38
36	M4	3-068	3	1	0.80
48	M4	3-092	4	1	0.73
59	EN		3	1	0.91
63	EN	4-135	8	7	5.48
69	M4	4-134	2	1	0.73
73	M4	4-144	2	1	0.74
74	M4	4-146	2	1	0.80
84	EN	5-178	8	1	1.20

<i>Oligoplites saurus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
12	JD	2-020	1	2	2.25
21	JD	2-036	3	1	1.08

<i>Selar crumenophthalmus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	JD	2-021	1	1	2.29
15	JD	2-025	1	3	4.09
18	JD		1	2	1.99

<i>Seriola rivoliana</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	1	0.97

<i>Trachinotus kennedyi</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	25	28.12
8	JD	1-014	2	2	1.71
12	JD	2-020	1	1	1.13
31	JD	2-055	3	1	1.14
33	JD	3-058	3	1	0.94

<i>Trachinotus paitensis</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	1	1.12
3	JD	1-004	2	2	2.13

*Trachinotus rhodopus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	2	2.22
31	JD	2-055	3	2	2.28

*Trachurus symmetricus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	3	3.20

*Nematistius pectoralis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	1	1.11
31	JD	2-055	3	1	1.14

*Coryphaena equiselis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	EN	1-003	3	1	0.97
4	M4	1-007	2	1	0.77
6	M4	1-011	5	1	0.80
8	M4	1-014	4	1	0.80
11	JD		1	2	1.98
11	M4	1-020	4	3	2.06
12	M4	1-022	4	2	1.59
14	JD	2-023	1	2	2.09
15	M4	2-028	3	3	2.13
16	M4	2-030	3	6	4.01
17	M4	2-032	3	3	2.22
19	M4	2-036	4	1	0.59
19	JD	2-032	1	1	1.28
22	JD	2-038	3	1	1.26
25	JD	2-043	3	2	2.58
26	JD	2-045	3	2	2.24
28	M4	2-053	3	1	0.79
29	M4	2-054	3	2	1.35
32	M4	3-060	3	3	2.04
33	M4	3-062	3	6	4.76
38	M4	3-072	4	2	1.59
39	M4	3-074	4	1	0.77
40	EN	2-087	1	2	1.92
43	JD	3-078	4	1	0.96
43	EN	3-094	2	1	0.95
44	JD	3-080	5	1	0.84
44	EN	3-096	2	1	0.83
45	JD	3-082	5	1	1.18
48	M4	3-092	4	1	0.73
48	EN	3-104	5	1	1.58
50	M4	3-096	4	1	0.68
56	M4	4-108	5	1	0.67
56	EN	3-124	3	1	0.98
57	EN	3-126	3	1	0.99

*Coryphaena equiselis (cont.)*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
58	EN		3	103	78.03
59	EN		3	3	2.73
60	EN		3	1	0.88
66	JD	5-136	3	1	1.15
78	JD	6-164	1	3	2.99
79	M4	5-156	1	3	2.06
80	M4	5-158	2	1	0.78
84	M4	5-166	5	1	0.67
86	EN	5-182	3	2	2.56

*Coryphaena hippurus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	6	6.75
3	JD	1-004	2	1	1.07
7	JD	1-012	2	3	3.33
11	JD		1	3	2.97
15	M4	2-028	3	3	2.13
15	JD	2-025	1	1	1.36
16	M4	2-030	3	4	2.67
22	JD	2-038	3	4	5.06
23	JD	2-040	3	4	4.55
28	JD	2-049	3	1	1.06
29	M4	2-054	3	1	0.68
30	JD	2-053	3	1	0.94
31	JD	2-055	3	4	4.55
32	M4	3-060	3	5	3.41
32	JD		3	1	0.83
33	M4	3-062	3	1	0.79
36	M4	3-068	3	1	0.80
43	JD	3-078	4	1	0.96
44	JD	3-080	5	1	0.84
48	M4	3-092	4	2	1.46
77	JD	6-160	3	1	2.02
78	JD	6-164	1	1	1.00
82	JD	6-171	2	1	1.11

*Lutjanus spp.*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
16	JD	2-027	1	1	1.35
21	JD	2-036	3	2	2.16
30	JD	2-053	3	1	0.94

*Lutjanus peru*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	JD	2-021	1	1	2.29
31	JD	2-055	3	1	1.14

*Lobotes surinamensis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	EN	1-001	3	6	6.75
33	JD	3-058	3	1	0.94
41	EN		1	2	2.33

## Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	17	18.12
4	JD	1-006	2	1	0.82
7	JD	1-012	2	1	1.11
12	JD	2-020	1	10	11.27
13	M4	1-024	4	1	0.73
21	JD	2-036	3	7	7.55
23	JD	2-040	3	1	1.14
31	M4		3	8	5.91
31	JD	2-055	3	2	2.28
32	JD		3	24	19.88
78	M4	5-154	1	1	0.80

*Eucinostomus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
41	EN		1	3	3.50

## Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
8	JD	1-014	2	3	2.57
21	JD	2-036	3	1	1.08
32	JD		3	2	1.66
73	JD		8	5	6.47

*Haemulon* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
21	JD	2-036	3	7	7.55
32	JD		3	1	0.83

*Xenistius californiensis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	1	0.80
3	JD	1-004	2	1	1.07

## Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	34	36.68
72	JD	5-148	8	1	1.26
73	JD		8	26	33.64
74	JD	5-151	3	2	2.98
75	JD	5-153	3	18	24.29

*Polydactylus approximans*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
8	JD	1-014	2	3	2.57
20	JD	2-034	1	1	1.08
26	JD	2-045	3	2	2.24
28	JD	2-049	3	4	4.22
29	M4	2-054	3	33	22.30
29	JD	2-051	3	3	4.09
30	JD	2-053	3	1	0.94
31	JD	2-055	3	17	19.34
32	M4	3-060	3	1	0.68
42	EN	3-089	1	1	1.20
86	EN	5-182	3	1	1.28
87	EN	5-184	3	1	1.54

*Polydactylus opercularis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
31	JD	2-055	3	16	18.20

## Mullidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
15	JD	2-025	1	1	1.36

## Kyphosidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
15	JD	2-025	1	5	6.82

*Kyphosus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
30	JD	2-053	3	1	0.94
50	JD		1	1	1.07

## Chaetodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
80	JD	6-168	2	1	1.32

*Mugil* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	JD	1-010	1	1	0.81
7	JD	1-012	2	7	7.76
8	JD	1-014	2	44	37.70
14	M4	1-026	3	81	58.65
17	JD	2-030	1	10	11.03
18	JD		1	1	1.00
20	JD	2-034	1	4	4.32
21	JD	2-036	3	1	1.08
22	JD	2-038	3	1	1.26
29	M4	2-054	3	4	2.70

<i>Mugil spp. (cont.)</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
30	M4	2-056	3	2	1.36
31	JD	2-055	3	3	3.41
31	M4		3	1	0.74
32	M4	3-060	3	1	0.68
33	JD	3-058	3	1	0.94
41	EN		1	1	1.17
42	EN	3-089	1	1	1.20
50	JD		1	11	11.79
74	JD	5-151	3	1	1.49
78	JD	6-164	1	4	3.99
<i>Pomacentridae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
67	JD	5-138	8	1	1.06
<i>Chromis punctipinnis</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	3	2.39
<i>Microspathodon spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	1	1.11
12	JD	2-020	1	1	1.13
26	JD	2-045	3	1	1.12
32	M4	3-060	3	1	0.68
<i>Labridae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
50	JD		1	1	1.07
<i>Halichoeres semicinctus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	2	2.13
<i>Scaridae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
29	JD	2-051	3	1	1.36
<i>Labrisomus multiporosus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
<i>Entomacrodus chiostictus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
8	JD	1-014	2	3	2.57
13	JD	2-021	1	1	2.29
15	JD	2-025	1	2	2.73

<i>Hypsoblennius spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
72	EN	5-156	8	1	0.85
78	EN		8	1	0.83
<i>Hypsoblennius jenkinsi</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	4	3.19
3	JD	1-004	2	3	3.20
<i>Eleotridae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	1	1.08
74	JD	5-151	3	1	1.49
<i>Gobiidae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	3	3.20
7	JD	1-012	2	1	1.11
21	JD	2-036	3	1	1.08
32	JD		3	1	0.83
70	JD	5-144	8	1	1.23
73	JD		8	6	7.76
74	JD	5-151	3	1	1.49
75	JD	5-153	3	15	20.24
<i>Microdesmus spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
75	JD	5-153	3	1	1.35
<i>Chaetodipterus zonatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	2	2.16
<i>Sphyraena spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	EN	1-012	4	1	0.95
<i>Sphyraena argentea</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	1	1.07
<i>Nealotus tripes</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
53	EN	3-118	4	1	0.98
<i>Trichiurus lepturus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
74	JD	5-151	3	16	23.85

*Trichiurus lepturus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
75	JD	5-153	3	2	2.70

## Istiophoridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
12	JD	2-020	1	1	1.13
52	M4	3-100	1	1	0.93

*Istiophorus platypterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
23	JD	2-040	3	1	1.14

*Auxis* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	JD	1-004	2	39	41.58
3	EN	1-005	3	1	1.05
4	JD	1-006	2	1	0.82
5	JD	1-008	1	30	33.11
5	M4	1-009	2	1	0.83
6	JD	1-010	1	4	3.23
8	JD	1-014	2	2	1.71
9	EN	1-020	10	1	0.97
9	JD	1-016	1	7	6.77
9	M4	1-016	4	1	0.77
10	JD	1-018	1	6	5.32
11	JD		1	8	7.91
11	M4	1-020	4	5	3.43
12	EN	1-026	10	1	0.82
12	JD	2-020	1	3	3.38
12	M4	1-022	4	8	6.36
13	JD	2-021	1	3	6.88
14	M4	1-026	3	3	2.17
14	JD	2-023	1	8	8.35
14	EN	1-030	6	1	0.72
15	JD	2-025	1	4	5.46
16	JD	2-027	1	19	25.68
17	JD	2-030	1	80	88.20
19	JD	2-032	1	5	6.41
20	JD	2-034	1	1	1.08
22	JD	2-038	3	6	7.59
23	M4	2-044	4	1	0.70
23	JD	2-040	3	4	4.55
25	JD	2-043	3	3	3.88
26	JD	2-045	3	4	4.48
28	JD	2-049	3	6	6.34
29	JD	2-051	3	3	4.09
29	M4	2-054	3	3	2.03
30	M4	2-056	3	1	0.68
30	JD	2-053	3	1	0.94

*Auxis* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
31	JD	2-055	3	17	19.34
33	M4	3-062	3	1	0.79
34	EN	2-075	5	1	1.28
37	JD	3-066	3	1	1.34
38	M4	3-072	4	1	0.80
39	EN	2-085	1	1	1.06
39	JD	3-070	4	3	4.37
41	EN		1	1	1.17
47	JD	3-086	5	1	1.35
48	M4	3-092	4	1	0.73
49	M4	3-094	4	2	1.34
50	JD		1	7	7.50
51	M4	3-098	4	3	2.86
52	M4	3-100	1	17	15.89
53	EN	3-118	4	1	0.98
53	M4	4-102	1	1	0.94
53	JD	4-106	9	1	0.84
54	EN	3-120	4	1	0.96
56	EN	3-124	3	3	2.95
58	EN		3	27	20.45
59	EN		3	19	17.30
63	JD	5-130	3	3	6.29
65	JD	5-134	3	1	1.36
66	JD	5-136	3	1	1.15
76	M4	4-150	1	1	0.74
77	JD	6-160	3	3	6.06
78	M4	5-154	1	6	4.81
78	JD	6-164	1	7	6.99
79	JD	6-166	1	8	9.23
80	M4	5-158	2	1	0.78
83	M4	5-164	5	1	0.68
87	EN	5-184	3	2	3.08

*Euthynnus lineatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
25	JD	2-043	3	3	3.88
26	JD	2-045	3	5	5.61
30	JD	2-053	3	1	0.94
31	JD	2-055	3	9	10.24
34	EN	2-075	5	1	1.28
40	EN	2-087	1	1	0.96
41	EN		1	1	1.17
42	EN	3-089	1	1	1.20
50	M4	3-096	4	1	0.68
52	M4	3-100	1	1	0.93
82	M4	5-162	5	1	0.78



*Scomber japonicus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	1	0.80
73	EN		8	35	55.21
74	EN	5-159	8	2	1.89

*Scomberomorus sierra*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
21	JD	2-036	3	14	15.10
32	JD		3	1	0.83

*Thunnus spp.*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	JD	1-010	1	3	2.42
11	JD		1	1	0.99
14	M4	1-026	3	3	2.17
14	JD	2-023	1	9	9.39
15	JD	2-025	1	1	1.36
16	JD	2-027	1	6	8.11
17	JD	2-030	1	2	2.21
22	JD	2-038	3	1	1.26
23	JD	2-040	3	7	7.95
24	JD	2-042	3	5	6.71
25	JD	2-043	3	1	1.29
26	JD	2-045	3	1	1.12
27	JD	2-047	3	1	1.43
28	JD	2-049	3	1	1.06
36	JD	3-064	3	1	1.31
48	JD	3-088	4	1	0.86
50	JD		1	3	3.22

*Cubiceps pauciradiatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
3	EN	1-005	3	3	3.16
5	JD	1-008	1	3	3.31
6	JD	1-010	1	10	8.06
7	M4		4	1	0.82
7	JD	1-012	2	1	1.11
8	EN	1-016	9	1	0.78
9	JD	1-016	1	4	3.87
10	M4	1-018	4	1	0.82
10	JD	1-018	1	1	0.89
11	JD		1	1	0.99
16	JD	2-027	1	1	1.35
24	JD	2-042	3	1	1.34
25	JD	2-043	3	1	1.29
26	JD	2-045	3	2	2.24
27	M4		3	1	0.77
27	JD	2-047	3	1	1.43
30	M4	2-056	3	1	0.68

*Cubiceps pauciradiatus (cont.)*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
31	M4		3	1	0.74
34	JD	3-060	3	1	1.34
35	EN	2-077	5	1	1.05
50	M4	3-096	4	2	1.36
51	M4	3-098	4	26	24.76
52	M4	3-100	1	4	3.74
60	JD	4-120	4	3	3.24
61	EN	4-131	3	2	1.95
63	JD	5-130	3	2	4.19
64	JD	5-132	3	2	2.70
65	M4	4-126	5	1	0.76
78	JD	6-164	1	24	23.95
79	JD	6-166	1	11	12.69
80	JD	6-168	2	1	1.32
81	M4	5-160	5	3	2.13
82	M4	5-162	5	1	0.78
82	JD	6-171	2	3	3.33

*Nomeus gronovii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
75	M4	4-148	2	1	0.68

*Psenes pellucidus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
33	M4	3-062	3	1	0.79

*Psenes sio*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
71	JD	5-146	8	3	4.68

*Citharichthys platophrys*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
73	JD		8	3	3.88
74	JD	5-151	3	2	2.98

*Etropus crossotus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
2	JD	1-002	2	1	0.80
4	JD	1-006	2	1	0.82

*Syacium spp.*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
31	JD	2-055	3	1	1.14
32	JD		3	1	0.83

*Syacium ovale*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
75	JD	5-153	3	1	1.35

*Bothus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	JD	2-021	1	2	4.59
35	JD	3-062	3	1	1.39
50	JD		1	1	1.07

*Monolene* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
13	M4	1-024	4	1	0.73

*Perissias taeniopterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
11	JD		1	1	0.99

*Symphurus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
15	JD	2-025	1	1	1.36
21	JD	2-036	3	1	1.08
29	JD	2-051	3	1	1.36

## Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
54	EN	3-120	4	1	0.96

*Balistes polylepis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
11	JD		1	2	1.98

*Canthidermis maculatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
15	M4	2-028	3	2	1.42
28	M4	2-053	3	1	0.79
29	M4	2-054	3	2	1.35
30	M4	2-056	3	1	0.68
31	JD	2-055	3	3	3.41

*Canthidermis maculatus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
32	M4	3-060	3	5	3.41
73	M4	4-144	2	1	0.74

*Lactoria diaphana*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
6	M4	1-011	5	1	0.80
46	EN	3-100	5	1	1.39
55	M4	4-106	5	1	0.90
81	M4	5-160	5	1	0.71

*Lactoria fornasini*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
48	M4	3-092	4	1	0.73

## Tetraodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
59	EN		3	1	0.91

*Diodon* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
77	JD	6-160	3	1	2.02

## Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
7	JD	1-012	2	1	1.11
8	JD	1-014	2	1	0.86
87	EN	5-184	3	1	1.54

## Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m <sup>3</sup>
1	JD	1-001	2	1	1.04
75	EN	5-161	8	1	0.99

Table 5. Average numbers of larvae (per 100 m<sup>3</sup> of water filtered) for each taxon taken in Manta net tows in the regions (Figure 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Number in parenthesis below region number is number of tows in that region.

Taxon	Region									
	1 (29)	2 (31)	3 (57)	4 (40)	5 (38)	6 (20)	7 (7)	8 (25)	9 (10)	10 (4)
<i>Gymnothorax mordax</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Ophichthus zophochir</i>	-	0.0	-	-	-	-	-	-	-	-
Congridae	-	0.0	-	-	-	-	-	-	-	-
<i>Ariosoma gilberti</i>	0.0	0.0	-	-	-	-	-	-	-	0.2
<i>Harengula thrissina</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Opisthonema</i> spp.	0.8	0.3	18.4	0.1	-	-	-	-	-	-
Engraulidae	-	-	-	-	-	-	-	2.9	-	-
<i>Anchoa</i> spp.	0.4	0.1	3.0	-	-	-	-	-	-	-
<i>Cetengraulis mysticetus</i>	0.0	-	3.3	-	-	-	-	2.2	-	-
<i>Engraulis mordax</i>	-	0.1	-	-	-	-	-	-	-	-
<i>Chanos chanos</i>	0.2	-	-	-	-	-	-	-	-	-
<i>Cyclothone</i> spp.	-	0.0	0.0	-	-	-	0.2	0.3	-	-
<i>Cyclothone acclinidens</i>	-	0.0	0.0	0.0	-	-	-	-	-	-
<i>Diplophos proximus</i>	0.3	0.0	-	0.0	0.0	-	-	-	-	-
<i>Diplophos taenia</i>	0.0	0.0	-	-	-	-	-	-	-	-
<i>Sternoptyx</i> spp.	-	0.0	-	-	-	-	-	-	-	-
<i>Vinciguerria lucetia</i>	0.3	0.6	1.0	2.3	3.5	0.1	-	14.5	0.8	0.6
<i>Bathophilus filifer</i>	-	-	-	-	0.0	-	-	-	-	-
<i>Synodus</i> spp.	0.1	-	0.0	-	-	-	-	0.1	-	-
<i>Synodus evermanni</i>	-	-	0.1	-	-	-	-	-	-	-
<i>Synodus lacertinus</i>	0.2	-	-	-	-	-	-	-	-	-
<i>Synodus scituliceps</i>	-	-	0.1	-	-	-	-	-	-	-
<i>Synodus sechurae</i>	-	0.0	-	-	-	-	-	-	-	-
<i>Lestidiops</i> spp.	-	-	-	-	-	0.1	-	-	-	-
<i>Lestidiops neles</i>	-	-	-	-	-	0.0	-	-	-	-
<i>Lestidium</i> spp.	-	-	0.1	0.1	0.0	0.1	-	-	-	-
<i>Stemonosudis macrura</i>	-	-	-	0.0	-	-	-	-	-	-
<i>Ceratoscopelus warmingii</i>	-	0.0	-	-	-	-	-	0.5	-	-
<i>Diaphus</i> spp.	-	-	-	0.0	-	-	-	0.3	-	-
<i>Lampanyctus parvicauda</i>	-	-	0.1	-	-	-	-	0.2	-	-
<i>Nannobrachium</i> spp.	-	0.0	-	0.0	0.0	-	-	0.0	-	-
<i>Triphoturus nigrescens</i>	-	-	-	-	-	-	-	0.1	-	-
<i>Benthoosema panamense</i>	0.4	0.0	0.6	-	-	-	-	1.8	-	-
<i>Diogenichthys atlanticus</i>	-	-	-	0.0	-	-	-	-	-	-
<i>Hygophum atratum</i>	-	-	-	-	-	-	-	0.0	-	-
<i>Hygophum proximum</i>	-	-	-	-	0.0	-	-	-	-	-
<i>Hygophum reinhardtii</i>	-	-	-	-	-	-	-	0.0	-	-
<i>Myctophum nitidulum</i>	-	-	-	-	-	-	-	0.0	-	-
<i>Symbolophorus evermanni</i>	-	-	-	-	-	-	-	0.0	-	-
<i>Bregmaceros</i> spp.	-	-	-	-	-	-	-	0.4	-	-
<i>Bregmaceros bathymaster</i>	-	-	-	-	-	-	-	0.2	-	-
Ophidiidae	0.0	-	-	-	-	-	-	0.1	-	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Lepophidium</i> spp.	-	0.0	-	-	-	-	-	-	-	-
<i>Dolopichthys</i> spp.	-	-	0.0	-	-	-	-	-	-	-
<i>Oneirodes</i> spp.	-	0.0	0.0	-	-	-	-	0.0	-	0.2
<i>Gobiesox eugrammus</i>	-	0.0	-	-	-	-	-	-	-	-
Scomberesocidae	-	0.6	-	-	-	-	-	1.3	-	-
<i>Cololabis saira</i>	-	-	-	-	-	-	-	0.2	-	-
<i>Elassichthys adocetus</i>	-	0.1	-	-	-	-	-	-	-	-
<i>Hemiramphus saltator</i>	-	-	0.2	-	-	-	-	-	-	-
Exocoetidae	-	0.0	-	0.0	-	-	-	-	-	-
<i>Cheilopogon heterurus</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Cheilopogon pinnatibarbus</i>	-	-	-	0.0	-	-	-	-	-	0.4
<i>Cheilopogon xenopterus</i>	0.5	0.0	0.2	0.1	0.1	0.1	-	0.0	-	-
<i>Exocoetus</i> spp.	0.1	0.0	0.1	-	0.1	0.0	-	0.0	-	-
<i>Exocoetus monocirrhus</i>	0.0	-	-	0.0	-	-	-	0.0	-	-
<i>Exocoetus volitans</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Fodiator acutus</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Hirundichthys</i> spp.	0.1	0.1	0.0	0.0	0.0	-	-	0.2	-	-
<i>Hirundichthys marginatus</i>	0.1	-	0.0	0.0	0.0	0.1	-	-	-	-
<i>Oxyporhamphus micropterus</i>	5.6	0.9	2.8	1.2	0.7	0.2	-	0.1	-	-
<i>Prognichthys</i> spp.	3.1	3.5	0.9	0.2	0.0	0.2	-	-	-	-
<i>Myripristis leiognathos</i>	0.1	-	-	-	-	-	-	-	-	-
<i>Sargocentron suborbitalis</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Scorpaena</i> spp.	-	-	0.0	-	-	-	-	-	-	-
<i>Scorpaena guttata</i>	-	0.0	-	-	-	-	-	-	-	-
<i>Scorpaenodes xyris</i>	-	0.0	-	-	-	-	-	-	-	-
Triglidae	-	-	0.0	-	-	-	-	-	-	-
<i>Howella pammelas</i>	-	-	0.0	0.1	-	-	-	-	-	-
<i>Centropomus</i> spp.	-	-	0.2	-	-	-	-	-	-	-
Serraninae	-	-	0.1	-	-	-	-	-	-	-
<i>Paralabrax</i> spp.	-	0.2	-	-	-	-	-	-	-	-
<i>Pronotogrammus multifasciatus</i>	-	1.0	-	-	-	-	-	-	-	-
Epinephelinae	0.0	-	0.0	-	-	-	-	-	-	-
Priacanthidae	0.0	-	-	-	-	-	-	-	-	-
Apogonidae	-	-	0.0	-	-	-	-	-	-	-
<i>Phtheirichthys lineatus</i>	0.0	-	-	-	-	-	-	-	-	-
Carangidae	-	-	0.2	-	-	-	-	-	-	-
<i>Alectis ciliaris</i>	0.0	-	0.0	-	-	-	-	-	-	-
<i>Caranx</i> spp.	0.1	-	0.0	-	-	-	-	-	-	-
<i>Caranx caballus</i>	0.6	0.3	0.2	0.0	-	-	-	-	-	-
<i>Caranx sexfasciatus</i>	-	-	0.1	-	-	-	-	-	-	-
<i>Chloroscombrus orqueta</i>	-	-	0.0	-	-	-	-	0.5	-	-
<i>Elagatis bipinnulatus</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Naucrates ductor</i>	-	0.1	0.1	0.0	-	0.1	-	0.3	-	-
<i>Oligoplites saurus</i>	0.1	-	0.0	-	-	-	-	-	-	-
<i>Selar crumenophthalmus</i>	0.3	-	-	-	-	-	-	-	-	-
<i>Seriola rivoliana</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Trachinotus kennedyi</i>	0.0	0.1	0.5	-	-	-	-	-	-	-
<i>Trachinotus paitensis</i>	-	0.1	0.0	-	-	-	-	-	-	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Trachinotus rhodopus</i>	-	0.1	0.0	-	-	-	-	-	-	-
<i>Trachurus symmetricus</i>	-	0.1	-	-	-	-	-	-	-	-
<i>Nematistius pectoralis</i>	-	0.0	0.0	-	-	-	-	-	-	-
<i>Coryphaena equiselis</i>	0.4	0.1	2.0	0.2	0.2	-	-	-	-	-
<i>Coryphaena hippurus</i>	0.2	0.2	0.6	0.1	0.0	-	-	-	-	-
<i>Lutjanus</i> spp.	0.0	-	0.1	-	-	-	-	-	-	-
<i>Lutjanus peru</i>	0.1	-	0.0	-	-	-	-	-	-	-
<i>Lobotes surinamensis</i>	0.1	-	0.1	-	-	-	-	-	-	-
Gerreidae	0.4	0.6	0.6	0.0	-	-	-	-	-	-
<i>Eucinostomus</i> spp.	0.1	-	-	-	-	-	-	-	-	-
Haemulidae	-	0.1	0.0	-	-	-	-	0.3	-	-
<i>Haemulon</i> spp.	-	0.0	0.1	-	-	-	-	-	-	-
<i>Xenistius californiensis</i>	-	0.1	-	-	-	-	-	-	-	-
Sciaenidae	-	-	1.1	-	-	-	-	1.4	-	-
<i>Polydactylus approximans</i>	0.1	0.1	1.0	-	-	-	-	-	-	-
<i>Polydactylus opercularis</i>	-	-	0.3	-	-	-	-	-	-	-
Mullidae	0.0	0.0	-	-	-	-	-	-	-	-
Kyphosidae	0.2	-	-	-	-	-	-	-	-	-
<i>Kyphosus</i> spp.	0.0	-	0.0	-	-	-	-	-	-	-
Chaetodontidae	-	0.0	-	-	-	-	-	-	-	-
<i>Mugil</i> spp.	1.2	1.5	1.3	-	-	-	-	-	-	-
Pomacentridae	-	-	-	-	-	-	-	0.0	-	-
<i>Chromis punctipinnis</i>	-	0.1	-	-	-	-	-	-	-	-
<i>Microspathodon</i> spp.	0.0	0.0	0.0	-	-	-	-	-	-	-
Labridae	0.0	-	-	-	-	-	-	-	-	-
<i>Halichoeres semicinctus</i>	-	0.1	-	-	-	-	-	-	-	-
Scaridae	-	-	0.0	-	-	-	-	-	-	-
<i>Labrisomus multiporosus</i>	-	0.0	-	-	-	-	-	-	-	-
<i>Entomacrodus chiostictus</i>	0.2	0.1	-	-	-	-	-	-	-	-
<i>Hypsoblennius</i> spp.	-	-	-	-	-	-	-	0.1	-	-
<i>Hypsoblennius jenkinsi</i>	-	0.2	-	-	-	-	-	-	-	-
Eleotridae	-	-	0.0	-	-	-	-	-	-	-
Gobiidae	-	0.1	0.4	-	-	-	-	0.4	-	-
<i>Microdesmus</i> spp.	-	-	0.0	-	-	-	-	-	-	-
<i>Chaetodipterus zonatus</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Sphyraena</i> spp.	-	-	-	0.0	-	-	-	-	-	-
<i>Sphyraena argentea</i>	-	0.0	-	-	-	-	-	-	-	-
<i>Nealotus tripes</i>	-	-	-	0.0	-	-	-	-	-	-
<i>Trichiurus lepturus</i>	-	-	0.5	-	-	-	-	-	-	-
Istiophoridae	0.1	-	-	-	-	-	-	-	-	-
<i>Istiophorus platypterus</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Auxis</i> spp.	8.6	1.5	2.1	0.6	0.1	0.0	-	-	0.1	0.4
<i>Euthynnus lineatus</i>	0.1	-	0.4	0.0	0.1	-	-	-	-	-
<i>Scomber japonicus</i>	-	0.0	-	-	-	-	-	2.3	-	-
<i>Scomberomorus sierra</i>	-	-	0.3	-	-	-	-	-	-	-
<i>Thunnus</i> spp.	1.0	-	0.4	0.0	-	-	-	-	-	-
<i>Cubiceps pauciradiatus</i>	2.0	0.2	0.4	0.8	0.1	-	-	-	0.1	-
<i>Nomeus gronovii</i>	-	0.0	-	-	-	-	-	-	-	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Psenes pellucidus</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Psenes sio</i>	-	-	-	-	-	-	-	0.2	-	-
<i>Citharichthys platophrys</i>	-	-	0.1	-	-	-	-	0.2	-	-
<i>Etropus crossotus</i>	-	0.1	-	-	-	-	-	-	-	-
<i>Syacium</i> spp.	-	-	0.0	-	-	-	-	-	-	-
<i>Syacium ovale</i>	-	-	0.0	-	-	-	-	-	-	-
<i>Bothus</i> spp.	0.2	-	0.0	-	-	-	-	-	-	-
<i>Monolene</i> spp.	-	-	-	0.0	-	-	-	-	-	-
<i>Perissias taeniopterus</i>	0.0	-	-	-	-	-	-	-	-	-
<i>Symphurus</i> spp.	0.0	-	0.0	-	-	-	-	-	-	-
Balistidae	-	-	-	0.0	-	-	-	-	-	-
<i>Balistes polylepis</i>	0.1	-	-	-	-	-	-	-	-	-
<i>Canthidermis maculatus</i>	-	0.0	0.2	-	-	-	-	-	-	-
<i>Lactoria diaphana</i>	-	-	-	-	0.1	-	-	-	-	-
<i>Lactoria fornasini</i>	-	-	-	0.0	-	-	-	-	-	-
Tetraodontidae	-	-	0.0	-	-	-	-	-	-	-
<i>Diodon</i> spp.	-	-	0.0	-	-	-	-	-	-	-
Disintegrated fish larvae	-	0.1	0.0	-	-	-	-	-	-	-
Unidentified fish larvae	-	0.0	-	-	-	-	-	0.0	-	-

Table 6. Numbers (raw counts) and size ranges of juvenile fishes taken in Manta tows on *Endeavor* cruise 9810, *Jordan* cruise 9810, and *McArthur* cruise 9810. Some larger specimens (e.g., myctophids) may be adults.

STOMIIFORMES

Astronesthidae

*Astronesthes* spp.

**EN 16** (1) 24mm; **EN 30** (2) 25-32mm.

**M4 58** (1) 26mm; **M4 84** (1) 30mm.

*Astronesthes gibbsi*

**EN 18** (1) 29mm.

**JD 51** (1) 24mm.

MYCTOPHIFORMES

Myctophidae

Lampanyctinae

*Lampanyctus* spp.

**M4 38** (1) 47mm.

*Lampanyctus omostigma*

**EN 48** (1) 55mm.

**JD 41** (1) 46mm.

**M4 36** (1) 53mm; **M4 37** (1) 47mm.

Myctophinae

*Diogenichthys laternatus*

**EN 81** (1) 15mm.

**JD 52** (4) 13-18mm.

*Gonichthys tenuiculus*

**EN 8** (1) 42mm; **EN 11** (1) 23mm; **EN 32** (1) 17mm; **EN 33** (1) 15mm; **EN 35** (1) 17mm; **EN 38** (1) 15mm; **EN 58** (7) 17-20mm; **EN 59** (6) 20-28mm; **EN 62** (5) 20-29mm; **EN 63** (2) 21-21mm; **EN 70** (1) 19mm; **EN 85** (15) 18-39mm; **EN 87** (4) 18-36mm.

**JD 44** (1) 11mm; **JD 52** (4) 15-21mm; **JD 59** (4) 15-16mm.

**M4 3** (1) 22mm; **M4 4** (1) 27mm; **M4 5** (1) 19mm; **M4 15** (4) 16-17mm; **M4 18** (1) 16mm; **M4 20** (1) 17mm; **M4 21** (4) 33-38mm; **M4 22** (3) 17-34mm; **M4 23** (1) 34mm; **M4 26** (2) 17-20mm; **M4 32** (1) 21mm; **M4 33** (1) 17mm; **M4 34** (1) 37mm; **M4 35** (7) 16-30mm; **M4 36** (6) 15-23mm; **M4 37** (23) 16-18mm; **M4 38** (5) 16-38mm; **M4 39** (2) 18-31mm; **M4 40** (1) 16mm; **M4 41** (4) 25-36mm; **M4 44** (1) 37mm; **M4 46** (1) 36mm; **M4 56** (9) 15-19mm; **M4 58** (4) 16-18mm; **M4 59** (11) 17-30mm; **M4 60** (1) 16mm; **M4 65** (1) 23mm; **M4 66** (2) 17-17mm; **M4 67** (4) 22-44mm; **M4 68** (1) 36mm; **M4 70** (2) 28-30mm; **M4 72** (2) 40-48mm; **M4 73** (3) 17-39mm; **M4 74** (2) 25-26mm; **M4 75** (1) 21mm; **M4 77** (1) 22mm; **M4 82** (1) 23mm; **M4 83** (3) 17-25mm; **M4 84** (5) 15-17mm; **M4 85** (2) 18-45mm; **M4 87** (1) 41mm; **M4 91** (1) 33mm; **M4 94** (1) 35mm; **M4 95** (4) 16-34mm.

*Hygophum atratum*

**EN 63** (3) 16-18mm.

**M4 2** (70) 12-14mm; **M4 3** (60) 12-25mm; **M4 4** (2) 13-17mm; **M4 5** (29) 13-29mm; **M4 6** (2) 13-13mm; **M4 22** (2) 14-14mm; **M4 23** (1) 14mm; **M4 25** (1) 15mm; **M4 33** (1) 17mm; **M4 66** (1) 13mm; **M4 67** (3) 16-16mm; **M4 68** (14) 12-32mm; **M4 69** (4) 15-33mm; **M4 70** (39) 12-26mm; **M4 71** (12) 13-33mm; **M4 73** (5) 13-40mm.

*Hygophum proximum*

**EN 14** (1) 37mm; **EN 36** (1) 15mm; **EN 43** (2) 12-12mm; **EN 44** (10) 12-14mm; **EN 51** (1) 41mm; **EN 62** (1) 24mm; **EN 64** (1) 15mm.

**JD 4** (1) 19mm; **JD 58** (2) 33-45mm.

**M4 2** (1) 34mm; **M4 3** (4) 20-33mm; **M4 5** (7) 13-27mm; **M4 6** (1) 30mm; **M4 22** (1) 39mm; **M4 23** (2) 39-40mm; **M4 25** (1) 36mm; **M4 26** (1) 35mm; **M4 36** (1) 36mm; **M4 42** (1) 42mm; **M4 44** (22) 31-43mm; **M4 59** (2) 20-21mm; **M4 70** (1) 28mm; **M4 72** (12) 13-38mm; **M4 73** (1) 30mm; **M4 87** (1) 42mm; **M4 88** (1) 43mm.

*Hygophum reinhardtii*

**M4 58** (1) 31mm; **M4 88** (1) 14mm.

*Myctophum asperum*

**EN 18** (3) 14-15mm; **EN 68** (1) 17mm.

**JD 60** (2) 14-16mm.

**M4 21** (1) 15mm; **M4 42** (1) 14mm; **M4 44** (11) 43-53mm; **M4 45** (1) 13mm; **M4 57** (6) 14-51mm; **M4 60** (1) 15mm; **M4 62** (1) 30mm; **M4 63** (1) 21mm; **M4 88** (1) 50mm.

*Myctophum aurolaterdatum*

**EN 14** (1) 45mm; **EN 18** (1) 43mm; **EN 32** (1) 24mm; **EN 36** (3) 24-40mm; **EN 47** (1) 51mm; **EN 49** (1) 44mm; **EN 56** (1) 24mm; **EN 58** (1) 25mm.

**JD 19** (1) 24mm; **JD 41** (1) 24mm; **JD 67** (1) 22mm.

**M4 6** (1) 28mm; **M4 9** (6) 24-32mm; **M4 10** (4) 26-28mm; **M4 11** (1) 27mm; **M4 12** (15) 24-34mm; **M4 13** (5) 26-30mm; **M4 16** (1) 22mm; **M4 17** (3) 34-37mm; **M4 18** (7) 23-32mm; **M4 19** (2) 26-30mm; **M4 21** (1) 34mm; **M4 31** (1) 39mm; **M4 33** (1) 33mm; **M4 34** (1) 33mm; **M4 36** (1) 26mm; **M4 37** (6) 24-66mm; **M4 39** (1) 27mm; **M4 41** (2) 24-26mm; **M4 44** (2) 43-86mm; **M4 46** (2) 28-49mm; **M4 54** (1) 28mm; **M4 55** (2) 24-31mm; **M4 58** (2) 29-34mm; **M4 59** (1) 62mm; **M4 61** (1) 31mm; **M4 64** (1) 62mm; **M4 65** (2) 27-27mm; **M4 73** (2) 31-32mm; **M4 74** (1) 30mm; **M4 75** (5) 27-36mm; **M4 76** (1) 29mm; **M4 77** (3) 28-29mm; **M4 79** (6) 22-32mm; **M4 80** (4) 25-32mm; **M4 83** (3) 28-36mm; **M4 84** (3) 27-35mm; **M4 85** (2) 27-29mm.

*Myctophum lychnobium*

**EN 10** (2) 28-79mm; **EN 14** (3) 16-53mm; **EN 15** (1) 47mm; **EN 17** (4) 54-57mm; **EN 18** (1) 18mm; **EN 51** (3) 66-70mm.

**M4 21** (1) 70mm; **M4 44** (2) 17-41mm; **M4 45** (1) 17mm; **M4 46** (1) 18mm; **M4 57** (2) 70-72mm; **M4 60** (1) 66mm; **M4 62** (2) 18-63mm; **M4 63** (3) 16-70mm; **M4 84** (3) 16-76mm; **M4 86** (3) 17-72mm.

*Myctophum nitidulum*

**EN 8** (1) 21mm; **EN 9** (2) 49-53mm; **EN 12** (2) 18-49mm; **EN 14** (5) 16-17mm; **EN 15** (4) 16-17mm; **EN 18** (1) 72mm; **EN 39** (1) 37mm; **EN 51** (1) 56mm; **EN 67** (2) 18-19mm; **EN 85** (16) 20-39mm.

**JD 51** (2) 11-12mm; **JD 52** (8) 15-24mm; **JD 56** (1) 17mm; **JD 57** (1) 16mm; **JD 58** (7) 16-29mm; **JD 59** (2) 17-18mm; **JD 60** (1) 26mm; **JD 69** (1) 16mm; **JD 70** (1) 15mm; **JD 71** (1) 44mm.

**M4 20** (2) 26-29mm; **M4 21** (17) 16-52mm; **M4 22** (6) 17-28mm; **M4 23** (5) 18-22mm; **M4 24** (2) 20-29mm; **M4 25** (2) 29-31mm; **M4 41** (2) 28-30mm; **M4 42** (1) 54mm; **M4 44** (41) 17-56mm; **M4 45** (2) 18-39mm; **M4 47** (1) 44mm; **M4 58** (40) 15-59mm; **M4 59** (10) 16-53mm; **M4 60** (11) 17-56mm; **M4 61** (8) 16-50mm; **M4 62** (21) 16-52mm; **M4 63** (2) 25-38mm; **M4 64** (2) 25-35mm; **M4 65** (1) 33mm; **M4 66** (2) 33-34mm; **M4 68** (1) 23mm; **M4 69** (2) 18-27mm; **M4 84** (1) 31mm; **M4 86** (3) 25-34mm; **M4 87** (13) 16-60mm; **M4 88** (2) 17-18mm; **M4 89** (1) 27mm; **M4 91** (4) 17-26mm; **M4 93** (1) 18mm; **M4 94** (3) 18-22mm; **M4 95** (3) 21-67mm.



*Symbolophorus evermanni*

EN 18 (10) 20-22mm; EN 32 (1) 20mm; EN 67 (1) 23mm; EN 71 (2) 26-70mm; EN 87 (1) 65mm.

JD 61 (1) 20mm.

M4 17 (1) 56mm; M4 19 (1) 47mm; M4 20 (1) 23mm; M4 21 (1) 36mm; M4 22 (2) 23-51mm; M4 23 (1) 63mm; M4 24 (2) 32-35mm; M4 29 (1) 34mm; M4 30 (1) 67mm; M4 32 (1) 19mm; M4 34 (14) 19-57mm; M4 35 (10) 19-63mm; M4 36 (6) 19-50mm; M4 37 (3) 20-57mm; M4 39 (4) 30-64mm; M4 40 (3) 23-29mm; M4 41 (6) 22-23mm; M4 42 (2) 21-54mm; M4 44 (5) 24-38mm; M4 46 (6) 33-44mm; M4 47 (6) 39-46mm; M4 56 (9) 19-22mm; M4 57 (1) 48mm; M4 58 (3) 58-66mm; M4 59 (1) 21mm; M4 63 (1) 52mm; M4 64 (1) 57mm; M4 66 (3) 16-64mm; M4 83 (2) 40-52mm; M4 84 (11) 20-56mm; M4 85 (2) 22-23mm; M4 86 (3) 21-41mm; M4 87 (1) 63mm; M4 88 (1) 64mm; M4 90 (2) 41-43mm.

BELONIFORMES

Scombersocidae

*Cololabis saira*

EN 74 (3) 32-36mm; EN 81 (1) 33mm.

*Elassichthys adocetus*

M4 69 (1) 32mm; M4 93 (2) 26-30mm.

*Scomberesox saurus*

EN 71 (1) 43mm; EN 72 (1) 81mm.

Belonidae

*Strongylura exilis*

JD 8 (1) 64mm.

*Tylosurus crocodilus fodiator*

EN 1 (1) 69mm.

Hemiramphidae

*Hemiramphus saltator*

EN 1 (29) 26-54mm.

Exocoetidae

*Cheilopogon xenopterus*

EN 17 (1) 30mm.

*Exocoetus monocirrhus*

EN 31 (1) 31mm; EN 62 (1) 36mm.

M4 22 (3) 20-22mm; M4 23 (1) 33mm; M4 84 (1) 54mm; M4 88 (1) 39mm.

*Exocoetus volitans*

EN 85 (2) 17-21mm.

M4 35 (1) 25mm; M4 41 (1) 59mm; M4 44 (1) 55mm; M4 45 (1) 22mm; M4 55 (1) 20mm; M4 87 (1) 24mm.

*Fodiator acutus*

EN 1 (1) 27mm.

*Hirundichthys marginatus*

**M4 38** (1) 27mm; **M4 56** (1) 35mm; **M4 66** (1) 25mm.

*Oxyporhamphus micropterus*

**EN 47** (1) 88mm.

*Pronichthys tringa*

**EN 1** (2) 18-60mm; **EN 41** (1) 18mm.

**M4 54** (1) 14mm.

Holocentridae

*Sargocentron suborbitalis*

**M4 29** (28) 7-16mm; **M4 31** (1) 11mm; **M4 39** (1) 17mm.

PERCIFORMES

Carangidae

*Caranx caballus*

**JD 8** (1) 19mm.

**M4 78** (2) 19-36mm.

*Naucrates ductor*

**EN 63** (6) 20-31mm; **EN 82** (1) 22mm.

Coryphaenidae

*Coryphaena equiselis*

**EN 1** (32) 28-42mm; **EN 58** (2) 15-21mm.

**JD 28** (1) 46 mm.

**M4 3** (1) 19mm; **M4 4** (1) 19mm; **M4 6** (1) 23mm; **M4 10** (1) 19mm; **M4 12** (1) 13mm; **M4 21** (1) 45mm; **M4 22** (1) 17mm; **M4 23** (1) 42mm; **M4 29** (1) 12mm; **M4 30** (1) 19mm; **M4 32** (1) 27mm; **M4 33** (4) 16-28mm; **M4 34** (2) 25-26mm; **M4 35** (1) 13mm; **M4 36** (1) 27mm; **M4 37** (1) 25mm; **M4 48** (1) 23mm; **M4 51** (1) 13mm; **M4 53** (1) 10mm; **M4 55** (1) 47mm; **M4 66** (2) 12-15mm; **M4 67** (1) 22mm; **M4 70** (1) 19.8mm; **M4 72** (1) 22mm; **M4 75** (3) 10-12mm; **M4 76** (1) 14mm; **M4 79** (1) 44mm; **M4 90** (1) 15mm.

Lobotidae

*Lobotes surinamensis*

**EN 1** (19) 9-22mm.

Polynemidae

*Polydactylus approximans*

**EN 1** (35) 11-21mm; **EN 85** (7) 14-17mm.

**JD 33** (1) 23mm.

**M4 15** (4) 23-27mm; **M4 29** (3) 21-22mm; **M4 30** (4) 18-27mm; **M4 32** (4) 20-21mm.

*Polydactylus opercularis*

**JD 21** (1) 49mm.

**M4 15** (1) 36mm.

Kyphosidae

*Kyphosus analogus*

**EN 1** (1) 17mm.

Mugilidae

*Mugil* spp.  
**JD 2** (2) 9-11mm.  
**M4 30** (1) 14mm.

*Mugil curema*  
**EN 1** (1) 15mm.  
**JD 32** (1) 19mm.

Pomacentridae

**EN 1** (1) 11mm.

Nomeidae

*Nomeus gronovii*  
**M4 40** (1) 13mm.

*Psenes sio*  
**EN 2** (1) 32mm.

TETRADONTIFORMES

Balistidae

*Balistes polylepis*  
**EN 2** (1) 29mm.  
**JD 8** (1) 24mm; **JD 15** (1) 57mm.

*Canthidermis maculatus*  
**EN 1** (26) 7-18mm.  
**M4 12** (1) 25mm; **M4 34** (2) 9-10mm.

Diodontidae

*Diodon* spp.  
**M4 32** (2) 5-8mm.

*Diodon eydouxii*  
**M4 74** (1) 23mm; **M4 77** (1) 10mm.

*Diodon holocanthus*  
**JD 78** (4) 5-9mm; **JD 80** (1) 6mm.

Table 7. Station and bongo net tow data for *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth	Vol.(m <sup>3</sup> ) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
4	1-007	3 37.3 N	86 11.8	3	EN	980802	2253	179	483.6	3.70	234	49	349	509
5	1-010	1 35.2 N	97 41.5	4	EN	980805	2214	190	510.7	3.71	235	48	89	125
6	1-012	0 54.1 N	101 24.8	4	EN	980806	2149	228	453.9	5.03	126	53	12	24
7	1-014	0 07.3 N	104 49.2	4	EN	980807	2156	206	402.3	5.12	144	48	29	9
8	1-016	0 34.3 S	108 18.2	9	EN	980808	2145	161	590.8	2.72	129	50	30	28
9	1-020	1 43.3 S	114 11.6	10	EN	980810	2137	231	390.5	5.92	97	47	30	187
10	1-022	3 16.0 S	117 27.7	10	EN	980811	2122	208	456.1	4.57	127	52	26	51
11	1-024	4 53.7 S	120 41.8	10	EN	980812	2150	234	385.1	6.07	161	48	24	8
12	1-026	3 16.1 S	123 18.0	10	EN	980813	2201	220	388.9	5.66	231	51	13	6
13	1-028	1 20.9 N	125 48.1	6	EN	980814	2110	204	470.3	4.33	183	46	9	5
14	1-030	0 27.2 N	128 16.6	6	EN	980815	2113	209	482.7	4.34	124	48	23	3
15	1-032	2 46.6 N	131 17.0	6	EN	980816	2137	202	477.5	4.23	52	100	7	30
16	1-034	4 43.3 N	134 01.7	6	EN	980817	2155	150	497.9	3.01	118	48	76	32
17	1-036	6 17.3 N	135 59.3	6	EN	980818	2155	173	486.8	3.56	113	49	26	95
18	1-038	7 40.3 N	137 55.7	6	EN	980819	2212	196	472.4	4.15	102	50	15	6
19	1-040	9 26.1 N	140 22.8	7	EN	980820	2200	204	431.9	4.73	32	100	20	23
20	1-042	11 19.6 N	143 02.4	7	EN	980821	2208	175	539.2	3.25	59	50	34	26
21	2-049	8 43.2 N	151 10.0	7	EN	980904	2110	204	476.1	4.29	46	100	56	32
22	2-051	6 47.2 N	148 23.7	7	EN	980905	2046	202	474.8	4.25	53	100	58	19
23	2-053	6 10.7 N	145 51.6	7	EN	980906	2133	171	502.0	3.40	151	47	40	17
24	2-055	8 38.7 N	143 32.6	7	EN	980907	2101	190	504.7	3.77	103	50	51	11
25	2-057	10 32.8 N	141 50.9	7	EN	980908	2128	210	419.2	5.00	60	100	59	31
26	2-059	12 46.4 N	139 44.6	6	EN	980909	2101	215	471.1	4.56	47	100	146	12
27	2-061	14 38.7 N	137 56.1	6	EN	980910	2143	225	418.5	5.37	38	100	102	43
28	2-063	12 03.9 N	136 02.0	6	EN	980911	2141	211	466.6	4.53	54	100	83	14
29	2-065	9 07.5 N	134 07.1	6	EN	980912	2150	212	401.8	5.29	62	100	78	6
31	2-069	7 52.2 N	130 33.0	6	EN	980914	2115	230	451.2	5.09	47	100	114	28
32	2-071	10 36.3 N	128 46.3	6	EN	980915	2103	208	453.2	4.59	49	100	51	64
33	2-073	12 45.1 N	126 41.8	6	EN	980916	2044	210	405.8	5.18	34	100	97	48
34	2-075	12 35.8 N	124 02.9	5	EN	980917	2131	209	424.5	4.91	57	100	125	338
35	2-077	12 32.8 N	121 19.3	5	EN	980918	2138	204	414.4	4.92	92	47	65	11
36	2-079	13 22.0 N	118 12.0	5	EN	980919	2114	218	397.4	5.49	96	50	43	25
37	2-081	14 50.1 N	115 00.8	5	EN	980920	2104	208	434.3	4.78	41	100	78	20
38	2-083	16 06.2 N	112 14.8	2	EN	980921	2146	221	419.2	5.28	43	100	184	25
39	2-085	17 15.6 N	109 22.6	1	EN	980922	2132	214	433.8	4.93	88	50	52	120

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth	Vol.(m <sup>3</sup> ) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
40	2-087	18 14.0 N	106 57.3	1	EN	980923	2123	224	416.3	5.39	38	100	106	106
41		18 54.7 N	104 43.8	1	EN	980924	2235	200	444.1	4.50	54	100	263	298
42	3-089	19 00.9 N	105 52.0	1	EN	980930	2210	177	562.2	3.15	55	52	116	5
43	3-094	19 24.0 N	112 32.0	2	EN	981003	2138	174	578.7	3.01	54	52	157	204
44	3-096	17 56.0 N	115 06.9	2	EN	981004	2056	201	472.9	4.24	53	100	177	17
45	3-098	16 16.7 N	118 03.1	2	EN	981005	2108	191	525.2	3.63	34	100	147	158
46	3-100	14 15.2 N	119 36.1	5	EN	981006	2112	205	493.1	4.15	73	50	31	6
47	3-102	12 08.7 N	117 39.3	5	EN	981007	2102	185	515.4	3.59	78	50	16	29
48	3-104	9 15.9 N	116 48.4	5	EN	981008	2105	215	412.0	5.21	58	100	38	14
49	3-106	6 56.3 N	117 34.8	5	EN	981009	2107	199	435.2	4.57	78	47	40	14
50	3-108	4 49.4 N	119 17.2	5	EN	981010	2104	209	408.6	5.10	78	47	28	47
51	3-110	3 37.4 N	117 37.9	5	EN	981011	2111	151	448.4	3.36	234	52	49	96
52	3-114	5 01.0 N	113 07.9	5	EN	981013	2048	201	449.0	4.48	53	100	61	151
54	3-120	10 58.3 N	100 24.5	4	EN	981017	2108	193	502.9	3.85	76	53	37	38
55	3-122	10 26.7 N	97 28.9	4	EN	981018	2036	198	472.5	4.20	83	49	68	25
56	3-124	10 34.3 N	94 25.4	3	EN	981019	2028	217	408.4	5.31	120	51	32	67
57	3-126	10 12.5 N	91 59.4	3	EN	981020	2028	196	609.9	3.21	115	51	62	43
58		10 05.1 N	89 37.0	3	EN	981021	2104	186	422.0	4.41	164	48	72	28
59		8 03.9 N	85 13.7	3	EN	981029	1945	171	496.8	3.45	137	50	316	27
60		5 59.4 N	87 16.6	3	EN	981030	1951	182	517.2	3.52	73	47	94	83
61	4-131	3 04.8 N	89 28.6	3	EN	981131	2030	191	494.4	3.87	111	49	64	143
62	4-133	0 25.9 N	91 29.3	3	EN	981101	2035	117	735.1	1.59	197	52	114	33
63	4-135	4 09.8 S	93 15.3	8	EN	981104	2040	208	476.1	4.37	248	49	145	3178
64	4-137	6 51.6 S	95 39.9	9	EN	981105	2100	206	485.9	4.23	132	48	41	22
65	4-139	9 27.3 S	98 00.4	9	EN	981106	2108	196	483.6	4.05	203	49	101	67
66	4-141	12 15.4 S	99 51.7	9	EN	981107	2140	228	391.3	5.83	51	100	83	43
67	4-145	12 24.9 S	93 02.4	8	EN	981109	2055	215	437.3	4.92	87	47	30	21
68	4-147	14 49.2 S	90 20.6	8	EN	981110	2051	204	440.7	4.63	50	100	48	87
69	4-151	16 47.5 S	84 35.4	8	EN	981112	2037	199	416.7	4.78	113	51	63	34
70	4-153	15 19.3 S	82 18.4	8	EN	981113	2123	199	433.8	4.58	145	46	91	498
71	4-155	15 60.0 S	80 20.8	8	EN	981114	2123	196	497.0	3.93	175	53	310	80
72	5-156	11 35.2 S	78 10.1	8	EN	981121	2134	209	389.3	5.36	573	51	51	167
73		10 37.4 S	79 43.0	8	EN	981122	2106	156	462.6	3.38	214	52	355	323
74	5-159	11 14.0 S	81 19.1	8	EN	981123	2117	199	430.5	4.61	214	51	264	66
75	5-161	9 44.6 S	80 53.8	8	EN	981124	2122	212	455.9	4.64	134	49	110	61
79	5-168	4 43.3 S	81 31.8	8	EN	981128	2108	207	446.7	4.63	302	48	79	9
80	5-170	4 25.7 S	82 26.4	8	EN	981129	2112	227	425.9	5.32	416	50	93	23

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81	5-172	6 40.2 S	84 56.9	8	EN	981230	2120	194	487.8	3.98	164	51	103	145
82	5-174	8 51.5 S	87 23.7	8	EN	981201	2146	209	472.7	4.43	40	100	40	498
83	5-176	6 38.6 S	89 08.8	8	EN	981202	2150	208	432.4	4.82	153	48	119	856
84	5-178	3 34.3 S	88 01.8	8	EN	981203	2135	226	409.9	5.51	256	49	101	101
85	5-180	0 46.0 S	86 34.1	8	EN	981204	2126	132	593.1	2.23	400	51	186	312
86	5-182	1 12.1 N	84 30.1	3	EN	981205	2109	225	399.0	5.64	180	49	102	39
87	5-184	3 21.2 N	82 06.9	3	EN	981206	2107	236	309.6	7.62	252	49	97	202
51	4-102	1 48.7 N	106 17.5	4	JD	981011	0005	186	539.8	3.44	348	49	157	13
52	4-104	0 13.5 N	106 35.6	4	JD	981011	2121	197	382.0	5.15	327	51	13	0
53	4-106	3 03.6 S	106 52.4	9	JD	981012	2133	203	444.8	4.56	205	52	191	65
54	4-108	5 26.0 S	107 23.8	9	JD	981013	2126	205	415.5	4.94	142	52	40	14
55	4-110	7 46.0 S	107 08.8	9	JD	981014	2135	196	474.7	4.13	99	47	56	112
56	4-112	5 55.8 S	104 57.5	9	JD	981015	2133	208	415.9	5.01	84	51	46	16
57	4-114	2 01.8 S	102 52.9	9	JD	981016	2112	208	421.2	4.95	107	49	96	174
58	4-116	1 53.3 S	100 55.9	9	JD	981017	2114	188	466.8	4.03	219	52	25	446
59	4-118	0 15.6 N	98 35.0	4	JD	981018	2040	130	541.5	2.40	336	50	33	179
60	4-120	2 32.9 N	96 18.9	4	JD	981019	2038	184	396.5	4.64	116	52	85	58
61	4-122	4 52.1 N	93 47.0	3	JD	981020	2026	193	469.6	4.12	89	48	50	51
1		27 28.8 N	119 59.0	2	M4	980801	2128	208	458.3	4.53	35	100	613	11
2	1-003	24 27.0 N	118 05.3	2	M4	980802	2227	188	466.9	4.03	32	100	317	3
3	1-005	21 44.6 N	116 25.7	2	M4	980803	2142	197	415.6	4.75	51	100	404	89
4	1-007	18 43.5 N	114 39.2	2	M4	980804	2139	208	432.7	4.80	37	100	273	41
5	1-009	15 55.0 N	113 02.3	2	M4	980805	2124	203	434.5	4.68	108	51	611	94
6	1-011	14 17.6 N	111 15.0	5	M4	980806	2149	203	440.1	4.61	41	100	143	486
7		13 54.8 N	109 22.6	4	M4	980807	2040	211	469.7	4.49	68	47	149	35
8	1-014	13 38.3 N	107 53.8	4	M4	980808	2052	202	430.9	4.68	67	48	78	123
10	1-018	12 23.8 N	101 58.1	4	M4	980810	2044	207	408.6	5.07	44	100	202	170
12	1-022	14 55.2 N	98 03.9	4	M4	980812	2124	213	502.7	4.24	117	52	52	149
13	1-024	13 57.3 N	95 21.0	4	M4	980813	2130	210	412.4	5.09	61	100	101	81
15	2-028	12 56.6 N	90 32.1	3	M4	980821	2044	204	457.8	4.45	170	51	169	55
16	2-030	11 41.0 N	91 19.1	3	M4	980822	2020	193	421.2	4.57	183	49	90	43
17	2-032	12 45.0 N	94 18.9	3	M4	980823	2102	200	442.3	4.52	201	52	26	6
18	2-034	11 34.5 N	97 18.2	4	M4	980824	2103	211	482.6	4.36	87	52	94	36
20	2-038	6 54.5 N	102 38.3	4	M4	980826	2112	196	481.7	4.07	85	51	60	37
21	2-040	5 19.1 N	103 33.2	4	M4	980827	2227	205	420.8	4.87	90	50	102	60
22	2-042	5 18.4 N	100 25.4	4	M4	980828	2058	199	395.4	5.04	63	100	168	30
23	2-044	5 19.6 N	97 05.3	4	M4	980829	2126	195	414.7	4.70	92	47	44	8

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24	2-046	5 02.8 N	94 47.2	3	M4	980830	2051	195	424.2	4.60	92	49	118	13
25	2-048	5 19.6 N	91 38.5	3	M4	980831	2046	203	395.1	5.14	119	51	58	7
26	2-050	5 20.1 N	88 15.1	3	M4	980901	1958	195	387.1	5.04	62	100	109	107
27		5 19.6 N	86 47.6	3	M4	980902	2040	202	396.4	5.11	108	49	46	27
28	2-053	5 17.3 N	83 40.8	3	M4	980903	2017	198	408.0	4.85	120	49	115	65
29	2-054	5 17.7 N	81 02.4	3	M4	980904	2229	186	489.4	3.81	94	52	219	120
30	2-056	5 20.0 N	78 53.9	3	M4	980905	2027	203	398.7	5.10	83	54	89	630
31		7 23.2 N	78 55.9	3	M4	980906	2057	212	370.5	5.73	67	100	95	44
32	3-060	6 13.1 N	80 16.7	3	M4	980913	2027	209	426.5	4.91	84	53	77	73
33	3-062	6 33.0 N	83 41.0	3	M4	980914	2101	215	384.9	5.58	125	52	165	283
34	3-064	6 44.0 N	86 44.7	3	M4	980915	2047	189	444.0	4.26	95	52	109	29
35	3-066	7 03.7 N	89 57.0	3	M4	980916	2126	198	408.4	4.85	83	53	196	20
36	3-068	7 18.5 N	93 13.1	3	M4	980917	2007	207	412.6	5.01	158	52	150	9
37	3-070	7 34.0 N	96 42.6	4	M4	980918	2106	217	358.4	6.06	120	54	88	20
38	3-072	7 45.0 N	99 49.3	4	M4	980919	2038	205	375.0	5.47	101	53	85	31
39	3-074	7 54.8 N	103 03.3	4	M4	980920	2118	200	387.8	5.16	132	47	43	8
40	3-076	8 08.3 N	106 23.8	4	M4	980921	2109	212	353.3	5.99	71	100	147	24
41	3-078	6 37.5 N	109 13.4	4	M4	980922	2131	210	360.8	5.83	67	100	95	1662
42	3-080	5 00.0 N	109 58.9	4	M4	980923	2031	202	383.5	5.26	52	100	14	14
53	4-102	18 12.0 N	105 19.1	1	M4	981012	2213	199	530.0	3.75	47	100	85	190
54	4-104	15 39.2 N	106 58.5	1	M4	981013	2308	197	488.5	4.03	74	50	93	38
55	4-106	11 16.0 N	110 43.8	5	M4	981015	2148	195	553.8	3.53	92	51	45	26
56	4-108	8 55.8 N	111 55.5	5	M4	981016	2151	206	530.0	3.88	45	100	26	20
57	4-110	5 30.5 N	112 26.5	5	M4	981017	2149	207	489.3	4.23	51	100	234	45
58	4-112	3 04.1 N	112 57.3	5	M4	981018	2201	123	706.9	1.74	205	50	53	1602
59	4-114	1 20.1 N	113 51.4	5	M4	981019	2147	201	444.6	4.53	184	49	30	4
60	4-116	1 20.0 N	116 49.5	5	M4	981020	2103	204	475.5	4.29	278	48	25	3
61	4-118	1 21.4 N	119 52.9	5	M4	981021	2112	176	580.4	3.04	98	51	13	20
62	4-120	1 20.1 N	122 54.4	5	M4	981022	2131	211	385.9	5.46	65	100	40	92
63	4-122	3 45.8 N	123 21.2	5	M4	981023	2136	182	549.5	3.31	45	100	50	47
64	4-124	6 33.0 N	123 19.7	5	M4	981024	2128	185	497.2	3.72	74	51	130	89
65	4-126	9 42.2 N	123 18.3	5	M4	981025	2132	200	518.5	3.86	48	100	83	118
66	4-128	12 29.4 N	123 21.1	5	M4	981026	2122	194	519.5	3.73	48	100	520	23
67	4-130	15 37.9 N	123 19.8	2	M4	981027	2113	203	482.5	4.21	52	100	125	27
68	4-132	18 44.0 N	122 28.2	2	M4	981028	2101	214	433.8	4.92	37	100	310	275
69	4-134	21 47.1 N	120 42.2	2	M4	981029	2054	196	485.5	4.03	35	100	53	22
70	4-136	21 04.4 N	119 16.2	2	M4	981030	2052	197	471.8	4.17	30	100	278	20

Tow Number	CTD Station	Lat. deg. min.	Long(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth	Vol.(m <sup>3</sup> ) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
71	4-138	17 51.3 N	118 03.2	2	M4	981031	2102	203	523.3	3.87	46	100	224	12
72	4-142	22 15.4 N	115 46.6	2	M4	981102	2033	202	492.5	4.09	30	100	124	215
73	4-144	21 32.6 N	113 59.9	2	M4	981103	2025	200	532.8	3.75	43	100	99	2001
74	4-146	21 15.5 N	112 10.6	2	M4	981104	2016	198	512.0	3.86	47	100	205	135
75	4-148	20 29.7 N	110 59.7	2	M4	981105	2014	205	487.7	4.19	43	100	300	54
76	4-150	22 10.1 N	109 40.8	1	M4	981106	2009	196	469.4	4.17	53	100	302	86
77	4-152	20 34.0 N	108 22.5	1	M4	981107	2024	195	450.0	4.33	56	100	143	97
78	5-154	18 39.5 N	105 26.2	1	M4	981114	2050	208	478.5	4.34	90	51	66	15
79	5-156	16 59.6 N	107 39.8	1	M4	981115	2125	210	484.0	4.35	81	54	124	13
80	5-158	15 09.3 N	110 12.8	2	M4	981116	2117	204	472.1	4.33	38	100	85	58
81	5-160	13 51.7 N	113 00.4	5	M4	981117	2024	205	438.1	4.68	84	49	48	115
82	5-162	12 43.6 N	115 55.4	5	M4	981118	2038	222	465.6	4.78	54	100	102	58
83	5-164	11 32.5 N	119 00.2	5	M4	981119	2052	210	496.3	4.24	69	53	104	19
84	5-166	8 44.2 N	119 19.5	5	M4	981120	2101	201	504.6	3.99	91	48	221	30
85	5-168	8 03.8 N	121 46.3	5	M4	981121	2112	208	494.0	4.21	65	50	101	8
86	5-170	6 37.5 N	129 36.8	6	M4	981122	2131	204	536.3	3.81	54	48	125	37
87	5-172	5 02.8 N	127 36.9	6	M4	981123	2151	211	444.7	4.74	61	48	118	113
88	5-174	6 29.5 N	129 15.6	6	M4	981124	2150	205	522.2	3.93	48	100	383	1298
89	5-176	9 27.0 N	130 11.9	6	M4	981125	2200	211	514.5	4.10	49	100	109	35
90	5-178	11 35.9 N	130 51.6	6	M4	981126	2041	211	486.9	4.33	64	52	175	34
91	5-180	14 50.8 N	136 59.9	6	M4	981127	2041	210	511.9	4.10	25	100	127	26



Table 8. Pooled occurrences of fish larvae taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Rank	Taxon	Occurrences
1	<i>Vinciguerria lucetia</i>	164
2	<i>Diogenichthys laternatus</i>	148
3	<i>Diaphus</i> spp.	111
4	<i>Bathylagus nigrigenys</i>	100
5	<i>Bregmaceros</i> spp.	88
6	<i>Sternoptyx</i> spp.	75
7	<i>Lampanyctus</i> spp.	74
8	<i>Lampanyctus parvicauda</i>	60
9	<i>Scopelogadus bispinosus</i>	53
10	<i>Melamphaes</i> spp.	52
11	<i>Symbolophorus evermanni</i>	49
11	<i>Scopelarchoides nicholsi</i>	49
13	<i>Idiacanthus</i> spp.	48
14	<i>Cubiceps pauciradiatus</i>	45
15	<i>Lestidiops neles</i>	43
16	<i>Hygophum proximum</i>	39
16	<i>Cyclothone signata</i>	39
18	<i>Lestidium</i> spp.	37
19	<i>Cyclothone</i> spp.	36
20	Unidentified fish larvae	35
21	<i>Myctophum aurolaternatum</i>	30
22	<i>Diplophos proximus</i>	28
23	<i>Notolychnus valdiviae</i>	24
23	<i>Nealotus tripes</i>	24
25	<i>Oxyporhamphus micropterus</i>	23
25	<i>Hygophum atratum</i>	23
27	<i>Stemonosudis macrura</i>	21
27	<i>Gonichthys tenuiculus</i>	21
29	<i>Howella pammelas</i>	20
29	<i>Bathophilus filifer</i>	20
31	Gobiidae	19
31	<i>Auxis</i> spp.	19
33	<i>Ceratoscopelus warmingii</i>	18
34	<i>Evermannella ahlstromi</i>	17
34	<i>Gempylus serpens</i>	17
34	<i>Nannobranchium idostigma</i>	17
34	<i>Myctophum nitidulum</i>	17
34	<i>Bolinichthys longipes</i>	17
34	<i>Notoscopelus resplendens</i>	17
40	<i>Chiasmodon niger</i>	16
40	<i>Triphoturus</i> spp.	16
42	<i>Stomias</i> spp.	14
42	Myctophidae	14
42	<i>Coryphaena hippurus</i>	14
45	<i>Bregmaceros bathymaster</i>	13
45	<i>Lestidiops</i> spp.	13
47	Eleotridae	12
47	<i>Syacium</i> spp.	12
49	<i>Hygophum reinhardtii</i>	10

Table 8. (cont.)

Rank	Taxon	Occurrences
50	<i>Rosenblattichthys volucris</i>	9
50	Melanostomiinae	9
50	<i>Oneirodes</i> spp.	9
53	<i>Myctophum asperum</i>	8
53	<i>Cubiceps baxteri</i>	8
55	<i>Bothus</i> spp.	7
55	<i>Rhynchoconger nitens</i>	7
55	<i>Psenes sio</i>	7
55	<i>Howella</i> spp.	7
55	<i>Chauliodus</i> spp.	7
55	<i>Coryphaena equiselis</i>	7
55	<i>Symphurus</i> spp.	7
55	<i>Triphoturus nigrescens</i>	7
63	Disintegrated fish larvae	6
63	<i>Xyrichtys mundiceps</i>	6
63	<i>Leuroglossus urotronus</i>	6
63	<i>Poromitra crassiceps</i>	6
63	<i>Bolinichthys</i> spp.	6
63	<i>Scomber japonicus</i>	6
69	<i>Argyrolepecus sladeni</i>	5
69	<i>Ariosoma gilberti</i>	5
69	<i>Psenes pellucidus</i>	5
69	<i>Diogenichthys atlanticus</i>	5
69	<i>Triphoturus mexicanus</i>	5
74	<i>Diplospinus multistriatus</i>	4
74	<i>Dolopichthys</i> spp.	4
74	<i>Ophichthus zophochir</i>	4
74	<i>Scopelengys tristis</i>	4
74	<i>Ceratoscopelus townsendi</i>	4
74	<i>Lampadena urophaos</i>	4
74	<i>Nannobranchium hawaiiensis</i>	4
74	Carangidae	4
74	<i>Thalassoma</i> spp.	4
74	<i>Trachipterus fukuzakii</i>	4
74	<i>Loweina rara</i>	4
74	<i>Brama dussumieri</i>	4
74	<i>Myctophum</i> spp.	4
74	<i>Caranx</i> spp.	4
74	<i>Chlopsis</i> spp.	4
89	<i>Hygophum</i> spp.	3
89	Macrouridae	3
89	Melamphaidae	3
89	<i>Scorpaenodes xyris</i>	3
89	<i>Nemichthys scolopaceus</i>	3
89	<i>Thunnus</i> spp.	3
89	Nomeidae	3
89	<i>Paraconger californiensis</i>	3
89	<i>Psenes arafurensis</i>	3
89	<i>Bathycongrus macrurus</i>	3
89	<i>Cyclopsetta</i> spp.	3
89	<i>Caristius maderensis</i>	3
101	<i>Opisthonema</i> spp.	2

Table 8. (cont.)

Rank	Taxon	Occurrences
101	<i>Katsuwonus pelamis</i>	2
101	<i>Gigantactis</i> spp.	2
101	<i>Lepidocybium flavobrunneum</i>	2
101	Labridae	2
101	<i>Xyrichtys</i> spp.	2
101	<i>Serrivomer sector</i>	2
101	<i>Melamphaes lugubris</i>	2
101	<i>Nannobranchium bristori</i>	2
101	<i>Nemichthys</i> spp.	2
101	Sciaenidae	2
101	<i>Lampanyctus tenuiformis</i>	2
101	Ostraciidae	2
101	<i>Scopelarchus guentheri</i>	2
101	<i>Nomeus gronovii</i>	2
101	<i>Scopelosaurus</i> spp.	2
101	Paralepididae	2
101	<i>Monolene</i> spp.	2
101	<i>Lobianchia gemellarii</i>	2
101	<i>Argyropelecus affinis</i>	2
101	<i>Ophichthus</i> spp.	2
101	<i>Zu cristatus</i>	2
101	Scorpaenidae	2
101	<i>Benthoosema suborbitale</i>	2
101	<i>Astronesthes</i> spp.	2
101	<i>Anchoa</i> spp.	2
101	<i>Pontinus</i> spp.	2
101	<i>Eustomias</i> spp.	2
101	<i>Protomyctophum crockeri</i>	2
101	Astronesthinae	2
101	<i>Myctophum lychnobium</i>	2
101	Stomiiformes	2
101	<i>Naucrates ductor</i>	2
101	<i>Exocoetus</i> spp.	2
101	<i>Chlorophthalmus</i> spp.	2
136	Muraenidae	1
136	<i>Valenciennellus tripunctulatus</i>	1
136	<i>Heteroconger digueti</i>	1
136	<i>Chiloconger</i> spp.	1
136	<i>Synodus</i> spp.	1
136	<i>Stomias atriventer</i>	1
136	<i>Ichthyococcus</i> spp.	1
136	<i>Borostomias panamensis</i>	1
136	<i>Woodsia nonsuchae</i>	1
136	Congridae	1
136	<i>Rhynchoconger</i> spp.	1
136	<i>Scopelarchus analis</i>	1
136	<i>Argyropelecus lychnus</i>	1
136	<i>Gonostoma atlanticum</i>	1
136	Nettastomatidae	1
136	Clupeidae	1
136	<i>Bathylagus wesethi</i>	1
136	<i>Nansenia crassa</i>	1

Table 8. (cont.)

Rank	Taxon	Occurrences
136	<i>Cetengraulis</i> spp.	1
136	<i>Sardinops sagax</i>	1
136	<i>Avocettina bowersi</i>	1
136	Istiophoridae	1
136	<i>Symbolophorus</i> spp.	1
136	<i>Caulolatilus</i> spp.	1
136	<i>Remora</i> spp.	1
136	<i>Brama</i> spp.	1
136	<i>Taractichthys steindachneri</i>	1
136	<i>Lutjanus</i> spp.	1
136	Gerreidae	1
136	Haemulidae	1
136	<i>Polydactylus approximans</i>	1
136	<i>Mugil</i> spp.	1
136	Pomacentridae	1
136	<i>Ammodytoides gilli</i>	1
136	Opisthognathidae	1
136	<i>Trichiurus nitens</i>	1
136	<i>Pronotogrammus multifasciatus</i>	1
136	<i>Euthynnus lineatus</i>	1
136	<i>Scomberomorus sierra</i>	1
136	<i>Psenes</i> spp.	1
136	<i>Psenes cyanophrys</i>	1
136	<i>Psenes maculatus</i>	1
136	<i>Tetragonurus cuvieri</i>	1
136	<i>Perissias taeniopterus</i>	1
136	Balistidae	1
136	<i>Canthidermis maculatus</i>	1
136	Monacanthidae	1
136	<i>Lactoria fornasini</i>	1
136	<i>Diodon eydouxii</i>	1
136	<i>Acanthurus triostegus</i>	1
136	<i>Antennarius</i> spp.	1
136	<i>Uncisudis quadrimaculatus</i>	1
136	Myctophiformes	1
136	<i>Lampadena luminosa</i>	1
136	<i>Lampanyctus omostigma</i>	1
136	<i>Nannobranchium achirus</i>	1
136	<i>Myctophum selenops</i>	1
136	<i>Albula</i> spp.	1
136	<i>Symbolophorus californiensis</i>	1
136	<i>Desmodema lorum</i>	1
136	<i>Trachipterus altivelis</i>	1
136	Moridae	1
136	<i>Merluccius gayi</i>	1
136	<i>Apogon</i> spp.	1
136	<i>Echiodon exsilium</i>	1
136	<i>Uncisudis advena</i>	1
136	<i>Melanocetus</i> spp.	1
136	<i>Melanocetus johnsoni</i>	1
136	<i>Chaenophryne</i> spp.	1
136	<i>Borophryne</i> spp.	1

Table 8. (cont.)

Rank	Taxon	Occurrences
136	<i>Cheilopogon xenopterus</i>	1
136	<i>Scopeloberyx robustus</i>	1
136	<i>Sargocentron suborbitalis</i>	1
136	<i>Pontinus sierra</i>	1
136	Triglidae	1
136	Serraninae	1
136	<i>Diplectrum</i> spp.	1
136	<i>Hemanthias peruanus</i>	1
136	Ophidiidae	1
	Total	2276

Table 9. Pooled standardized numbers of fish larvae taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD and *McArthur* cruise 9810M4.

Rank	Taxon	Count
1	<i>Vinciguerria lucetia</i>	55744
2	<i>Diogenichthys laternatus</i>	25794
3	<i>Diaphus</i> spp.	7139
4	<i>Sternoptyx</i> spp.	3132
5	<i>Bathylagus nigrigenys</i>	3044
6	<i>Lampanyctus</i> spp.	1923
7	<i>Bregmaceros</i> spp.	1872
8	<i>Leuroglossus urotronus</i>	1573
9	<i>Cubiceps pauciradiatus</i>	1238
10	<i>Sardinops sagax</i>	1221
11	<i>Hygophum atratum</i>	1215
12	<i>Symbolophorus evermanni</i>	1089
13	<i>Hygophum proximum</i>	1040
14	<i>Lampanyctus parvicauda</i>	945
15	<i>Lestidiops neles</i>	907
16	<i>Idiacanthus</i> spp.	695
17	<i>Bregmaceros bathymaster</i>	674
18	<i>Scopelarchoides nicholsi</i>	669
19	<i>Melamphaes</i> spp.	668
20	<i>Notolychnus valdiviae</i>	667
21	<i>Scopelogadus bispinosus</i>	632
22	<i>Cyclothone signata</i>	603
23	<i>Lestidium</i> spp.	558
24	<i>Cyclothone</i> spp.	534
25	Eleotridae	485
26	<i>Ceratoscopelus warmingii</i>	478
27	<i>Ceratoscopelus townsendi</i>	462
28	Gobiidae	404
29	<i>Anchoa</i> spp.	360
30	<i>Triphoturus</i> spp.	345
31	Unidentified fish larvae	334
32	<i>Nealotus tripes</i>	334
33	<i>Scomber japonicus</i>	316
34	<i>Myctophum aurolaternatum</i>	306
35	<i>Diplophos proximus</i>	291
36	<i>Hygophum reinhardtii</i>	278
37	<i>Nannobranchium idostigma</i>	278
38	<i>Notoscopelus resplendens</i>	257
39	<i>Myctophum nitidulum</i>	245
40	<i>Bolinichthys longipes</i>	240
41	<i>Triphoturus mexicanus</i>	239
42	<i>Lestidiops</i> spp.	236
43	<i>Syacium</i> spp.	231
44	<i>Auxis</i> spp.	225
45	<i>Bathophilus filifer</i>	221
46	<i>Oxyporhamphus micropterus</i>	212
47	<i>Howella pammelae</i>	210
48	<i>Stemonosudis macrura</i>	204
49	<i>Gonichthys tenuiculus</i>	184

Table 9. (cont.)

Rank	Taxon	Count
50	Myctophidae	178
51	<i>Opisthonema</i> spp.	174
52	<i>Myctophum asperum</i>	163
53	<i>Bolinichthys</i> spp.	158
54	<i>Evermannella ahlstromi</i>	125
55	<i>Stomias</i> spp.	118
56	<i>Gempylus serpens</i>	114
57	<i>Chiasmodon niger</i>	111
58	<i>Coryphaena hippurus</i>	100
59	<i>Diogenichthys atlanticus</i>	95
60	<i>Xyrichtys mundiceps</i>	88
61	<i>Oneirodes</i> spp.	81
62	<i>Triphoturus nigrescens</i>	79
63	<i>Diplospinus multistriatus</i>	77
64	<i>Hygophum</i> spp.	77
65	<i>Rhynchoconger nitens</i>	71
66	<i>Psenes sio</i>	70
67	<i>Rosenblattichthys volucris</i>	66
68	<i>Howella</i> spp.	65
69	<i>Ariosoma gilberti</i>	63
70	Disintegrated fish larvae	59
71	<i>Symphurus</i> spp.	59
72	<i>Chauliodus</i> spp.	58
73	Melanostomiinae	56
74	<i>Chlopsis</i> spp.	55
75	<i>Psenes pellucidus</i>	55
76	<i>Coryphaena equiselis</i>	54
77	<i>Poromitra crassiceps</i>	54
78	<i>Merluccius gayi</i>	54
79	<i>Cubiceps baxteri</i>	53
80	<i>Symbolophorus</i> spp.	52
81	<i>Caranx</i> spp.	48
82	<i>Benthoosema suborbitale</i>	45
83	<i>Myctophum</i> spp.	43
84	<i>Bothus</i> spp.	43
85	<i>Argyropelecus sladeni</i>	42
86	<i>Brama dussumieri</i>	41
87	Nomeidae	40
88	<i>Pontinus</i> spp.	39
89	Sciaenidae	38
90	<i>Lampanyctus tenuiformis</i>	37
91	<i>Nannobrachium hawaiiensis</i>	35
92	<i>Chloropthalmus</i> spp.	35
93	<i>Bathycongrus macrurus</i>	32
94	<i>Scopelengys tristis</i>	32
95	Carangidae	30
96	<i>Nomeus gronovii</i>	30
97	<i>Thunnus</i> spp.	30
98	<i>Ophichthus zophochir</i>	29
99	<i>Trachipterus fukuzakii</i>	28
100	<i>Loweina rara</i>	27

Table 9. (cont.)

Rank	Taxon	Count
101	<i>Dolopichthys</i> spp.	27
102	<i>Thalassoma</i> spp.	26
103	<i>Nemichthys scolopaceus</i>	25
104	<i>Caristius maderensis</i>	25
105	<i>Lampadena urophaos</i>	25
106	<i>Nemichthys</i> spp.	24
107	Melamphaidae	23
108	<i>Paraconger californiensis</i>	23
109	<i>Monolene</i> spp.	23
110	<i>Polydactylus approximans</i>	23
110	Serraninae	23
110	Gerreidae	23
113	<i>Valenciennellus tripunctulatus</i>	22
114	Macrouridae	22
115	<i>Ophichthus</i> spp.	20
116	<i>Psenes arafurensis</i>	20
117	<i>Zu cristatus</i>	20
118	<i>Exocoetus</i> spp.	20
119	<i>Cetengraulis</i> spp.	19
120	<i>Gigantactis</i> spp.	19
121	<i>Cyclopsetta</i> spp.	18
122	<i>Astronesthes</i> spp.	18
123	<i>Myctophum lychnobium</i>	18
124	<i>Eustomias</i> spp.	18
125	<i>Protomyctophum crockeri</i>	17
126	<i>Serrivomer sector</i>	16
127	Paralepididae	15
128	Ostraciidae	14
129	<i>Naucrates ductor</i>	14
130	<i>Melamphaes lugubris</i>	14
131	<i>Scorpaenodes xyris</i>	14
132	<i>Bathylagus wesethi</i>	14
133	<i>Lobianchia gemellarii</i>	14
134	<i>Lampanyctus bristori</i>	13
135	<i>Xyrichtys</i> spp.	13
136	<i>Chaenophryne</i> spp.	12
137	<i>Argyropelecus lychnus</i>	12
138	Stomiiformes	12
139	Muraenidae	12
140	<i>Hemanthias peruanus</i>	11
141	<i>Scopeloberyx robustus</i>	11
142	<i>Borostomias panamensis</i>	11
143	<i>Trichiurus lepturus</i>	11
144	Triglidae	11
145	<i>Caulolatilus</i> spp.	10
146	<i>Avocettina bowersi</i>	10
147	Astronesthinae	10
148	<i>Psenes cyanophrys</i>	10
149	Scorpaenidae	10
150	Labridae	10
151	<i>Melanocetus</i> spp.	10



Table 9. (cont.)

Rank	Taxon	Count
152	<i>Nansenia crassa</i>	10
153	<i>Perissias taeniopterus</i>	10
154	Myctophiformes	10
155	<i>Diodon eydouxii</i>	10
156	<i>Lampanyctus omostigma</i>	10
157	<i>Pontinus sierra</i>	10
158	<i>Nannobranchium achirus</i>	9
159	<i>Sargocentron suborbitalis</i>	9
160	<i>Rhynchoconger</i> spp.	9
161	<i>Argyropelecus affinis</i>	9
162	<i>Synodus</i> spp.	9
162	<i>Mugil</i> spp.	9
164	<i>Woodsia nonsuchae</i>	9
164	<i>Echiodon exsilium</i>	9
166	<i>Chiloconger</i> spp.	9
167	<i>Diplectrum</i> spp.	9
167	<i>Canthidermis maculatus</i>	9
167	<i>Remora</i> spp.	9
167	<i>Antennarius</i> spp.	9
171	<i>Gonostoma atlanticum</i>	9
172	<i>Lepidocybium flavobrunneum</i>	8
173	<i>Borophryne</i> spp.	8
174	<i>Myctophum selenops</i>	8
175	Istiophoridae	8
175	<i>Scopelarchus guentheri</i>	8
177	<i>Ichthyococcus</i> spp.	8
178	<i>Apogon</i> spp.	8
179	<i>Katsuwonus pelamis</i>	8
180	Pomacentridae	7
180	Clupeidae	7
182	<i>Scopelosaurus</i> spp.	7
183	<i>Uncisudis advena</i>	7
183	<i>Psenes maculatus</i>	7
185	Congridae	7
186	Opisthognathidae	7
187	Balistidae	6
187	<i>Brama</i> spp.	6
189	<i>Heteroconger digueti</i>	6
189	<i>Albula</i> spp.	6
191	<i>Acanthurus triostegus</i>	6
192	<i>Ammodytoides gilli</i>	6
193	<i>Lampadena luminosa</i>	6
193	Moridae	6
195	Ophidiidae	6
196	<i>Cheilopogon xenopterus</i>	5
196	Monacanthidae	5
198	<i>Psenes</i> spp.	5
199	<i>Scopelarchus analis</i>	5
199	<i>Tetragonurus cuvieri</i>	5
201	<i>Lutjanus</i> spp.	5
201	<i>Scomberomorus sierra</i>	5

Table 9. (cont.)

Rank	Taxon	Count
201	Haemulidae	5
204	Nettastomatidae	4
205	<i>Euthynnus lineatus</i>	4
206	<i>Uncisudis quadrimaculatus</i>	4
207	<i>Trachipterus altivelis</i>	4
208	<i>Pronotogrammus multifasciatus</i>	4
208	<i>Lactoria fornasini</i>	4
210	<i>Melanocetus johnsoni</i>	4
211	<i>Symbolophorus californiensis</i>	4
211	<i>Stomias atriventer</i>	4
213	<i>Desmodema lorum</i>	4
214	<i>Taractichthys steindachneri</i>	3
	Total	125643

Table 10. Standardized numbers (number per 10m<sup>2</sup>) of fish larvae taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4 listed by taxon, tow number, and region.

<i>Albula</i> spp.						<i>Chilococonger</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
42	EN	3-089	1	1	6.10	63	EN	4-135	8	1	8.88
<i>Chlopsis</i> spp.						<i>Heteroconger digueti</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	4	30.39	42	EN	3-089	1	1	6.10
55	EN	3-122	4	1	8.62	<i>Paraconger californiensis</i>					
59	JD	4-118	4	1	4.85	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
86	EN	5-182	3	1	11.60	4	EN	1-007	3	1	7.60
Muraenidae						30	M4	2-056	3	1	9.36
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	31	M4		3	1	5.73
86	EN	5-182	3	1	11.60	<i>Rhynchoconger</i> spp.					
<i>Ophichthus</i> spp.						Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	58	EN		3	1	9.23
35	M4	3-066	3	1	9.17	<i>Rhynchoconger nitens</i>					
37	M4	3-070	4	1	11.33	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
<i>Ophichthus zophochir</i>						12	M4	1-022	4	1	8.08
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	13	M4	1-024	4	2	10.18
17	M4	2-032	3	1	8.74	15	M4	2-028	3	2	17.35
41	EN		1	1	4.50	16	M4	2-030	3	1	9.25
57	EN	3-126	3	1	6.25	17	M4	2-032	3	1	8.74
83	EN	5-176	8	1	9.94	31	M4		3	1	5.73
Congridae						37	M4	3-070	4	1	11.33
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	<i>Avocettina bowersi</i>					
51	JD	4-102	4	1	7.03	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
<i>Ariosoma gilberti</i>						56	EN	3-124	3	1	10.41
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	<i>Nemichthys</i> spp.					
4	EN	1-007	3	1	7.60	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
11	EN	1-024	10	1	12.54	24	M4	2-046	3	2	18.89
13	M4	1-024	4	3	15.27	59	JD	4-118	4	1	4.85
57	EN	3-126	3	3	18.74	<i>Nemichthys scolopaceus</i>					
77	M4	4-152	1	2	8.66	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
<i>Bathyocongrus macrurus</i>						4	EN	1-007	3	1	7.60
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	25	M4	2-048	3	1	10.06
4	EN	1-007	3	1	7.60	60	EN		3	1	7.43
60	EN		3	2	14.85	<i>Serrivomer sector</i>					
79	EN	5-168	8	1	9.63	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
						64	M4	4-124	5	1	7.24

*Serrivomer sector* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
85	M4	5-168	5	1	8.42
<i>Nettastomatidae</i>					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
85	EN	5-180	8	1	4.36
<i>Clupeidae</i>					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
71	EN	4-155	8	1	7.43
<i>Opisthonema</i> spp.					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	36	162.00
42	EN	3-089	1	2	12.21
<i>Sardinops sagax</i>					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
73	EN		8	186	1220.7
<i>Anchoa</i> spp.					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	38	171.00
72	EN	5-156	8	18	188.81
<i>Cetengraulis</i> spp.					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
79	EN	5-168	8	2	19.25
<i>Nansenia crassa</i>					

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
23	M4	2-044	4	1	9.92

*Bathylagus nigrigenys*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	4	30.39
5	EN	1-010	4	4	30.72
5	M4	1-009	2	1	9.16
6	M4	1-011	5	3	13.83
7	EN	1-014	4	7	74.20
8	EN	1-016	9	10	54.40
8	M4	1-014	4	1	9.69
9	EN	1-020	10	1	12.49
12	M4	1-022	4	2	16.15
12	EN	1-026	10	1	11.08
13	EN	1-028	6	1	9.31
13	M4	1-024	4	12	61.08
15	M4	2-028	3	10	86.74

*Bathylagus nigrigenys* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
16	M4	2-030	3	3	27.75
18	M4	2-034	4	6	49.92
18	EN	1-038	6	2	16.60
20	EN	1-042	7	1	6.50
24	EN	2-055	7	3	22.62
24	M4	2-046	3	1	9.45
25	EN	2-057	7	16	80.00
26	EN	2-059	6	1	4.56
26	M4	2-050	3	1	5.04
27	M4		3	1	10.47
28	M4	2-053	3	5	49.49
28	EN	2-063	6	3	13.59
29	EN	2-065	6	2	10.58
29	M4	2-054	3	8	58.39
30	M4	2-056	3	2	18.72
31	M4		3	1	5.73
32	M4	3-060	3	2	18.60
32	EN	2-071	6	3	13.77
33	M4	3-062	3	5	53.55
34	M4	3-064	3	1	8.13
34	EN	2-075	5	11	54.01
35	M4	3-066	3	6	55.01
35	EN	2-077	5	1	10.38
36	EN	2-079	5	3	32.94
36	M4	3-068	3	1	9.58
37	M4	3-070	4	3	33.98
38	M4	3-072	4	5	52.00
38	EN	2-083	2	1	5.28
39	M4	3-074	4	3	32.87
40	EN	2-087	1	2	10.78
41	EN		1	1	4.50
41	M4	3-078	4	3	17.49
43	EN	3-094	2	2	11.67
44	EN	3-096	2	1	4.24
46	EN	3-100	5	5	41.50
48	EN	3-104	5	1	5.21
53	JD	4-106	9	2	17.67
53	M4	4-102	1	2	7.50
55	EN	3-122	4	7	60.37
55	M4	4-106	5	2	13.84
56	EN	3-124	3	2	20.82
57	EN	3-126	3	5	31.23
57	JD	4-114	9	2	20.25
58	EN		3	14	129.16
58	JD	4-116	9	1	7.75
59	M4	4-114	5	1	9.28
59	EN		3	8	55.20
60	EN		3	1	7.43
61	M4	4-118	5	1	5.97

*Bathylagus nigrigenys* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
61	EN	4-131	3	3	23.65
61	JD	4-122	3	1	8.66
62	EN	4-133	3	15	45.52
63	EN	4-135	8	5	44.41
65	M4	4-126	5	5	19.30
66	M4	4-128	5	11	41.03
67	M4	4-130	2	5	21.05
68	M4	4-132	2	3	14.76
69	EN	4-151	8	2	18.71
70	EN	4-153	8	10	99.57
70	M4	4-136	2	1	4.17
71	EN	4-155	8	18	133.72
72	M4	4-142	2	1	4.09
72	EN	5-156	8	8	83.91
73	EN		8	11	72.19
73	M4	4-144	2	1	3.75
74	EN	5-159	8	23	207.50
75	M4	4-148	2	4	16.76
75	EN	5-161	8	3	28.29
76	M4	4-150	1	11	45.87
77	M4	4-152	1	4	17.32
79	EN	5-168	8	3	28.88
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
80	EN	5-170	8	3	32.11
81	EN	5-172	8	1	7.76
82	EN	5-174	8	1	4.43
82	M4	5-162	5	2	9.56
83	M4	5-164	5	6	48.09
83	EN	5-176	8	4	39.75
84	EN	5-178	8	8	90.70
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
85	EN	5-180	8	6	26.18
86	EN	5-182	3	5	58.02
86	M4	5-170	6	2	15.78
90	M4	5-178	6	2	16.78
91	M4	5-180	6	1	4.10

*Bathylagus wesethi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	3	13.59

*Leuroglossus urotronus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
70	EN	4-153	8	2	19.91
75	EN	5-161	8	1	9.43
79	EN	5-168	8	64	616.05

*Leuroglossus urotronus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
80	EN	5-170	8	82	877.75
84	EN	5-178	8	3	34.01
87	EN	5-184	3	1	15.65

## Stomiiformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
86	M4	5-170	6	1	7.89
88	M4	5-174	6	1	3.93

*Cyclothone* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	3	12.09
4	EN	1-007	3	1	7.60
5	EN	1-010	4	1	7.68
8	EN	1-016	9	1	5.44
16	EN	1-034	6	2	12.67
17	EN	1-036	6	1	7.25
20	M4	2-038	4	6	47.70
21	EN	2-049	7	2	8.58
22	M4	2-042	4	2	10.08
24	M4	2-046	3	1	9.45
26	M4	2-050	3	3	15.12
27	EN	2-061	6	1	5.37
30	M4	2-056	3	3	28.07
31	EN	2-069	6	2	10.18
32	EN	2-071	6	1	4.59
34	M4	3-064	3	1	8.13
35	M4	3-066	3	1	9.17
39	M4	3-074	4	1	10.96
51	JD	4-102	4	7	49.24
53	JD	4-106	9	1	8.84
56	JD	4-112	9	1	9.75
57	JD	4-114	9	3	30.37
60	EN		3	2	14.85
60	JD	4-120	4	1	8.89
61	JD	4-122	3	1	8.66
62	EN	4-133	3	4	12.14
64	M4	4-124	5	3	21.71
65	M4	4-126	5	1	3.86
67	M4	4-130	2	2	8.42
69	EN	4-151	8	2	18.71
70	M4	4-136	2	3	12.51
71	EN	4-155	8	1	7.43
84	EN	5-178	8	3	34.01
87	EN	5-184	3	2	31.29
89	M4	5-176	6	3	12.30
91	M4	5-180	6	5	20.50

*Cyclothone signata*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	13	58.89
2	M4	1-003	2	11	44.33
4	M4	1-007	2	1	4.80
4	EN	1-007	3	5	37.99
7	EN	1-014	4	1	10.60
8	EN	1-016	9	1	5.44
10	EN	1-022	10	1	8.84
11	EN	1-024	10	1	12.54
16	EN	1-034	6	1	6.34
17	EN	1-036	6	1	7.25
20	EN	1-042	7	1	6.50
21	M4	2-040	4	1	9.74
22	M4	2-042	4	4	20.16
24	EN	2-055	7	2	15.08
26	EN	2-059	6	1	4.56
27	EN	2-061	6	7	37.59
29	EN	2-065	6	1	5.29
29	M4	2-054	3	2	14.60
31	EN	2-069	6	1	5.09
36	M4	3-068	3	2	19.16
41	M4	3-078	4	3	17.49
57	M4	4-110	5	1	4.23
58	EN		3	1	9.23
61	M4	4-118	5	1	5.97
63	EN	4-135	8	1	8.88
64	EN	4-137	9	1	8.74
64	M4	4-124	5	1	7.24
65	EN	4-139	9	2	16.53
66	EN	4-141	9	1	5.83
66	M4	4-128	5	2	7.46
67	M4	4-130	2	4	16.84
68	M4	4-132	2	2	9.84
69	M4	4-134	2	5	20.15
70	M4	4-136	2	7	29.19
71	EN	4-155	8	9	66.86
74	M4	4-146	2	1	3.86
87	M4	5-172	6	1	9.85
88	M4	5-174	6	4	15.72
91	M4	5-180	6	1	4.10

*Diplophos proximus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	3	14.25
4	M4	1-007	2	1	4.80
6	M4	1-011	5	3	13.83
10	M4	1-018	4	2	10.14
13	M4	1-024	4	1	5.09
16	M4	2-030	3	1	9.25

*Diplophos proximus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
18	M4	2-034	4	2	16.64
22	M4	2-042	4	1	5.04
24	M4	2-046	3	1	9.45
27	M4		3	1	10.47
38	EN	2-083	2	3	15.84
39	EN	2-085	1	1	9.86
40	EN	2-087	1	1	5.39
42	EN	3-089	1	1	6.10
43	EN	3-094	2	4	23.33
44	EN	3-096	2	8	33.92
53	M4	4-102	1	2	7.50
56	M4	4-108	5	1	3.88
60	JD	4-120	4	1	8.89
66	M4	4-128	5	3	11.19
68	M4	4-132	2	1	4.92
70	M4	4-136	2	1	4.17
74	M4	4-146	2	1	3.86
76	M4	4-150	1	3	12.51
77	M4	4-152	1	1	4.33
79	M4	5-156	1	3	24.26
88	M4	5-174	6	2	7.86
89	M4	5-176	6	1	4.10

*Gonostoma atlanticum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	EN	2-051	7	2	8.50

*Argyropelecus affinis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
63	M4	4-122	5	1	3.31
66	EN	4-141	9	1	5.83

*Argyropelecus lychnus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	3	12.09

*Argyropelecus sladeni*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	1	4.53
10	EN	1-022	10	1	8.84
15	M4	2-028	3	1	8.67
84	M4	5-166	5	1	8.35
84	EN	5-178	8	1	11.34

*Sternoptyx* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	2	8.06
4	EN	1-007	3	1	7.60

*Sternoptyx* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
11	EN	1-024	10	3	37.62
12	EN	1-026	10	1	11.08
16	EN	1-034	6	2	12.67
17	EN	1-036	6	1	7.25
18	EN	1-038	6	1	8.30
19	EN	1-040	7	4	18.92
21	EN	2-049	7	15	64.35
21	M4	2-040	4	1	9.74
22	EN	2-051	7	13	55.25
22	M4	2-042	4	8	40.32
23	M4	2-044	4	8	79.32
24	M4	2-046	3	3	28.34
24	EN	2-055	7	3	22.62
25	EN	2-057	7	4	20.00
26	M4	2-050	3	6	30.24
26	EN	2-059	6	60	273.60
27	M4		3	2	20.94
27	EN	2-061	6	15	80.55
28	EN	2-063	6	2	9.06
28	M4	2-053	3	6	59.39
29	M4	2-054	3	4	29.20
29	EN	2-065	6	7	37.03
31	EN	2-069	6	9	45.81
31	M4		3	1	5.73
32	EN	2-071	6	3	13.77
33	M4	3-062	3	1	10.71
33	EN	2-073	6	1	5.18
34	M4	3-064	3	12	97.56
35	M4	3-066	3	24	220.04
36	M4	3-068	3	20	191.59
38	M4	3-072	4	2	20.80
39	M4	3-074	4	2	21.91
40	M4	3-076	4	15	89.85
41	M4	3-078	4	4	23.32
48	EN	3-104	5	4	20.84
49	EN	3-106	5	9	87.32
50	EN	3-108	5	7	76.12
52	EN	3-114	5	2	8.96
53	JD	4-106	9	1	8.84
54	JD	4-108	9	8	75.28
55	JD	4-110	9	2	17.65
59	EN		3	7	48.30
60	EN		3	12	89.11
61	JD	4-122	3	1	8.66
61	EN	4-131	3	1	7.88
63	M4	4-122	5	1	3.31
63	EN	4-135	8	2	17.76
64	EN	4-137	9	2	17.48
64	M4	4-124	5	11	79.61

*Sternoptyx* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
65	M4	4-126	5	11	42.46
65	EN	4-139	9	3	24.80
66	EN	4-141	9	46	268.18
67	M4	4-130	2	16	67.36
68	M4	4-132	2	1	4.92
68	EN	4-147	8	2	9.26
69	EN	4-151	8	6	56.13
69	M4	4-134	2	2	8.06
70	M4	4-136	2	3	12.51
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
72	EN	5-156	8	1	10.49
72	M4	4-142	2	2	8.18
83	EN	5-176	8	3	29.81
84	M4	5-166	5	3	25.04
84	EN	5-178	8	2	22.67
85	EN	5-180	8	1	4.36
85	M4	5-168	5	2	16.84
86	EN	5-182	3	1	11.60
86	M4	5-170	6	5	39.44
87	EN	5-184	3	2	31.29
89	M4	5-176	6	6	24.60
90	M4	5-178	6	1	8.39
91	M4	5-180	6	26	106.60

*Valenciennellus tripunctulatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
85	EN	5-180	8	5	21.82

*Ichthyococcus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
58	JD	4-116	9	1	7.75

*Vinciguerria lucetia*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	465	2106.4
2	M4	1-003	2	227	914.81
3	M4	1-005	2	315	1496.2
4	M4	1-007	2	217	1041.6
4	EN	1-007	3	107	812.94
5	EN	1-010	4	49	376.38
5	M4	1-009	2	395	3617.6
6	M4	1-011	5	108	497.88
6	EN	1-012	4	4	38.25
7	M4		4	44	421.24
7	EN	1-014	4	10	106.00
8	EN	1-016	9	5	27.20
8	M4	1-014	4	46	445.71

*Vinciguerria lucetia* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
9	EN	1-020	10	16	199.83
10	M4	1-018	4	139	704.73
10	EN	1-022	10	16	141.43
11	EN	1-024	10	8	100.33
12	EN	1-026	10	10	110.76
12	M4	1-022	4	28	226.13
13	EN	1-028	6	7	65.18
13	M4	1-024	4	35	178.15
14	EN	1-030	6	15	134.78
15	EN	1-032	6	4	16.92
15	M4	2-028	3	41	355.65
16	EN	1-034	6	58	367.54
16	M4	2-030	3	33	305.28
17	EN	1-036	6	20	145.01
17	M4	2-032	3	7	61.20
18	M4	2-034	4	27	224.66
18	EN	1-038	6	2	16.60
19	EN	1-040	7	1	4.73
20	EN	1-042	7	2	13.00
20	M4	2-038	4	11	87.44
21	M4	2-040	4	57	555.18
21	EN	2-049	7	2	8.58
22	M4	2-042	4	63	317.52
22	EN	2-051	7	7	29.75
23	M4	2-044	4	12	118.99
23	EN	2-053	7	31	222.36
24	M4	2-046	3	3	28.34
25	EN	2-057	7	2	10.00
25	M4	2-048	3	12	120.70
26	M4	2-050	3	8	40.32
26	EN	2-059	6	12	54.72
27	M4		3	1	10.47
27	EN	2-061	6	1	5.37
28	EN	2-063	6	7	31.71
28	M4	2-053	3	15	148.47
29	EN	2-065	6	7	37.03
29	M4	2-054	3	16	116.78
30	M4	2-056	3	23	215.23
31	EN	2-069	6	15	76.35
31	M4		3	6	34.38
32	M4	3-060	3	21	195.28
32	EN	2-071	6	10	45.90
33	EN	2-073	6	78	404.04
33	M4	3-062	3	15	160.65
34	M4	3-064	3	6	48.78
34	EN	2-075	5	45	220.95
35	M4	3-066	3	18	165.03
35	EN	2-077	5	35	363.29

*Vinciguerria lucetia* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
36	EN	2-079	5	22	241.56
36	M4	3-068	3	7	67.06
37	EN	2-081	5	59	282.02
37	M4	3-070	4	10	113.27
38	EN	2-083	2	87	459.36
38	M4	3-072	4	6	62.40
39	EN	2-085	1	30	295.80
39	M4	3-074	4	4	43.82
40	M4	3-076	4	26	155.74
40	EN	2-087	1	76	409.64
41	EN		1	7	31.50
41	M4	3-078	4	18	104.94
42	M4	3-080	4	9	47.34
42	EN	3-089	1	55	335.76
43	EN	3-094	2	111	647.50
44	EN	3-096	2	119	504.56
45	EN	3-098	2	97	352.11
46	EN	3-100	5	17	141.10
47	EN	3-102	5	6	43.08
48	EN	3-104	5	18	93.78
49	EN	3-106	5	16	155.24
50	EN	3-108	5	7	76.12
51	EN	3-110	5	47	301.37
51	JD	4-102	4	131	921.55
52	JD	4-104	4	5	50.29
52	EN	3-114	5	16	71.68
53	M4	4-102	1	40	150.00
53	JD	4-106	9	120	1060.4
54	EN	3-120	4	16	117.11
54	M4	4-104	1	29	233.74
54	JD	4-108	9	20	188.19
55	M4	4-106	5	15	103.82
55	JD	4-110	9	42	370.64
55	EN	3-122	4	22	189.73
56	JD	4-112	9	30	292.41
56	M4	4-108	5	5	19.40
56	EN	3-124	3	9	93.71
57	M4	4-110	5	172	727.56
57	JD	4-114	9	75	759.20
57	EN	3-126	3	16	99.92
58	EN		3	12	110.71
58	M4	4-112	5	48	168.05
58	JD	4-116	9	7	54.25
59	EN		3	33	227.70
59	M4	4-114	5	25	232.07
59	JD	4-118	4	13	63.03
60	EN		3	12	89.11
60	M4	4-116	5	23	203.44
60	JD	4-120	4	31	275.56



*Vinciguerria lucetia* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
61	EN	4-131	3	16	126.11
61	JD	4-122	3	17	147.14
61	M4	4-118	5	7	41.81
62	EN	4-133	3	32	97.10
62	M4	4-120	5	35	191.10
63	M4	4-122	5	27	89.37
63	EN	4-135	8	101	897.09
64	EN	4-137	9	13	113.62
64	M4	4-124	5	18	130.27
65	M4	4-126	5	6	23.16
65	EN	4-139	9	31	256.22
66	EN	4-141	9	2	11.66
66	M4	4-128	5	400	1492.0
67	EN	4-145	8	9	93.42
67	M4	4-130	2	23	96.83
68	EN	4-147	8	15	69.45
68	M4	4-132	2	222	1092.2
69	M4	4-134	2	15	60.45
69	EN	4-151	8	14	130.96
70	EN	4-153	8	45	448.04
70	M4	4-136	2	175	729.75
71	M4	4-138	2	145	561.15
71	EN	4-155	8	159	1181.2
72	EN	5-156	8	1	10.49
72	M4	4-142	2	70	286.30
73	M4	4-144	2	55	206.25
73	EN		8	70	459.42
74	M4	4-146	2	157	606.02
74	EN	5-159	8	159	1434.4
75	EN	5-161	8	70	660.16
75	M4	4-148	2	260	1089.4
76	M4	4-150	1	157	654.69
77	M4	4-152	1	52	225.16
78	M4	5-154	1	34	288.20
79	M4	5-156	1	71	574.07
80	M4	5-158	2	54	233.82
81	EN	5-172	8	86	667.21
81	M4	5-160	5	26	250.37
82	EN	5-174	8	30	132.90
82	M4	5-162	5	42	200.76
83	M4	5-164	5	71	569.07
83	EN	5-176	8	92	914.31
84	M4	5-166	5	173	1444.0
84	EN	5-178	8	33	374.14
85	M4	5-168	5	42	353.64
85	EN	5-180	8	116	506.22
86	M4	5-170	6	48	378.63
86	EN	5-182	3	46	533.83

*Vinciguerria lucetia* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
87	EN	5-184	3	21	328.58
87	M4	5-172	6	86	847.48
88	M4	5-174	6	251	986.43
89	M4	5-176	6	18	73.80
90	M4	5-178	6	162	1359.4
91	M4	5-180	6	7	28.70
<i>Woodsia nonsuchae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
60	JD	4-120	4	1	8.89
<i>Chauliodus</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
16	EN	1-034	6	1	6.34
24	EN	2-055	7	1	7.54
26	EN	2-059	6	1	4.56
35	M4	3-066	3	1	9.17
54	JD	4-108	9	2	18.82
86	M4	5-170	6	1	7.89
88	M4	5-174	6	1	3.93
<i>Stomias</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	2	9.60
6	M4	1-011	5	2	9.22
8	EN	1-016	9	3	16.32
15	EN	1-032	6	1	4.23
66	M4	4-128	5	1	3.73
66	EN	4-141	9	1	5.83
67	M4	4-130	2	1	4.21
68	EN	4-147	8	3	13.89
68	M4	4-132	2	1	4.92
70	M4	4-136	2	3	12.51
71	EN	4-155	8	1	7.43
74	EN	5-159	8	2	18.04
74	M4	4-146	2	1	3.86
85	EN	5-180	8	1	4.36
<i>Stomias atriventer</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03
<i>Astronesthinae</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	M4	2-042	4	1	5.04
27	EN	2-061	6	1	5.37

<i>Astronesthes</i> spp.						<i>Idiacanthus</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
7	EN	1-014	4	1	10.60	6	M4	1-011	5	2	9.22
64	M4	4-124	5	1	7.24	7	M4		4	2	19.15
<i>Borostomias panamensis</i>						8	M4	1-014	4	1	9.69
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	10	M4	1-018	4	3	15.21
8	EN	1-016	9	2	10.88	13	M4	1-024	4	11	55.99
<i>Melanostomiinae</i>						18	M4	2-034	4	4	33.28
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	23	M4	2-044	4	2	19.83
30	M4	2-056	3	1	9.36	24	M4	2-046	3	1	9.45
51	JD	4-102	4	1	7.03	26	EN	2-059	6	3	13.68
59	EN		3	1	6.90	27	M4		3	1	10.47
60	EN		3	1	7.43	27	EN	2-061	6	6	32.22
62	EN	4-133	3	2	6.07	28	M4	2-053	3	1	9.90
66	M4	4-128	5	1	3.73	28	EN	2-063	6	1	4.53
86	M4	5-170	6	1	7.89	29	M4	2-054	3	2	14.60
88	M4	5-174	6	1	3.93	30	M4	2-056	3	3	28.07
89	M4	5-176	6	1	4.10	34	EN	2-075	5	2	9.82
<i>Bathophilus filifer</i>						35	M4	3-066	3	1	9.17
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	35	EN	2-077	5	1	10.38
29	M4	2-054	3	3	21.90	36	EN	2-079	5	1	10.98
31	EN	2-069	6	1	5.09	37	EN	2-081	5	1	4.78
36	M4	3-068	3	1	9.58	39	M4	3-074	4	2	21.91
37	EN	2-081	5	1	4.78	41	M4	3-078	4	1	5.83
38	EN	2-083	2	2	10.56	47	EN	3-102	5	2	14.36
40	M4	3-076	4	1	5.99	48	EN	3-104	5	1	5.21
42	EN	3-089	1	1	6.10	50	EN	3-108	5	1	10.87
54	M4	4-104	1	1	8.06	53	M4	4-102	1	1	3.75
59	JD	4-118	4	1	4.85	54	EN	3-120	4	3	21.96
65	M4	4-126	5	7	27.02	54	M4	4-104	1	1	8.06
66	M4	4-128	5	1	3.73	55	EN	3-122	4	6	51.75
67	M4	4-130	2	2	8.42	55	M4	4-106	5	3	20.76
68	M4	4-132	2	4	19.68	56	EN	3-124	3	1	10.41
70	M4	4-136	2	2	8.34	56	M4	4-108	5	7	27.16
71	EN	4-155	8	4	29.72	59	EN		3	2	13.80
75	EN	5-161	8	1	9.43	60	EN		3	1	7.43
78	M4	5-154	1	1	8.48	64	M4	4-124	5	1	7.24
82	M4	5-162	5	1	4.78	65	M4	4-126	5	1	3.86
85	M4	5-168	5	1	8.42	65	EN	4-139	9	1	8.27
91	M4	5-180	6	4	16.40	66	M4	4-128	5	5	18.65
<i>Eustomias</i> spp.						67	EN	4-145	8	1	10.38
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	69	M4	4-134	2	3	12.09
68	M4	4-132	2	2	9.84	70	M4	4-136	2	1	4.17
86	M4	5-170	6	1	7.89	72	M4	4-142	2	1	4.09
						79	M4	5-156	1	2	16.17
						83	M4	5-164	5	1	8.02
						86	EN	5-182	3	1	11.60
						87	EN	5-184	3	1	15.65
						90	M4	5-178	6	1	8.39
						91	M4	5-180	6	3	12.30

*Chloropthalmus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
6	EN	1-012	4	2	19.13
87	EN	5-184	3	1	15.65

*Rosenblattichthys volucris*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
9	EN	1-020	10	1	12.49
16	EN	1-034	6	1	6.34
26	M4	2-050	3	1	5.04
27	EN	2-061	6	1	5.37
51	JD	4-102	4	1	7.03
56	JD	4-112	9	1	9.75
57	M4	4-110	5	1	4.23
61	EN	4-131	3	1	7.88

*Scopelarchoides nicholsi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	2	9.50
5	M4	1-009	2	2	18.32
6	M4	1-011	5	2	9.22
7	M4		4	3	28.72
8	M4	1-014	4	1	9.69
10	EN	1-022	10	1	8.84
10	M4	1-018	4	3	15.21
13	M4	1-024	4	1	5.09
15	M4	2-028	3	3	26.02
16	M4	2-030	3	1	9.25
18	M4	2-034	4	3	24.96
19	EN	1-040	7	1	4.73
26	EN	2-059	6	1	4.56
28	EN	2-063	6	6	27.18
28	M4	2-053	3	1	9.90
29	M4	2-054	3	1	7.30
32	EN	2-071	6	2	9.18
33	EN	2-073	6	1	5.18
33	M4	3-062	3	3	32.13
34	EN	2-075	5	1	4.91
35	EN	2-077	5	1	10.38
36	EN	2-079	5	2	21.96
38	EN	2-083	2	4	21.12
39	EN	2-085	1	1	9.86
41	EN		1	1	4.50
41	M4	3-078	4	1	5.83
42	EN	3-089	1	2	12.21
43	EN	3-094	2	2	11.67
44	EN	3-096	2	3	12.72
46	EN	3-100	5	1	8.30
47	EN	3-102	5	2	14.36

*Scopelarchoides nicholsi* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
51	EN	3-110	5	1	6.41
54	M4	4-104	1	3	24.18
55	M4	4-106	5	4	27.69
55	EN	3-122	4	1	8.62
57	EN	3-126	3	1	6.25
59	EN		3	2	13.80
65	EN	4-139	9	2	16.53
66	M4	4-128	5	2	7.46
71	EN	4-155	8	1	7.43
76	M4	4-150	1	3	12.51
80	M4	5-158	2	1	4.33
80	EN	5-170	8	1	10.70
83	M4	5-164	5	2	16.03
83	EN	5-176	8	6	59.63
84	EN	5-178	8	1	11.34
89	M4	5-176	6	5	20.50
90	M4	5-178	6	1	8.39
91	M4	5-180	6	1	4.10

*Scopelarchus analis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
28	EN	2-063	6	1	4.53

*Scopelarchus guentheri*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03
69	M4	4-134	2	1	4.03

*Scopelosaurus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
62	EN	4-133	3	1	3.03
85	EN	5-180	8	1	4.36

*Synodus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	2	9.00

## Paralepididae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
26	EN	2-059	6	1	4.56
57	JD	4-114	9	1	10.12

*Lestidiops* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	EN	1-010	4	1	7.68
14	EN	1-030	6	1	8.99
20	M4	2-038	4	1	7.95
51	JD	4-102	4	1	7.03

*Lestidiops* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
53	JD	4-106	9	2	17.67
60	JD	4-120	4	1	8.89
61	EN	4-131	3	1	7.88
62	EN	4-133	3	2	6.07
63	EN	4-135	8	9	79.94
69	EN	4-151	8	1	9.35
85	EN	5-180	8	10	43.64
86	EN	5-182	3	2	23.21
86	M4	5-170	6	1	7.89

*Lestidiops neles*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	1	4.75
5	M4	1-009	2	10	91.59
6	M4	1-011	5	1	4.61
7	M4		4	2	19.15
8	M4	1-014	4	4	38.76
10	M4	1-018	4	4	20.28
12	M4	1-022	4	3	24.23
13	M4	1-024	4	1	5.09
15	M4	2-028	3	4	34.70
16	M4	2-030	3	3	27.75
17	M4	2-032	3	1	8.74
18	M4	2-034	4	1	8.32
30	M4	2-056	3	2	18.72
32	M4	3-060	3	2	18.60
36	EN	2-079	5	1	10.98
37	M4	3-070	4	1	11.33
37	EN	2-081	5	2	9.56
38	EN	2-083	2	1	5.28
39	EN	2-085	1	2	19.72
40	EN	2-087	1	1	5.39
42	EN	3-089	1	3	18.31
43	EN	3-094	2	2	11.67
44	EN	3-096	2	5	21.20
53	M4	4-102	1	4	15.00
54	M4	4-104	1	18	145.08
54	EN	3-120	4	1	7.32
55	EN	3-122	4	1	8.62
55	M4	4-106	5	4	27.69
66	M4	4-128	5	4	14.92
71	M4	4-138	2	2	7.74
74	M4	4-146	2	3	11.58
76	M4	4-150	1	9	37.53
77	M4	4-152	1	3	12.99
78	M4	5-154	1	1	8.48
79	M4	5-156	1	9	72.77
80	M4	5-158	2	1	4.33

*Lestidiops neles* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
82	M4	5-162	5	3	14.34
83	M4	5-164	5	1	8.02
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
86	M4	5-170	6	2	15.78
87	M4	5-172	6	2	19.71
88	M4	5-174	6	5	19.65

*Lestidium* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	4	30.39
16	M4	2-030	3	3	27.75
16	EN	1-034	6	1	6.34
20	M4	2-038	4	1	7.95
21	M4	2-040	4	1	9.74
22	M4	2-042	4	5	25.20
23	M4	2-044	4	2	19.83
24	M4	2-046	3	1	9.45
25	M4	2-048	3	1	10.06
26	EN	2-059	6	1	4.56
26	M4	2-050	3	1	5.04
27	EN	2-061	6	5	26.85
28	EN	2-063	6	1	4.53
29	M4	2-054	3	1	7.30
29	EN	2-065	6	4	21.16
31	EN	2-069	6	1	5.09
33	M4	3-062	3	2	21.42
39	M4	3-074	4	2	21.91
40	M4	3-076	4	5	29.95
41	M4	3-078	4	3	17.49
50	EN	3-108	5	2	21.75
52	EN	3-114	5	2	8.96
56	M4	4-108	5	2	7.76
57	M4	4-110	5	7	29.61
60	EN		3	2	14.85
61	JD	4-122	3	2	17.31
63	M4	4-122	5	1	3.31
64	M4	4-124	5	4	28.95
65	M4	4-126	5	1	3.86
65	EN	4-139	9	1	8.27
67	M4	4-130	2	4	16.84
68	M4	4-132	2	1	4.92
85	M4	5-168	5	4	33.68
87	M4	5-172	6	3	29.56
88	M4	5-174	6	1	3.93
89	M4	5-176	6	2	8.20
91	M4	5-180	6	1	4.10

*Stemonosudis macrura*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
20	M4	2-038	4	1	7.95
20	EN	1-042	7	1	6.50
25	M4	2-048	3	1	10.06
26	EN	2-059	6	1	4.56
31	EN	2-069	6	1	5.09
33	M4	3-062	3	1	10.71
35	M4	3-066	3	1	9.17
37	M4	3-070	4	1	11.33
39	M4	3-074	4	2	21.91
55	JD	4-110	9	1	8.82
63	M4	4-122	5	1	3.31
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	6	29.52
70	M4	4-136	2	4	16.68
71	EN	4-155	8	1	7.43
83	EN	5-176	8	1	9.94
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
88	M4	5-174	6	3	11.79
91	M4	5-180	6	1	4.10

*Uncisudis advena*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
64	M4	4-124	5	1	7.24

*Uncisudis quadrimaculatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
21	EN	2-049	7	1	4.29

*Evermannella ahlstromi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
20	EN	1-042	7	1	6.50
24	EN	2-055	7	1	7.54
26	EN	2-059	6	1	4.56
29	EN	2-065	6	1	5.29
31	EN	2-069	6	1	5.09
54	JD	4-108	9	1	9.41
64	M4	4-124	5	2	14.47
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	2	9.84
70	M4	4-136	2	1	4.17
77	M4	4-152	1	1	4.33
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85
88	M4	5-174	6	2	7.86

*Evermannella ahlstromi* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
91	M4	5-180	6	3	12.30

*Myctophiformes*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
87	M4	5-172	6	1	9.85

*Scopelengys tristis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
23	M4	2-044	4	1	9.92
26	EN	2-059	6	1	4.56
60	JD	4-120	4	1	8.89
65	EN	4-139	9	1	8.27

*Myctophidae*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
9	EN	1-020	10	1	12.49
10	M4	1-018	4	2	10.14
24	M4	2-046	3	3	28.34
28	EN	2-063	6	2	9.06
31	EN	2-069	6	1	5.09
34	M4	3-064	3	4	32.52
55	JD	4-110	9	1	8.82
56	JD	4-112	9	1	9.75
61	EN	4-131	3	2	15.76
68	M4	4-132	2	1	4.92
69	EN	4-151	8	1	9.35
71	EN	4-155	8	1	7.43
86	M4	5-170	6	2	15.78
90	M4	5-178	6	1	8.39

*Bolinichthys* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	5	24.00
5	M4	1-009	2	10	91.59
11	EN	1-024	10	2	25.08
16	EN	1-034	6	1	6.34
22	EN	2-051	7	1	4.25
23	EN	2-053	7	1	7.17

*Bolinichthys longipes*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03
31	EN	2-069	6	2	10.18
37	EN	2-081	5	1	4.78
50	EN	3-108	5	4	43.50
51	JD	4-102	4	1	7.03
60	JD	4-120	4	1	8.89
61	JD	4-122	3	3	25.97

*Bolinichthys longipes* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
65	EN	4-139	9	7	57.86
67	EN	4-145	8	1	10.38
68	EN	4-147	8	4	18.52
70	M4	4-136	2	4	16.68
72	M4	4-142	2	3	12.27
73	M4	4-144	2	1	3.75
74	M4	4-146	2	1	3.86
76	M4	4-150	1	1	4.17
77	M4	4-152	1	1	4.33
89	M4	5-176	6	1	4.10

*Ceratoscopelus townsendi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	59	267.27
2	M4	1-003	2	42	169.26
3	M4	1-005	2	3	14.25
73	M4	4-144	2	3	11.25

*Ceratoscopelus warmingii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	3	14.40
5	M4	1-009	2	1	9.16
22	EN	2-051	7	1	4.25
23	EN	2-053	7	1	7.17
44	EN	3-096	2	2	8.48
49	EN	3-106	5	1	9.70
52	EN	3-114	5	4	17.92
65	EN	4-139	9	1	8.27
66	EN	4-141	9	9	52.47
67	EN	4-145	8	1	10.38
69	M4	4-134	2	2	8.06
69	EN	4-151	8	9	84.19
70	M4	4-136	2	5	20.85
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
71	EN	4-155	8	26	193.16
73	EN		8	1	6.56
82	EN	5-174	8	2	8.86

*Diaphus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	11	52.80
4	EN	1-007	3	27	205.13
5	EN	1-010	4	3	23.04
5	M4	1-009	2	10	91.59
6	M4	1-011	5	11	50.71
6	EN	1-012	4	1	9.56
7	M4		4	36	344.65

*Diaphus* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
7	EN	1-014	4	2	21.20
8	M4	1-014	4	15	145.34
10	M4	1-018	4	17	86.19
11	EN	1-024	10	1	12.54
12	M4	1-022	4	9	72.69
13	M4	1-024	4	22	111.98
13	EN	1-028	6	1	9.31
15	M4	2-028	3	43	373.00
16	M4	2-030	3	10	92.51
17	M4	2-032	3	2	17.49
18	M4	2-034	4	19	158.09
20	M4	2-038	4	2	15.90
21	M4	2-040	4	11	107.14
21	EN	2-049	7	2	8.58
22	EN	2-051	7	3	12.75
22	M4	2-042	4	13	65.52
23	M4	2-044	4	4	39.66
23	EN	2-053	7	2	14.35
24	M4	2-046	3	23	217.25
25	M4	2-048	3	5	50.29
26	EN	2-059	6	2	9.12
26	M4	2-050	3	27	136.08
27	EN	2-061	6	8	42.96
27	M4		3	3	31.41
28	M4	2-053	3	5	49.49
28	EN	2-063	6	1	4.53
29	EN	2-065	6	2	10.58
29	M4	2-054	3	21	153.28
30	M4	2-056	3	16	149.72
31	M4		3	29	166.17
32	M4	3-060	3	5	46.50
33	EN	2-073	6	7	36.26
33	M4	3-062	3	8	85.68
34	EN	2-075	5	15	73.65
34	M4	3-064	3	9	73.17
35	EN	2-077	5	11	114.18
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
36	M4	3-068	3	2	19.16
37	EN	2-081	5	3	14.34
37	M4	3-070	4	3	33.98
38	M4	3-072	4	2	20.80
38	EN	2-083	2	12	63.36
39	EN	2-085	1	5	49.30
40	M4	3-076	4	15	89.85
40	EN	2-087	1	4	21.56
41	EN		1	4	18.00
41	M4	3-078	4	6	34.98

*Diaphus* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
42	EN	3-089	1	5	30.52
43	EN	3-094	2	9	52.50
44	EN	3-096	2	10	42.40
45	EN	3-098	2	11	39.93
47	EN	3-102	5	2	14.36
49	EN	3-106	5	2	19.41
51	JD	4-102	4	1	7.03
52	EN	3-114	5	10	44.80
53	M4	4-102	1	9	33.75
54	M4	4-104	1	18	145.08
54	EN	3-120	4	10	73.19
55	EN	3-122	4	17	146.61
55	M4	4-106	5	5	34.61
56	M4	4-108	5	1	3.88
57	M4	4-110	5	15	63.45
57	EN	3-126	3	6	37.47
59	EN		3	2	13.80
60	EN		3	6	44.56
60	M4	4-116	5	1	8.85
60	JD	4-120	4	1	8.89
61	EN	4-131	3	6	47.29
61	JD	4-122	3	1	8.66
63	M4	4-122	5	11	36.41
64	M4	4-124	5	15	108.56
64	EN	4-137	9	2	17.48
65	EN	4-139	9	1	8.27
65	M4	4-126	5	11	42.46
66	EN	4-141	9	4	23.32
66	M4	4-128	5	8	29.84
67	EN	4-145	8	4	41.52
68	M4	4-132	2	15	73.80
68	EN	4-147	8	2	9.26
69	EN	4-151	8	1	9.35
70	EN	4-153	8	1	9.96
71	M4	4-138	2	5	19.35
72	M4	4-142	2	1	4.09
73	M4	4-144	2	4	15.00
74	EN	5-159	8	1	9.02
74	M4	4-146	2	3	11.58
75	M4	4-148	2	1	4.19
76	M4	4-150	1	47	195.99
77	M4	4-152	1	14	60.62
78	M4	5-154	1	6	50.86
79	M4	5-156	1	19	153.62
80	M4	5-158	2	15	64.95
82	M4	5-162	5	6	28.68
83	M4	5-164	5	3	24.05
84	M4	5-166	5	17	141.90

*Diaphus* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
85	M4	5-168	5	14	117.88
85	EN	5-180	8	1	4.36
86	M4	5-170	6	22	173.54
87	M4	5-172	6	12	118.25
87	EN	5-184	3	32	500.70
88	M4	5-174	6	22	86.46
89	M4	5-176	6	2	8.20
91	M4	5-180	6	9	36.90
<i>Lampadena luminosa</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
66	EN	4-141	9	1	5.83
<i>Lampadena urophaos</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	1	4.53
63	M4	4-122	5	1	3.31
68	M4	4-132	2	1	4.92
88	M4	5-174	6	3	11.79
<i>Lampanyctus</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03
4	EN	1-007	3	19	144.35
5	EN	1-010	4	2	15.36
7	M4		4	1	9.57
9	EN	1-020	10	3	37.47
10	EN	1-022	10	4	35.36
11	EN	1-024	10	3	37.62
18	EN	1-038	6	1	8.30
19	EN	1-040	7	1	4.73
20	M4	2-038	4	16	127.19
20	EN	1-042	7	4	26.00
21	M4	2-040	4	1	9.74
22	M4	2-042	4	3	15.12
23	M4	2-044	4	1	9.92
23	EN	2-053	7	1	7.17
24	M4	2-046	3	6	56.67
25	M4	2-048	3	5	50.29
25	EN	2-057	7	2	10.00
27	M4		3	3	31.41
27	EN	2-061	6	5	26.85
28	M4	2-053	3	1	9.90
28	EN	2-063	6	4	18.12
29	EN	2-065	6	11	58.19
29	M4	2-054	3	1	7.30
30	M4	2-056	3	1	9.36
31	EN	2-069	6	4	20.36

*Lampanyctus* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	1	5.73
32	EN	2-071	6	6	27.54
33	M4	3-062	3	1	10.71
33	EN	2-073	6	4	20.72
34	M4	3-064	3	4	32.52
35	M4	3-066	3	2	18.34
36	M4	3-068	3	4	38.32
40	M4	3-076	4	6	35.94
41	M4	3-078	4	4	23.32
45	EN	3-098	2	4	14.52
48	EN	3-104	5	2	10.42
51	JD	4-102	4	1	7.03
52	EN	3-114	5	2	8.96
53	M4	4-102	1	1	3.75
53	JD	4-106	9	1	8.84
54	JD	4-108	9	3	28.23
55	JD	4-110	9	2	17.65
56	JD	4-112	9	1	9.75
57	JD	4-114	9	2	20.25
57	M4	4-110	5	5	21.15
58	JD	4-116	9	1	7.75
58	M4	4-112	5	2	7.00
59	M4	4-114	5	1	9.28
59	EN		3	2	13.80
60	EN		3	5	37.13
60	JD	4-120	4	3	26.67
61	JD	4-122	3	3	25.97
62	EN	4-133	3	10	30.34
64	M4	4-124	5	6	43.42
65	M4	4-126	5	1	3.86
66	EN	4-141	9	1	5.83
67	M4	4-130	2	14	58.94
67	EN	4-145	8	3	31.14
68	EN	4-147	8	1	4.63
68	M4	4-132	2	20	98.40
69	M4	4-134	2	3	12.09
70	M4	4-136	2	32	133.44
71	M4	4-138	2	5	19.35
71	EN	4-155	8	3	22.29
74	M4	4-146	2	1	3.86
84	M4	5-166	5	2	16.69
85	M4	5-168	5	2	16.84
85	EN	5-180	8	2	8.73
87	M4	5-172	6	2	19.71
87	EN	5-184	3	2	31.29
88	M4	5-174	6	11	43.23
89	M4	5-176	6	3	12.30
91	M4	5-180	6	6	24.60

*Lampanyctus omostigma*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	2	9.60

*Lampanyctus parvicauda*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	1	4.75
5	M4	1-009	2	1	9.16
5	EN	1-010	4	3	23.04
8	EN	1-016	9	1	5.44
8	M4	1-014	4	1	9.69
9	EN	1-020	10	1	12.49
10	M4	1-018	4	5	25.35
13	M4	1-024	4	1	5.09
15	M4	2-028	3	1	8.67
17	M4	2-032	3	2	17.49
18	M4	2-034	4	1	8.32
21	M4	2-040	4	2	19.48
22	M4	2-042	4	2	10.08
33	M4	3-062	3	7	74.97
34	EN	2-075	5	2	9.82
34	M4	3-064	3	1	8.13
35	EN	2-077	5	3	31.14
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
39	M4	3-074	4	2	21.91
40	EN	2-087	1	2	10.78
41	M4	3-078	4	1	5.83
51	EN	3-110	5	1	6.41
54	JD	4-108	9	1	9.41
55	M4	4-106	5	2	13.84
55	JD	4-110	9	1	8.82
56	EN	3-124	3	1	10.41
57	JD	4-114	9	1	10.12
58	JD	4-116	9	2	15.50
58	EN		3	1	9.23
59	M4	4-114	5	1	9.28
59	EN		3	9	62.10
60	EN		3	2	14.85
60	JD	4-120	4	5	44.44
61	EN	4-131	3	1	7.88
63	EN	4-135	8	2	17.76
64	EN	4-137	9	1	8.74
64	M4	4-124	5	1	7.24
65	M4	4-126	5	1	3.86
66	M4	4-128	5	1	3.73
67	EN	4-145	8	1	10.38
69	EN	4-151	8	1	9.35
70	EN	4-153	8	5	49.78
71	EN	4-155	8	1	7.43



*Lampanyctus parvicauda* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
73	EN		8	3	19.69
74	EN	5-159	8	2	18.04
74	M4	4-146	2	1	3.86
75	EN	5-161	8	11	103.74
75	M4	4-148	2	1	4.19
76	M4	4-150	1	2	8.34
78	M4	5-154	1	1	8.48
80	M4	5-158	2	3	12.99
81	EN	5-172	8	3	23.27
82	EN	5-174	8	1	4.43
83	M4	5-164	5	1	8.02
85	EN	5-180	8	2	8.73
86	EN	5-182	3	1	11.60
86	M4	5-170	6	1	7.89
87	EN	5-184	3	1	15.65
88	M4	5-174	6	1	3.93

*Lampanyctus tenuiformis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
27	EN	2-061	6	5	26.85
67	EN	4-145	8	1	10.38

*Lobianchia gemellarii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	EN	1-010	4	1	7.68
66	EN	4-141	9	1	5.83

*Nannobranchium achirus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
69	EN	4-151	8	1	9.35

*Nannobranchium bristori*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	EN	2-051	7	1	4.25
55	JD	4-110	9	1	8.82

*Nannobranchium hawaiiensis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
10	EN	1-022	10	1	8.84
54	JD	4-108	9	1	9.41
58	JD	4-116	9	1	7.75
60	JD	4-120	4	1	8.89

*Nannobranchium idostigma*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	10	47.50
21	EN	2-049	7	1	4.29
22	M4	2-042	4	6	30.24

*Nannobranchium idostigma* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
23	M4	2-044	4	4	39.66
24	M4	2-046	3	2	18.89
25	M4	2-048	3	2	20.12
28	M4	2-053	3	2	19.80
29	M4	2-054	3	1	7.30
63	EN	4-135	8	1	8.88
70	M4	4-136	2	4	16.68
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
71	EN	4-155	8	2	14.86
72	M4	4-142	2	3	12.27
73	M4	4-144	2	1	3.75
77	M4	4-152	1	1	4.33
87	EN	5-184	3	1	15.65

*Notolychnus valdiviae*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	2	8.06
4	EN	1-007	3	32	243.12
11	EN	1-024	10	1	12.54
22	M4	2-042	4	11	55.44
24	M4	2-046	3	11	103.90
29	EN	2-065	6	2	10.58
35	M4	3-066	3	1	9.17
38	M4	3-072	4	1	10.40
40	M4	3-076	4	1	5.99
44	EN	3-096	2	2	8.48
50	EN	3-108	5	1	10.87
57	M4	4-110	5	2	8.46
58	M4	4-112	5	1	3.50
60	JD	4-120	4	2	17.78
62	EN	4-133	3	3	9.10
64	M4	4-124	5	1	7.24
67	EN	4-145	8	3	31.14
67	M4	4-130	2	10	42.10
68	EN	4-147	8	1	4.63
69	M4	4-134	2	2	8.06
70	M4	4-136	2	1	4.17
75	M4	4-148	2	1	4.19
85	M4	5-168	5	2	16.84
86	M4	5-170	6	4	31.55

*Notoscopelus resplendens*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	3	13.59
2	M4	1-003	2	6	24.18
4	EN	1-007	3	1	7.60
9	EN	1-020	10	1	12.49

*Notoscolopelus resplendens* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	M4	2-042	4	1	5.04
26	EN	2-059	6	1	4.56
27	EN	2-061	6	3	16.11
51	JD	4-102	4	2	14.07
58	JD	4-116	9	3	23.25
59	JD	4-118	4	2	9.70
61	EN	4-131	3	1	7.88
63	EN	4-135	8	1	8.88
68	EN	4-147	8	3	13.89
69	EN	4-151	8	5	46.77
70	EN	4-153	8	3	29.87
71	EN	4-155	8	2	14.86
85	EN	5-180	8	1	4.36

*Triphoturus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	5	37.99
5	EN	1-010	4	1	7.68
62	EN	4-133	3	3	9.10
63	EN	4-135	8	5	44.41
66	EN	4-141	9	4	23.32
68	EN	4-147	8	1	4.63
69	EN	4-151	8	3	28.06
70	EN	4-153	8	2	19.91
71	EN	4-155	8	3	22.29
73	EN		8	6	39.38
74	EN	5-159	8	2	18.04
75	EN	5-161	8	1	9.43
84	EN	5-178	8	1	11.34
85	EN	5-180	8	6	26.18
86	EN	5-182	3	1	11.60
87	EN	5-184	3	2	31.29

*Triphoturus mexicanus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	46	208.38
3	M4	1-005	2	3	14.25
73	M4	4-144	2	1	3.75
76	M4	4-150	1	1	4.17
83	M4	5-164	5	1	8.02

*Triphoturus nigrescens*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03
28	M4	2-053	3	1	9.90
29	M4	2-054	3	2	14.60
31	M4		3	1	5.73
51	JD	4-102	4	3	21.10

*Triphoturus nigrescens* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
59	M4	4-114	5	1	9.28
59	JD	4-118	4	3	14.55

*Benthoosema suborbitale*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
58	JD	4-116	9	1	7.75
69	EN	4-151	8	4	37.42

*Diogenichthys atlanticus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	3	12.09
4	M4	1-007	2	4	19.20
17	EN	1-036	6	1	7.25
54	JD	4-108	9	4	37.64
69	EN	4-151	8	2	18.71

*Diogenichthys laternatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	11	49.83
2	M4	1-003	2	10	40.30
3	M4	1-005	2	9	42.75
4	EN	1-007	3	60	455.85
5	EN	1-010	4	19	145.94
5	M4	1-009	2	146	1337.1
6	EN	1-012	4	3	28.69
7	M4		4	46	440.38
7	EN	1-014	4	6	63.60
8	EN	1-016	9	1	5.44
8	M4	1-014	4	3	29.07
9	EN	1-020	10	3	37.47
10	EN	1-022	10	1	8.84
10	M4	1-018	4	3	15.21
11	EN	1-024	10	2	25.08
12	M4	1-022	4	1	8.08
13	M4	1-024	4	2	10.18
14	EN	1-030	6	6	53.91
15	M4	2-028	3	37	320.96
16	M4	2-030	3	30	277.53
18	M4	2-034	4	23	191.37
18	EN	1-038	6	1	8.30
19	EN	1-040	7	11	52.03
20	EN	1-042	7	15	97.50
20	M4	2-038	4	11	87.44
21	M4	2-040	4	19	185.06
21	EN	2-049	7	15	64.35
22	M4	2-042	4	22	110.88
22	EN	2-051	7	6	25.50
23	M4	2-044	4	8	79.32

*Diogenichthys laternatus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
24	M4	2-046	3	44	415.61
24	EN	2-055	7	32	241.28
25	M4	2-048	3	22	221.29
25	EN	2-057	7	28	140.00
26	M4	2-050	3	41	206.64
26	EN	2-059	6	42	191.52
27	EN	2-061	6	2	10.74
27	M4		3	26	272.25
28	M4	2-053	3	54	534.49
28	EN	2-063	6	44	199.32
29	EN	2-065	6	19	100.51
29	M4	2-054	3	128	934.25
30	M4	2-056	3	20	187.16
31	M4		3	39	223.47
31	EN	2-069	6	52	264.68
32	M4	3-060	3	29	269.68
32	EN	2-071	6	16	73.44
33	M4	3-062	3	108	1156.7
33	EN	2-073	6	3	15.54
34	EN	2-075	5	14	68.74
34	M4	3-064	3	56	455.27
35	EN	2-077	5	5	51.90
35	M4	3-066	3	129	1182.7
36	EN	2-079	5	7	76.86
36	M4	3-068	3	107	1024.9
37	M4	3-070	4	65	736.26
37	EN	2-081	5	2	9.56
38	EN	2-083	2	57	300.96
38	M4	3-072	4	66	686.35
39	M4	3-074	4	21	230.06
39	EN	2-085	1	9	88.74
40	EN	2-087	1	16	86.24
40	M4	3-076	4	70	419.30
41	EN		1	31	139.50
41	M4	3-078	4	30	174.90
42	EN	3-089	1	14	85.47
42	M4	3-080	4	5	26.30
43	EN	3-094	2	13	75.83
44	EN	3-096	2	18	76.32
45	EN	3-098	2	18	65.34
46	EN	3-100	5	5	41.50
47	EN	3-102	5	2	14.36
48	EN	3-104	5	10	52.10
49	EN	3-106	5	2	19.41
52	EN	3-114	5	16	71.68
52	JD	4-104	4	7	70.41
53	JD	4-106	9	61	539.07
53	M4	4-102	1	9	33.75

*Diogenichthys laternatus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
54	M4	4-104	1	7	56.42
54	EN	3-120	4	1	7.32
55	EN	3-122	4	6	51.75
55	M4	4-106	5	6	41.53
56	JD	4-112	9	10	97.47
56	M4	4-108	5	7	27.16
56	EN	3-124	3	14	145.76
57	EN	3-126	3	12	74.94
57	M4	4-110	5	9	38.07
57	JD	4-114	9	8	80.98
58	M4	4-112	5	1	3.50
58	EN		3	34	313.68
58	JD	4-116	9	6	46.50
59	JD	4-118	4	10	48.48
59	EN		3	230	1587.0
59	M4	4-114	5	1	9.28
60	M4	4-116	5	1	8.85
60	JD	4-120	4	18	160.00
60	EN		3	38	282.19
61	JD	4-122	3	13	112.52
61	EN	4-131	3	18	141.87
61	M4	4-118	5	3	17.92
62	EN	4-133	3	31	94.06
63	EN	4-135	8	14	124.35
64	EN	4-137	9	19	166.05
64	M4	4-124	5	9	65.14
65	M4	4-126	5	33	127.38
65	EN	4-139	9	39	322.35
66	EN	4-141	9	2	11.66
66	M4	4-128	5	65	242.45
67	M4	4-130	2	18	75.78
68	EN	4-147	8	1	4.63
68	M4	4-132	2	9	44.28
69	M4	4-134	2	13	52.39
69	EN	4-151	8	2	18.71
70	EN	4-153	8	11	109.52
70	M4	4-136	2	12	50.04
71	EN	4-155	8	22	163.44
71	M4	4-138	2	17	65.79
72	EN	5-156	8	19	199.30
72	M4	4-142	2	19	77.71
73	M4	4-144	2	5	18.75
73	EN		8	14	91.88
74	M4	4-146	2	1	3.86
74	EN	5-159	8	49	442.05
75	EN	5-161	8	16	150.89
75	M4	4-148	2	11	46.09
76	M4	4-150	1	44	183.48

<i>Diogenichthys laternatus</i> (cont.)						<i>Hygophum</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
77	M4	4-152	1	21	90.93	38	EN	2-083	2	4	21.12
78	M4	5-154	1	4	33.91	71	EN	4-155	8	4	29.72
79	EN	5-168	8	5	48.13	73	EN		8	4	26.25
79	M4	5-156	1	9	72.77	<i>Hygophum atratum</i>					
80	M4	5-158	2	1	4.33	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
81	M4	5-160	5	3	28.89	1	M4		2	2	9.06
81	EN	5-172	8	10	77.58	3	M4	1-005	2	46	218.50
82	EN	5-174	8	5	22.15	4	M4	1-007	2	17	81.60
82	M4	5-162	5	23	109.94	5	M4	1-009	2	22	201.49
83	M4	5-164	5	14	112.21	22	M4	2-042	4	3	15.12
83	EN	5-176	8	12	119.26	38	EN	2-083	2	3	15.84
84	EN	5-178	8	48	544.20	43	EN	3-094	2	6	35.00
84	M4	5-166	5	8	66.78	55	EN	3-122	4	1	8.62
85	M4	5-168	5	10	84.20	58	JD	4-116	9	1	7.75
85	EN	5-180	8	23	100.37	66	M4	4-128	5	1	3.73
86	EN	5-182	3	33	382.96	68	M4	4-132	2	8	39.36
86	M4	5-170	6	8	63.11	70	M4	4-136	2	12	50.04
87	EN	5-184	3	21	328.58	70	EN	4-153	8	1	9.96
88	M4	5-174	6	16	62.88	71	M4	4-138	2	36	139.32
89	M4	5-176	6	50	205.00	71	EN	4-155	8	1	7.43
90	M4	5-178	6	4	33.57	72	M4	4-142	2	21	85.89
91	M4	5-180	6	9	36.90	73	M4	4-144	2	25	93.75
<i>Gonichthys tenuiculus</i>						74	M4	4-146	2	12	46.32
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>	74	EN	5-159	8	1	9.02
1	M4		2	1	4.53	75	M4	4-148	2	12	50.28
3	M4	1-005	2	2	9.50	76	M4	4-150	1	4	16.68
4	EN	1-007	3	3	22.79	77	M4	4-152	1	14	60.62
4	M4	1-007	2	1	4.80	82	M4	5-162	5	2	9.56
6	M4	1-011	5	2	9.22	<i>Hygophum proximum</i>					
7	M4		4	2	19.15	Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
28	EN	2-063	6	3	13.59	4	EN	1-007	3	11	83.57
29	M4	2-054	3	1	7.30	11	EN	1-024	10	2	25.08
52	EN	3-114	5	2	8.96	18	EN	1-038	6	1	8.30
59	JD	4-118	4	1	4.85	20	EN	1-042	7	4	26.00
61	EN	4-131	3	1	7.88	21	EN	2-049	7	6	25.74
62	EN	4-133	3	3	9.10	22	EN	2-051	7	21	89.25
64	M4	4-124	5	1	7.24	23	EN	2-053	7	3	21.52
68	EN	4-147	8	1	4.63	24	M4	2-046	3	3	28.34
69	EN	4-151	8	1	9.35	24	EN	2-055	7	1	7.54
70	M4	4-136	2	2	8.34	26	M4	2-050	3	4	20.16
71	EN	4-155	8	1	7.43	26	EN	2-059	6	2	9.12
72	M4	4-142	2	1	4.09	27	EN	2-061	6	13	69.81
74	EN	5-159	8	1	9.02	29	EN	2-065	6	5	26.45
86	M4	5-170	6	1	7.89	31	EN	2-069	6	2	10.18
91	M4	5-180	6	1	4.10	34	M4	3-064	3	2	16.26
						35	M4	3-066	3	2	18.34

*Hygophum proximum* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
36	M4	3-068	3	1	9.58
41	M4	3-078	4	4	23.32
51	JD	4-102	4	3	21.10
55	JD	4-110	9	1	8.82
60	EN		3	1	7.43
60	JD	4-120	4	1	8.89
61	EN	4-131	3	7	55.17
61	JD	4-122	3	2	17.31
62	M4	4-120	5	2	10.92
62	EN	4-133	3	1	3.03
64	M4	4-124	5	6	43.42
65	EN	4-139	9	2	16.53
66	EN	4-141	9	3	17.49
67	M4	4-130	2	2	8.42
68	EN	4-147	8	1	4.63
70	M4	4-136	2	1	4.17
73	M4	4-144	2	1	3.75
85	M4	5-168	5	6	50.52
86	M4	5-170	6	5	39.44
87	M4	5-172	6	4	39.42
88	M4	5-174	6	16	62.88
89	M4	5-176	6	1	4.10
91	M4	5-180	6	23	94.30

*Hygophum reinhardtii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
17	EN	1-036	6	1	7.25
37	EN	2-081	5	3	14.34
44	EN	3-096	2	5	21.20
45	EN	3-098	2	11	39.93
65	EN	4-139	9	1	8.27
67	EN	4-145	8	1	10.38
68	EN	4-147	8	8	37.04
69	EN	4-151	8	3	28.06
70	EN	4-153	8	3	29.87
71	EN	4-155	8	11	81.72

*Loweina rara*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
68	M4	4-132	2	1	4.92
68	EN	4-147	8	1	4.63
69	EN	4-151	8	1	9.35
84	M4	5-166	5	1	8.35

*Myctophum* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	M4	3-078	4	1	5.83
69	M4	4-134	2	1	4.03

*Myctophum* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
87	M4	5-172	6	1	9.85
88	M4	5-174	6	6	23.58

*Myctophum asperum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
21	M4	2-040	4	1	9.74
22	M4	2-042	4	2	10.08
41	M4	3-078	4	2	11.66
50	EN	3-108	5	1	10.87
57	M4	4-110	5	4	16.92
64	M4	4-124	5	4	28.95
86	M4	5-170	6	2	15.78
88	M4	5-174	6	15	58.95

*Myctophum aurolaternatum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
5	EN	1-010	4	1	7.68
6	M4	1-011	5	8	36.88
7	M4		4	1	9.57
10	M4	1-018	4	1	5.07
13	M4	1-024	4	1	5.09
16	EN	1-034	6	1	6.34
25	M4	2-048	3	1	10.06
29	M4	2-054	3	1	7.30
29	EN	2-065	6	1	5.29
30	M4	2-056	3	1	9.36
32	M4	3-060	3	1	9.30
32	EN	2-071	6	1	4.59
34	M4	3-064	3	1	8.13
36	M4	3-068	3	1	9.58
38	EN	2-083	2	1	5.28
46	EN	3-100	5	1	8.30
47	EN	3-102	5	1	7.18
53	M4	4-102	1	3	11.25
54	M4	4-104	1	5	40.30
56	M4	4-108	5	1	3.88
57	JD	4-114	9	1	10.12
65	EN	4-139	9	2	16.53
67	M4	4-130	2	1	4.21
71	M4	4-138	2	1	3.87
76	M4	4-150	1	1	4.17
79	M4	5-156	1	2	16.17
88	M4	5-174	6	1	3.93
89	M4	5-176	6	6	24.60
91	M4	5-180	6	1	4.10

*Myctophum lychnobium*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85

*Myctophum nitidulum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	2	9.50
4	EN	1-007	3	5	37.99
18	EN	1-038	6	1	8.30
22	M4	2-042	4	1	5.04
26	M4	2-050	3	3	15.12
30	M4	2-056	3	1	9.36
53	JD	4-106	9	3	26.51
57	JD	4-114	9	2	20.25
58	M4	4-112	5	1	3.50
61	JD	4-122	3	1	8.66
62	EN	4-133	3	2	6.07
69	EN	4-151	8	1	9.35
70	EN	4-153	8	2	19.91
71	EN	4-155	8	4	29.72
87	EN	5-184	3	1	15.65
88	M4	5-174	6	2	7.86
91	M4	5-180	6	3	12.30

*Myctophum selenops*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
65	EN	4-139	9	1	8.27

*Protomyctophum crockeri*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	2	9.06
2	M4	1-003	2	2	8.06

*Symbolophorus spp.*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
71	EN	4-155	8	7	52.00

*Symbolophorus californiensis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
2	M4	1-003	2	1	4.03

*Symbolophorus evermanni*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	14	106.37
16	EN	1-034	6	1	6.34
17	EN	1-036	6	1	7.25
18	EN	1-038	6	1	8.30
20	EN	1-042	7	1	6.50
21	M4	2-040	4	3	29.22

*Symbolophorus evermanni* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
21	EN	2-049	7	9	38.61
22	M4	2-042	4	6	30.24
22	EN	2-051	7	1	4.25
24	M4	2-046	3	6	56.67
25	EN	2-057	7	1	5.00
26	EN	2-059	6	2	9.12
27	EN	2-061	6	18	96.66
28	EN	2-063	6	1	4.53
29	M4	2-054	3	1	7.30
29	EN	2-065	6	1	5.29
31	EN	2-069	6	5	25.45
32	M4	3-060	3	1	9.30
32	EN	2-071	6	1	4.59
33	M4	3-062	3	2	21.42
34	M4	3-064	3	1	8.13
35	M4	3-066	3	3	27.50
40	M4	3-076	4	3	17.97
49	EN	3-106	5	1	9.70
55	JD	4-110	9	1	8.82
56	M4	4-108	5	1	3.88
60	JD	4-120	4	1	8.89
61	JD	4-122	3	1	8.66
62	M4	4-120	5	2	10.92
64	M4	4-124	5	16	115.80
65	EN	4-139	9	3	24.80
66	M4	4-128	5	1	3.73
67	M4	4-130	2	2	8.42
67	EN	4-145	8	1	10.38
68	M4	4-132	2	3	14.76
68	EN	4-147	8	1	4.63
69	EN	4-151	8	1	9.35
70	EN	4-153	8	1	9.96
71	EN	4-155	8	8	59.43
71	M4	4-138	2	1	3.87
84	EN	5-178	8	1	11.34
84	M4	5-166	5	8	66.78
85	EN	5-180	8	1	4.36
85	M4	5-168	5	6	50.52
86	M4	5-170	6	3	23.66
87	EN	5-184	3	1	15.65
88	M4	5-174	6	3	11.79
89	M4	5-176	6	5	20.50
91	M4	5-180	6	8	32.80

*Desmodema lorum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
65	M4	4-126	5	1	3.86

*Trachipterus altivelis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	EN	2-051	7	1	4.25

*Trachipterus fukuzakii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
60	JD	4-120	4	1	8.89
64	M4	4-124	5	1	7.24
84	M4	5-166	5	1	8.35
88	M4	5-174	6	1	3.93

*Zu cristatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
55	JD	4-110	9	1	8.82
86	EN	5-182	3	1	11.60

*Bregmaceros* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	3	22.79
4	M4	1-007	2	4	19.20
5	M4	1-009	2	6	54.95
6	M4	1-011	5	1	4.61
7	M4		4	2	19.15
8	M4	1-014	4	2	19.38
10	M4	1-018	4	2	10.14
14	EN	1-030	6	1	8.99
15	M4	2-028	3	2	17.35
16	M4	2-030	3	3	27.75
16	EN	1-034	6	1	6.34
18	M4	2-034	4	3	24.96
18	EN	1-038	6	4	33.20
19	EN	1-040	7	1	4.73
20	M4	2-038	4	1	7.95
21	M4	2-040	4	2	19.48
21	EN	2-049	7	1	4.29
22	M4	2-042	4	7	35.28
23	M4	2-044	4	1	9.92
24	M4	2-046	3	1	9.45
24	EN	2-055	7	4	30.16
25	M4	2-048	3	6	60.35
26	M4	2-050	3	4	20.16
26	EN	2-059	6	3	13.68
27	M4		3	4	41.89
27	EN	2-061	6	7	37.59
28	EN	2-063	6	3	13.59
28	M4	2-053	3	9	89.08
29	EN	2-065	6	11	58.19
30	M4	2-056	3	2	18.72
31	EN	2-069	6	8	40.72
31	M4		3	1	5.73

*Bregmaceros* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
32	M4	3-060	3	1	9.30
34	EN	2-075	5	5	24.55
34	M4	3-064	3	5	40.65
37	M4	3-070	4	2	22.65
38	EN	2-083	2	2	10.56
39	EN	2-085	1	3	29.58
41	EN		1	1	4.50
41	M4	3-078	4	1	5.83
42	EN	3-089	1	2	12.21
43	EN	3-094	2	2	11.67
44	EN	3-096	2	1	4.24
45	EN	3-098	2	4	14.52
48	EN	3-104	5	1	5.21
49	EN	3-106	5	7	67.92
50	EN	3-108	5	4	43.50
51	JD	4-102	4	1	7.03
52	EN	3-114	5	3	13.44
53	M4	4-102	1	1	3.75
54	EN	3-120	4	1	7.32
54	M4	4-104	1	4	32.24
55	EN	3-122	4	1	8.62
57	EN	3-126	3	1	6.25
57	M4	4-110	5	4	16.92
58	EN		3	1	9.23
59	EN		3	5	34.50
60	EN		3	1	7.43
60	JD	4-120	4	1	8.89
63	M4	4-122	5	2	6.62
64	EN	4-137	9	2	17.48
64	M4	4-124	5	20	144.75
65	M4	4-126	5	2	7.72
66	M4	4-128	5	1	3.73
67	EN	4-145	8	2	20.76
67	M4	4-130	2	1	4.21
68	EN	4-147	8	1	4.63
68	M4	4-132	2	3	14.76
69	M4	4-134	2	4	16.12
71	M4	4-138	2	6	23.22
71	EN	4-155	8	6	44.57
73	M4	4-144	2	1	3.75
74	M4	4-146	2	4	15.44
75	M4	4-148	2	1	4.19
76	M4	4-150	1	1	4.17
77	M4	4-152	1	2	8.66
79	M4	5-156	1	1	8.09
80	M4	5-158	2	1	4.33
81	M4	5-160	5	1	9.63
84	M4	5-166	5	1	8.35

*Bregmaceros* spp. (cont)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
85	M4	5-168	5	4	33.68
86	M4	5-170	6	9	70.99
87	M4	5-172	6	2	19.71
87	EN	5-184	3	1	15.65
88	M4	5-174	6	11	43.23
89	M4	5-176	6	2	8.20
90	M4	5-178	6	1	8.39
91	M4	5-180	6	11	45.10

*Bregmaceros bathymaster*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	3	17.19
33	M4	3-062	3	1	10.71
39	M4	3-074	4	2	21.91
40	M4	3-076	4	1	5.99
41	EN		1	40	180.00
42	EN	3-089	1	11	67.15
52	EN	3-114	5	1	4.48
55	EN	3-122	4	1	8.62
73	EN		8	20	131.26
74	EN	5-159	8	17	153.37
75	EN	5-161	8	5	47.15
80	EN	5-170	8	1	10.70
81	EN	5-172	8	2	15.52

## Macrouridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
8	EN	1-016	9	1	5.44
27	EN	2-061	6	1	5.37
33	M4	3-062	3	1	10.71

## Moridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	M4	3-078	4	1	5.83

*Merluccius gayi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
80	EN	5-170	8	5	53.52

## Ophidiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	1	5.73

*Echiodon exsilium*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
60	JD	4-120	4	1	8.89

*Antennarius* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	1	8.67

*Melanocetus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	M4	2-042	4	2	10.08

*Melanocetus johnsoni*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
76	M4	4-150	1	1	4.17

*Chaenophryne* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
9	EN	1-020	10	1	12.49

*Dolopichthys* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
6	EN	1-012	4	1	9.56
19	EN	1-040	7	1	4.73
22	M4	2-042	4	1	5.04

*Oneirodes* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	3	22.79
20	M4	2-038	4	1	7.95
26	M4	2-050	3	1	5.04
27	M4		3	1	10.47
32	EN	2-071	6	1	4.59
63	EN	4-135	8	1	8.88
67	M4	4-130	2	1	4.21
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42

*Gigantactis* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
67	M4	4-130	2	1	4.21
82	M4	5-162	5	3	14.34

*Borophryne* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
18	M4	2-034	4	1	8.32

*Cheilopogon xenopterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
29	EN	2-065	6	1	5.29



*Exocoetus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
86	EN	5-182	3	1	11.60
90	M4	5-178	6	1	8.39

*Oxyporhamphus micropterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	EN	1-010	4	1	7.68
7	M4		4	1	9.57
12	M4	1-022	4	1	8.08
17	M4	2-032	3	1	8.74
18	M4	2-034	4	1	8.32
34	M4	3-064	3	1	8.13
35	M4	3-066	3	1	9.17
40	EN	2-087	1	1	5.39
43	EN	3-094	2	1	5.83
54	M4	4-104	1	1	8.06
55	M4	4-106	5	1	6.92
55	EN	3-122	4	1	8.62
58	EN		3	1	9.23
59	EN		3	1	6.90
71	M4	4-138	2	1	3.87
76	M4	4-150	1	2	8.34
77	M4	4-152	1	4	17.32
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
81	M4	5-160	5	2	19.26
82	M4	5-162	5	1	4.78
85	EN	5-180	8	1	4.36
86	EN	5-182	3	2	23.21

## Melamphaidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
20	EN	1-042	7	1	6.50
32	EN	2-071	6	1	4.59
43	EN	3-094	2	2	11.67

*Melamphaes* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
5	M4	1-009	2	2	18.32
13	M4	1-024	4	1	5.09
16	M4	2-030	3	1	9.25
21	EN	2-049	7	1	4.29
22	M4	2-042	4	1	5.04
24	M4	2-046	3	3	28.34
24	EN	2-055	7	1	7.54
25	M4	2-048	3	1	10.06
25	EN	2-057	7	2	10.00
26	M4	2-050	3	5	25.20

*Melamphaes* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
26	EN	2-059	6	4	18.24
28	M4	2-053	3	3	29.69
28	EN	2-063	6	1	4.53
29	EN	2-065	6	1	5.29
29	M4	2-054	3	9	65.69
30	M4	2-056	3	4	37.43
31	EN	2-069	6	2	10.18
31	M4		3	2	11.46
32	EN	2-071	6	1	4.59
33	M4	3-062	3	2	21.42
34	EN	2-075	5	2	9.82
34	M4	3-064	3	2	16.26
35	M4	3-066	3	2	18.34
35	EN	2-077	5	1	10.38
36	M4	3-068	3	3	28.74
37	M4	3-070	4	1	11.33
38	M4	3-072	4	1	10.40
41	EN		1	1	4.50
41	M4	3-078	4	2	11.66
46	EN	3-100	5	2	16.60
53	M4	4-102	1	4	15.00
55	EN	3-122	4	1	8.62
55	JD	4-110	9	1	8.82
56	JD	4-112	9	1	9.75
57	JD	4-114	9	1	10.12
57	M4	4-110	5	1	4.23
58	EN		3	1	9.23
60	JD	4-120	4	1	8.89
65	M4	4-126	5	2	7.72
66	EN	4-141	9	1	5.83
67	M4	4-130	2	3	12.63
70	M4	4-136	2	1	4.17
71	EN	4-155	8	1	7.43
72	M4	4-142	2	2	8.18
72	EN	5-156	8	2	20.98
74	EN	5-159	8	1	9.02
85	EN	5-180	8	1	4.36
86	M4	5-170	6	1	7.89
86	EN	5-182	3	1	11.60
89	M4	5-176	6	2	8.20
90	M4	5-178	6	1	8.39

*Melamphaes lugubris*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	2	9.06
3	M4	1-005	2	1	4.75

*Poromitra crassiceps*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
10	M4	1-018	4	1	5.07
15	M4	2-028	3	1	8.67
37	EN	2-081	5	2	9.56
47	EN	3-102	5	1	7.18
61	EN	4-131	3	1	7.88
87	EN	5-184	3	1	15.65

*Scopeloberyx robustus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
36	EN	2-079	5	1	10.98

*Scopelogadus bispinosus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	M4	1-009	2	3	27.48
8	EN	1-016	9	1	5.44
12	M4	1-022	4	1	8.08
13	M4	1-024	4	3	15.27
17	M4	2-032	3	2	17.49
18	M4	2-034	4	1	8.32
24	EN	2-055	7	1	7.54
25	EN	2-057	7	2	10.00
26	EN	2-059	6	5	22.80
27	EN	2-061	6	2	10.74
27	M4		3	1	10.47
29	EN	2-065	6	1	5.29
29	M4	2-054	3	5	36.49
31	EN	2-069	6	2	10.18
32	M4	3-060	3	1	9.30
32	EN	2-071	6	2	9.18
33	EN	2-073	6	1	5.18
34	M4	3-064	3	2	16.26
34	EN	2-075	5	7	34.37
35	EN	2-077	5	1	10.38
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
37	EN	2-081	5	4	19.12
38	EN	2-083	2	3	15.84
38	M4	3-072	4	1	10.40
40	EN	2-087	1	1	5.39
41	EN		1	2	9.00
41	M4	3-078	4	2	11.66
45	EN	3-098	2	1	3.63
49	EN	3-106	5	1	9.70
52	JD	4-104	4	1	10.06
53	M4	4-102	1	1	3.75
55	M4	4-106	5	1	6.92
57	EN	3-126	3	4	24.98
57	M4	4-110	5	1	4.23

*Scopelogadus bispinosus (cont.)*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
58	EN	3	2	18.45	
60	EN	3	4	29.70	
61	EN	4-131	3	2	15.76
62	EN	4-133	3	2	6.07
63	EN	4-135	8	1	8.88
65	EN	4-139	9	2	16.53
66	M4	4-128	5	2	7.46
67	M4	4-130	2	1	4.21
68	EN	4-147	8	1	4.63
70	EN	4-153	8	2	19.91
74	EN	5-159	8	1	9.02
76	M4	4-150	1	1	4.17
77	M4	4-152	1	1	4.33
78	M4	5-154	1	1	8.48
79	EN	5-168	8	1	9.63
81	M4	5-160	5	1	9.63
82	M4	5-162	5	1	4.78
87	EN	5-184	3	1	15.65

*Sargocentron suborbitalis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
32	M4	3-060	3	1	9.30

## Scorpaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	EN	2-069	6	1	5.09
38	EN	2-083	2	1	5.28

*Pontinus spp.*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	4	34.70
85	EN	5-180	8	1	4.36

*Pontinus sierra*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
36	M4	3-068	3	1	9.58

*Scorpaenodes xyris*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
13	M4	1-024	4	1	5.09
59	JD	4-118	4	1	4.85
74	M4	4-146	2	1	3.86

## Triglidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
80	EN	5-170	8	1	10.70

<i>Howella</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
24	EN	2-055	7	1	7.54
63	M4	4-122	5	3	9.93
64	M4	4-124	5	2	14.47
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85
88	M4	5-174	6	2	7.86

<i>Howella pammelas</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	EN	1-032	6	1	4.23
16	EN	1-034	6	1	6.34
21	M4	2-040	4	1	9.74
22	M4	2-042	4	1	5.04
23	EN	2-053	7	1	7.17
24	M4	2-046	3	2	18.89
27	M4		3	1	10.47
31	EN	2-069	6	2	10.18
34	M4	3-064	3	1	8.13
41	M4	3-078	4	2	11.66
48	EN	3-104	5	1	5.21
49	EN	3-106	5	1	9.70
56	JD	4-112	9	1	9.75
56	M4	4-108	5	1	3.88
60	JD	4-120	4	6	53.33
61	JD	4-122	3	1	8.66
65	EN	4-139	9	1	8.27
66	EN	4-141	9	1	5.83
87	M4	5-172	6	1	9.85
88	M4	5-174	6	1	3.93

Serraninae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	5	22.50

<i>Diplectrum</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	1	8.67

<i>Hemanthias peruanus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	2	11.46

<i>Pronotogrammus multifasciatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
44	EN	3-096	2	1	4.24

Opisthognathidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
73	EN		8	1	6.56

<i>Apogon</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	EN	1-010	4	1	7.68

<i>Caulolatilus</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
27	M4		3	1	10.47

<i>Remora</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	1	8.67

Carangidae					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
28	EN	2-063	6	1	4.53
33	M4	3-062	3	1	10.71
41	EN		1	2	9.00
43	EN	3-094	2	1	5.83

<i>Caranx</i> spp.					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	1	5.73
32	M4	3-060	3	1	9.30
39	M4	3-074	4	1	10.96
71	EN	4-155	8	3	22.29

<i>Naucrates ductor</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
12	M4	1-022	4	1	8.08
41	M4	3-078	4	1	5.83

<i>Coryphaena equiselis</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
20	M4	2-038	4	1	7.95
22	EN	2-051	7	1	4.25
28	M4	2-053	3	1	9.90
55	M4	4-106	5	1	6.92
58	EN		3	1	9.23
63	M4	4-122	5	1	3.31
67	M4	4-130	2	3	12.63

<i>Coryphaena hippurus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
5	M4	1-009	2	1	9.16
10	M4	1-018	4	1	5.07
15	EN	1-032	6	1	4.23

*Coryphaena hippurus* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
20	EN	1-042	7	1	6.50
26	M4	2-050	3	1	5.04
40	M4	3-076	4	1	5.99
42	EN	3-089	1	1	6.10
44	EN	3-096	2	1	4.24
54	M4	4-104	1	2	16.12
68	M4	4-132	2	1	4.92
77	M4	4-152	1	1	4.33
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
83	M4	5-164	5	1	8.02

*Brama* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
16	EN	1-034	6	1	6.34

*Brama dussumieri*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
22	M4	2-042	4	2	10.08
66	EN	4-141	9	1	5.83
67	M4	4-130	2	1	4.21
67	EN	4-145	8	2	20.76

*Taractichthys steindachneri*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
63	M4	4-122	5	1	3.31

*Caristius maderensis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
51	JD	4-102	4	1	7.03
55	JD	4-110	9	1	8.82
64	EN	4-137	9	1	8.74

*Lutjanus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	1	4.50

Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	5	22.50

Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	1	4.50

Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	2	9.00
79	EN	5-168	8	3	28.88

*Polydactylus approximans*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	5	22.50

*Mugil* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	2	9.00

Pomacentridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
71	EN	4-155	8	1	7.43

Labridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	1	5.73
41	EN		1	1	4.50

*Thalassoma* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
25	M4	2-048	3	1	10.06
53	M4	4-102	1	1	3.75
60	EN		3	1	7.43
77	M4	4-152	1	1	4.33

*Xyrichtys* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	1	4.50
54	M4	4-104	1	1	8.06

*Xyrichtys mundiceps*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	2	15.20
28	M4	2-053	3	3	29.69
41	EN		1	1	4.50
42	EN	3-089	1	5	30.52
74	M4	4-146	2	1	3.86
77	M4	4-152	1	1	4.33

*Chiasmodon niger*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	3	13.59
4	EN	1-007	3	1	7.60
12	EN	1-026	10	1	11.08
20	EN	1-042	7	1	6.50

*Chiasmodon niger* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
25	EN	2-057	7	1	5.00
31	EN	2-069	6	1	5.09
34	EN	2-075	5	1	4.91
41	M4	3-078	4	1	5.83
54	EN	3-120	4	1	7.32
58	EN		3	1	9.23
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	1	4.92
70	M4	4-136	2	1	4.17
77	M4	4-152	1	1	4.33
85	EN	5-180	8	3	13.09

*Ammodytoides gilli*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
43	EN	3-094	2	1	5.83

## Eleotridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	4	30.39
15	M4	2-028	3	3	26.02
16	M4	2-030	3	1	9.25
17	M4	2-032	3	1	8.74
41	EN		1	45	202.50
42	EN	3-089	1	2	12.21
55	EN	3-122	4	2	17.25
57	EN	3-126	3	3	18.74
77	M4	4-152	1	9	38.97
78	M4	5-154	1	11	93.24
86	EN	5-182	3	1	11.60
87	EN	5-184	3	1	15.65

## Gobiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	13	98.77
12	M4	1-022	4	1	8.08
13	M4	1-024	4	2	10.18
15	M4	2-028	3	5	43.37
17	M4	2-032	3	1	8.74
28	M4	2-053	3	4	39.59
29	M4	2-054	3	2	14.60
30	M4	2-056	3	2	18.72
31	M4		3	2	11.46
32	M4	3-060	3	5	46.50
33	M4	3-062	3	1	10.71
41	EN		1	1	4.50
42	EN	3-089	1	1	6.10
43	EN	3-094	2	1	5.83

## Gobiidae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
53	M4	4-102	1	1	3.75
58	JD	4-116	9	1	7.75
58	EN		3	1	9.23
59	EN		3	7	48.30
79	M4	5-156	1	1	8.09

*Acanthurus triostegus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
40	M4	3-076	4	1	5.99

*Diplospinus multistriatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
67	M4	4-130	2	4	16.84
68	EN	4-147	8	1	4.63
69	EN	4-151	8	2	18.71
71	EN	4-155	8	5	37.15

*Gempylus serpens*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	1	4.80
20	M4	2-038	4	1	7.95
40	M4	3-076	4	1	5.99
41	M4	3-078	4	1	5.83
50	EN	3-108	5	1	10.87
61	JD	4-122	3	1	8.66
66	M4	4-128	5	3	11.19
67	M4	4-130	2	2	8.42
68	M4	4-132	2	1	4.92
69	M4	4-134	2	1	4.03
74	M4	4-146	2	1	3.86
76	M4	4-150	1	1	4.17
79	M4	5-156	1	1	8.09
80	M4	5-158	2	1	4.33
84	M4	5-166	5	1	8.35
85	EN	5-180	8	2	8.73
88	M4	5-174	6	1	3.93

*Lepidocybium flavobrunneum*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
21	EN	2-049	7	1	4.29
89	M4	5-176	6	1	4.10

*Nealotus tripes*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	3	22.79
7	EN	1-014	4	1	10.60
15	M4	2-028	3	3	26.02
24	EN	2-055	7	1	7.54

*Nealotus tripes* (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
26	M4	2-050	3	1	5.04
26	EN	2-059	6	1	4.56
28	M4	2-053	3	1	9.90
29	M4	2-054	3	5	36.49
30	M4	2-056	3	4	37.43
31	EN	2-069	6	1	5.09
32	M4	3-060	3	3	27.90
32	EN	2-071	6	1	4.59
33	EN	2-073	6	1	5.18
51	JD	4-102	4	1	7.03
52	EN	3-114	5	1	4.48
57	M4	4-110	5	3	12.69
60	JD	4-120	4	1	8.89
61	EN	4-131	3	1	7.88
62	EN	4-133	3	2	6.07
64	M4	4-124	5	1	7.24
85	M4	5-168	5	3	25.26
86	EN	5-182	3	1	11.60
87	EN	5-184	3	2	31.29
91	M4	5-180	6	2	8.20

*Trichiurus lepturus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
33	M4	3-062	3	1	10.71

## Istiophoridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
54	M4	4-104	1	1	8.06

*Auxis* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
6	EN	1-012	4	1	9.56
8	EN	1-016	9	1	5.44
12	M4	1-022	4	2	16.15
13	M4	1-024	4	2	10.18
28	M4	2-053	3	1	9.90
28	EN	2-063	6	1	4.53
30	M4	2-056	3	1	9.36
32	M4	3-060	3	1	9.30
33	EN	2-073	6	1	5.18
33	M4	3-062	3	4	42.84
40	EN	2-087	1	2	10.78
41	EN		1	5	22.50
42	EN	3-089	1	2	12.21
53	M4	4-102	1	3	11.25
57	EN	3-126	3	2	12.49
59	EN		3	1	6.90
77	M4	4-152	1	1	4.33

*Auxis* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
78	M4	5-154	1	2	16.95
82	M4	5-162	5	1	4.78

*Euthynnus lineatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
77	M4	4-152	1	1	4.33

*Katsuwonus pelamis*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
32	EN	2-071	6	1	4.59
62	EN	4-133	3	1	3.03

*Scomber japonicus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
71	EN	4-155	8	2	14.86
72	EN	5-156	8	1	10.49
73	EN		8	38	249.40
74	EN	5-159	8	3	27.06
75	EN	5-161	8	1	9.43
82	M4	5-162	5	1	4.78

*Scomberomorus sierra*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	1	4.50

*Thunnus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
18	M4	2-034	4	2	16.64
28	EN	2-063	6	1	4.53
61	JD	4-122	3	1	8.66

## Nomeidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	3	14.40
30	M4	2-056	3	2	18.72
59	EN		3	1	6.90

*Cubiceps baxteri*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
10	EN	1-022	10	1	8.84
55	JD	4-110	9	1	8.82
62	M4	4-120	5	1	5.46
66	EN	4-141	9	1	5.83
69	M4	4-134	2	1	4.03
70	M4	4-136	2	2	8.34
71	EN	4-155	8	1	7.43
91	M4	5-180	6	1	4.10

*Cubiceps pauciradiatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
3	M4	1-005	2	6	28.50
4	EN	1-007	3	5	37.99
5	EN	1-010	4	2	15.36
7	M4		4	6	57.44
8	EN	1-016	9	2	10.88
8	M4	1-014	4	2	19.38
10	M4	1-018	4	17	86.19
12	M4	1-022	4	1	8.08
16	EN	1-034	6	3	19.01
20	M4	2-038	4	5	39.75
20	EN	1-042	7	1	6.50
21	M4	2-040	4	2	19.48
29	M4	2-054	3	1	7.30
31	M4		3	1	5.73
32	EN	2-071	6	1	4.59
34	EN	2-075	5	17	83.47
35	EN	2-077	5	6	62.28
36	EN	2-079	5	3	32.94
38	EN	2-083	2	3	15.84
39	EN	2-085	1	1	9.86
40	M4	3-076	4	1	5.99
41	M4	3-078	4	2	11.66
42	EN	3-089	1	6	36.63
45	EN	3-098	2	1	3.63
51	JD	4-102	4	1	7.03
54	M4	4-104	1	1	8.06
54	EN	3-120	4	4	29.28
57	M4	4-110	5	9	38.07
57	EN	3-126	3	1	6.25
59	EN		3	2	13.80
60	JD	4-120	4	4	35.56
61	EN	4-131	3	2	15.76
66	M4	4-128	5	4	14.92
73	M4	4-144	2	1	3.75
74	M4	4-146	2	14	54.04
75	M4	4-148	2	4	16.76
76	M4	4-150	1	7	29.19
77	M4	4-152	1	5	21.65
80	M4	5-158	2	5	21.65
81	M4	5-160	5	14	134.81
82	M4	5-162	5	16	76.48
83	M4	5-164	5	3	24.05
86	M4	5-170	6	1	7.89
86	EN	5-182	3	3	34.81
87	EN	5-184	3	1	15.65

*Nomeus gronovii*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
9	EN	1-020	10	2	24.98
10	M4	1-018	4	1	5.07
<i>Psenes spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
68	M4	4-132	2	1	4.92
<i>Psenes arafurensis</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
25	EN	2-057	7	1	5.00
86	M4	5-170	6	1	7.89
<i>Psenes cyanophrys</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
38	M4	3-072	4	1	10.40
<i>Psenes maculatus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
64	M4	4-124	5	1	7.24
<i>Psenes pellucidus</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
29	M4	2-054	3	1	7.30
59	EN		3	1	6.90
78	M4	5-154	1	2	16.95
81	EN	5-172	8	1	7.76
87	EN	5-184	3	1	15.65
<i>Psenes sio</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
17	M4	2-032	3	1	8.74
28	M4	2-053	3	1	9.90
55	M4	4-106	5	1	6.92
74	EN	5-159	8	2	18.04
75	EN	5-161	8	1	9.43
76	M4	4-150	1	3	12.51
82	EN	5-174	8	1	4.43
<i>Tetragonurus cuvieri</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
1	M4		2	1	4.53
<i>Cyclopsetta spp.</i>					
Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
29	M4	2-054	3	1	7.30

*Cyclosetta* spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
41	EN		1	1	4.50
42	EN	3-089	1	1	6.10

*Syacium* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	2	17.35
17	M4	2-032	3	3	26.23
20	M4	2-038	4	1	7.95
32	M4	3-060	3	2	18.60
41	EN		1	11	49.50
53	M4	4-102	1	2	7.50
56	EN	3-124	3	3	31.24
57	EN	3-126	3	7	43.72
58	EN		3	1	9.23
59	EN		3	1	6.90
74	M4	4-146	2	1	3.86
78	M4	5-154	1	1	8.48

*Bothus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
12	M4	1-022	4	1	8.08
17	M4	2-032	3	1	8.74
29	M4	2-054	3	1	7.30
41	EN		1	1	4.50
61	M4	4-118	5	1	5.97
75	M4	4-148	2	1	4.19
77	M4	4-152	1	1	4.33

*Monolene* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
10	M4	1-018	4	1	5.07
17	M4	2-032	3	2	17.49

*Perissias taeniopterus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
28	M4	2-053	3	1	9.90

*Symphurus* spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	2	17.35
32	M4	3-060	3	1	9.30
41	EN		1	2	9.00
53	M4	4-102	1	1	3.75
59	EN		3	1	6.90
78	M4	5-154	1	1	8.48
85	EN	5-180	8	1	4.36

Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
16	EN	1-034	6	1	6.34

*Canthidermis maculatus*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
15	M4	2-028	3	1	8.67

Monacanthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
29	EN	2-065	6	1	5.29

Ostraciidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	M4	1-007	2	1	4.80
7	M4		4	1	9.57

*Lactoria fornasini*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
44	EN	3-096	2	1	4.24

*Diodon eydouxi*

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
81	M4	5-160	5	1	9.63

Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
18	EN	1-038	6	1	8.30
41	EN		1	3	13.50
60	EN		3	2	14.85
61	JD	4-122	3	1	8.66
66	EN	4-141	9	1	5.83
84	M4	5-166	5	1	8.35

Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
4	EN	1-007	3	1	7.60
5	M4	1-009	2	1	9.16
7	M4		4	2	19.15
7	EN	1-014	4	1	10.60
8	EN	1-016	9	1	5.44
8	M4	1-014	4	2	19.38
15	M4	2-028	3	1	8.67
20	M4	2-038	4	1	7.95
24	M4	2-046	3	1	9.45
26	M4	2-050	3	2	10.08
27	EN	2-061	6	1	5.37
29	M4	2-054	3	1	7.30



## Unidentified fish larvae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
31	M4		3	1	5.73
33	M4	3-062	3	1	10.71
34	EN	2-075	5	3	14.73
39	M4	3-074	4	1	10.96
41	EN		1	2	9.00
41	M4	3-078	4	1	5.83
52	EN	3-114	5	2	8.96
54	M4	4-104	1	1	8.06
56	EN	3-124	3	1	10.41
60	JD	4-120	4	1	8.89
63	EN	4-135	8	1	8.88
64	M4	4-124	5	3	21.71

## Unidentified fish larvae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m <sup>2</sup>
66	M4	4-128	5	1	3.73
66	EN	4-141	9	2	11.66
67	M4	4-130	2	1	4.21
71	M4	4-138	2	2	7.74
72	EN	5-156	8	1	10.49
73	EN		8	1	6.56
74	M4	4-146	2	1	3.86
75	M4	4-148	2	4	16.76
76	M4	4-150	1	3	12.51
77	M4	4-152	1	1	4.33
78	M4	5-154	1	1	8.48

Table 11. Average standardized numbers of fish larvae (per 10 m<sup>2</sup> of sea surface) for each taxon taken in bongo net tows in the regions (Figure 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Number in parenthesis below region number is number of tows in that region.

Taxon	Region									
	1 (10)	2 (19)	3 (27)	4 (25)	5 (29)	6 (19)	7 (7)	8 (17)	9 (10)	10 (4)
<i>Albula</i> spp.	0.6	-	-	-	-	-	-	-	-	-
<i>Chlopsis</i> spp.	-	-	1.6	0.5	-	-	-	-	-	-
Muraenidae	-	-	0.4	-	-	-	-	-	-	-
<i>Ophichthus</i> spp.	-	-	0.3	0.5	-	-	-	-	-	-
<i>Ophichthus zophochir</i>	0.5	-	0.6	-	-	-	-	0.6	-	-
Congridae	-	-	-	0.3	-	-	-	-	-	-
<i>Ariosoma gilberti</i>	0.9	-	1.0	0.6	-	-	-	-	-	3.1
<i>Bathycongrus macrurus</i>	-	-	0.8	-	-	-	-	0.6	-	-
<i>Chiloconger</i> spp.	-	-	-	-	-	-	-	0.5	-	-
<i>Heteroconger digueti</i>	0.6	-	-	-	-	-	-	-	-	-
<i>Paraconger californiensis</i>	-	-	0.8	-	-	-	-	-	-	-
<i>Rhynchoconger</i> spp.	-	-	0.3	-	-	-	-	-	-	-
<i>Rhynchoconger nitens</i>	-	-	1.5	1.2	-	-	-	-	-	-
<i>Avocettina bowersi</i>	-	-	0.4	-	-	-	-	-	-	-
<i>Nemichthys</i> spp.	-	-	0.7	0.2	-	-	-	-	-	-
<i>Nemichthys scolopaceus</i>	-	-	0.9	-	-	-	-	-	-	-
<i>Serrivomer sector</i>	-	-	-	-	0.5	-	-	-	-	-
Nettastomatidae	-	-	-	-	-	-	-	0.3	-	-
Clupeidae	-	-	-	-	-	-	-	0.4	-	-
<i>Opisthonema</i> spp.	17.4	-	-	-	-	-	-	-	-	-
<i>Sardinops sagax</i>	-	-	-	-	-	-	-	71.8	-	-
<i>Anchoa</i> spp.	17.1	-	-	-	-	-	-	11.1	-	-
<i>Cetengraulis</i> spp.	-	-	-	-	-	-	-	1.1	-	-
<i>Nansenia crassa</i>	-	-	-	0.4	-	-	-	-	-	-
<i>Bathylagus nigrigenys</i>	10.2	5.2	30.6	17.5	11.1	5.5	15.6	54.0	10.0	5.9
<i>Bathylagus wesethi</i>	-	0.7	-	-	-	-	-	-	-	-
<i>Leuroglossus urotronus</i>	-	-	0.6	-	-	-	-	91.6	-	-
Stomiiformes	-	-	-	-	-	0.6	-	-	-	-
<i>Cyclothone</i> spp.	-	1.7	5.4	5.4	0.9	3.8	1.2	3.5	5.4	-
<i>Cyclothone signata</i>	-	9.9	3.0	2.3	0.9	5.0	3.1	4.5	3.7	5.3
<i>Diplophos proximus</i>	7.0	5.5	1.1	1.8	1.0	0.6	-	-	-	-
<i>Gonostoma atlanticum</i>	-	-	-	-	-	-	1.2	-	-	-
<i>Argyropelecus affinis</i>	-	-	-	-	0.1	-	-	-	0.6	-
<i>Argyropelecus lychnus</i>	-	0.6	-	-	-	-	-	-	-	-
<i>Argyropelecus sladeni</i>	-	0.2	0.3	-	0.3	-	-	0.7	-	2.2
<i>Sternoptyx</i> spp.	-	5.9	33.3	11.4	12.4	35.4	25.9	9.4	41.2	12.2
<i>Valenciennellus tripunctulatus</i>	-	-	-	-	-	-	-	1.3	-	-
<i>Ichthyococcus</i> spp.	-	-	-	-	-	-	-	-	0.8	-
<i>Vinciguerria lucetia</i>	319.9	847.5	175.6	237.8	301.0	267.1	41.2	469.4	313.4	138.1
<i>Woodsia nonsuchae</i>	-	-	-	0.4	-	-	-	-	-	-
<i>Chauliodus</i> spp.	-	-	0.3	-	-	1.2	1.1	-	1.9	-
<i>Stomias</i> spp.	-	1.8	-	-	0.4	0.2	-	2.6	2.2	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Stomias atriventer</i>	-	0.2	-	-	-	-	-	-	-	-
Astronesthinae	-	-	-	0.2	-	0.3	-	-	-	-
<i>Astronesthes</i> spp.	-	-	-	0.4	0.2	-	-	-	-	-
<i>Borostomias panamensis</i>	-	-	-	-	-	-	-	-	1.1	-
Melanostomiinae	-	-	1.1	0.3	0.1	0.8	-	-	-	-
<i>Bathophilus filifer</i>	2.3	2.5	1.2	0.4	1.7	1.1	-	2.3	-	-
<i>Eustomias</i> spp.	-	0.5	-	-	-	0.4	-	-	-	-
<i>Idiacanthus</i> spp.	2.8	1.1	5.2	10.2	5.6	3.7	-	0.6	0.8	-
<i>Chlorophthalmus</i> spp.	-	-	0.6	0.8	-	-	-	-	-	-
<i>Rosenblattichthys volucris</i>	-	-	0.8	0.3	0.1	0.6	-	-	1.0	3.1
<i>Scopelarchoides nicholsi</i>	6.3	4.1	3.9	3.9	4.4	4.2	0.7	5.2	1.7	2.2
<i>Scopelarchus analis</i>	-	-	-	-	-	0.2	-	-	-	-
<i>Scopelarchus guentheri</i>	-	0.4	-	-	-	-	-	-	-	-
<i>Scopelosaurus</i> spp.	-	-	0.1	-	-	-	-	0.3	-	-
<i>Synodus</i> spp.	0.9	-	-	-	-	-	-	-	-	-
Paralepididae	-	-	-	-	-	0.2	-	-	1.0	-
<i>Lestidiops</i> spp.	-	-	1.4	1.3	-	0.9	-	7.8	1.8	-
<i>Lestidiops neles</i>	33.5	8.3	4.0	5.7	3.7	2.9	-	-	-	-
<i>Lestidium</i> spp.	-	1.1	5.3	5.3	4.8	6.0	-	-	0.8	-
<i>Stemonosudis macrura</i>	-	2.7	1.1	1.6	0.8	1.3	0.9	1.0	0.9	-
<i>Uncisudis advena</i>	-	-	-	-	0.2	-	-	-	-	-
<i>Uncisudis quadrimaculatus</i>	-	-	-	-	-	-	0.6	-	-	-
<i>Evermannella ahlstromi</i>	0.4	1.0	0.3	-	0.6	2.8	2.0	-	0.9	-
Myctophiformes	-	-	-	-	-	0.5	-	-	-	-
<i>Scopelengys tristis</i>	-	-	-	0.8	-	0.2	-	-	0.8	-
Myctophidae	-	0.3	2.8	0.4	-	2.0	-	1.0	1.9	3.1
<i>Bolinichthys</i> spp.	-	6.1	-	-	-	0.3	1.6	-	-	6.3
<i>Bolinichthys longipes</i>	0.9	2.1	1.0	0.6	1.7	0.8	-	1.7	5.8	-
<i>Ceratoscopelus townsendi</i>	-	24.3	-	-	-	-	-	-	-	-
<i>Ceratoscopelus warmingii</i>	-	3.4	-	-	1.0	-	1.6	18.4	6.1	-
<i>Diaphus</i> spp.	75.9	28.2	93.6	64.7	33.9	28.2	5.1	4.9	4.9	3.1
<i>Lampadena luminosa</i>	-	-	-	-	-	-	-	-	0.6	-
<i>Lampadena urophaos</i>	-	0.5	-	-	0.1	0.6	-	-	-	-
<i>Lampanyctus</i> spp.	0.4	18.1	20.5	11.2	4.7	14.7	6.8	3.9	9.8	27.6
<i>Lampanyctus omostigma</i>	-	0.5	-	-	-	-	-	-	-	-
<i>Lampanyctus parvicauda</i>	2.8	1.8	9.3	6.9	3.6	0.6	-	16.0	5.8	3.1
<i>Lampanyctus tenuiformis</i>	-	-	-	-	-	1.4	-	0.6	-	-
<i>Lobianchia gemellarii</i>	-	-	-	0.3	-	-	-	-	0.6	-
<i>Nannobranchium achirus</i>	-	-	-	-	-	-	-	0.6	-	-
<i>Nannobranchium bristori</i>	-	-	-	-	-	-	0.6	-	0.9	-
<i>Nannobranchium hawaiiensis</i>	-	-	-	0.4	-	-	-	-	1.7	2.2
<i>Nannobranchium idostigma</i>	0.4	4.4	3.0	2.8	-	-	0.6	2.0	-	-
<i>Notolychnus valdiviae</i>	-	4.0	13.5	3.6	1.6	2.2	-	2.1	-	3.1
<i>Notoscopelus resplendens</i>	-	2.0	0.6	1.2	-	1.1	-	7.0	2.3	3.1
<i>Triphoturus</i> spp.	-	-	3.3	0.3	-	-	-	13.2	2.3	-
<i>Triphoturus mexicanus</i>	0.4	11.9	-	-	0.3	-	-	-	-	-
<i>Triphoturus nigrescens</i>	-	0.2	1.1	1.4	0.3	-	-	-	-	-
<i>Benthoosema suborbitale</i>	-	-	-	-	-	-	-	2.2	0.8	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Diogenichthys atlanticus</i>	-	1.6	-	-	-	0.4	-	1.1	3.8	-
<i>Diogenichthys laternatus</i>	87.1	127.8	429.7	160.3	47.9	69.4	88.7	130.4	127.0	17.8
<i>Gonichthys tenuiculus</i>	-	1.6	1.7	1.0	0.9	1.3	-	1.8	-	-
<i>Hygophum</i> spp.	-	1.1	-	-	-	-	-	3.3	-	-
<i>Hygophum atratum</i>	7.7	56.1	-	0.9	0.5	-	-	1.6	0.8	-
<i>Hygophum proximum</i>	-	0.9	9.6	2.1	3.6	19.2	24.3	0.3	4.3	6.3
<i>Hygophum reinhardtii</i>	-	3.2	-	-	0.5	0.4	-	11.0	0.8	-
<i>Loweina rara</i>	-	0.3	-	-	0.3	-	-	0.8	-	-
<i>Myctophum</i> spp.	-	0.2	-	0.2	-	1.8	-	-	-	-
<i>Myctophum asperum</i>	-	-	-	1.3	2.0	3.9	-	-	-	-
<i>Myctophum aurolaternatum</i>	7.2	0.7	2.3	1.1	1.9	2.6	-	-	2.7	-
<i>Myctophum lychnobium</i>	-	-	-	-	-	0.9	-	-	-	-
<i>Myctophum nitidulum</i>	-	0.5	3.4	0.2	0.1	1.5	-	3.5	4.7	-
<i>Myctophum selenops</i>	-	-	-	-	-	-	-	-	0.8	-
<i>Protomyctophum crockeri</i>	-	0.9	-	-	-	-	-	-	-	-
<i>Symbolophorus</i> spp.	-	-	-	-	-	-	-	3.1	-	-
<i>Symbolophorus californiensis</i>	-	0.2	-	-	-	-	-	-	-	-
<i>Symbolophorus evermanni</i>	-	1.4	9.7	3.5	9.0	13.5	7.8	6.4	3.4	-
<i>Desmodema lorum</i>	-	-	-	-	0.1	-	-	-	-	-
<i>Trachipterus altivelis</i>	-	-	-	-	-	-	0.6	-	-	-
<i>Trachipterus fukuzakii</i>	-	-	-	0.4	0.5	0.2	-	-	-	-
<i>Zu cristatus</i>	-	-	0.4	-	-	-	-	-	0.9	-
<i>Bregmaceros</i> spp.	10.3	10.6	16.2	8.3	13.5	21.5	5.6	4.1	1.7	-
<i>Bregmaceros bathymaster</i>	24.7	-	1.0	1.5	0.2	-	-	21.1	-	-
Macrouridae	-	-	0.4	-	-	0.3	-	-	0.5	-
Moridae	-	-	-	0.2	-	-	-	-	-	-
<i>Merluccius gayi</i>	-	-	-	-	-	-	-	3.1	-	-
Ophidiidae	-	-	0.2	-	-	-	-	-	-	-
<i>Echiodon exsilium</i>	-	-	-	0.4	-	-	-	-	-	-
<i>Antennarius</i> spp.	-	-	0.3	-	-	-	-	-	-	-
<i>Melanocetus</i> spp.	-	-	-	0.4	-	-	-	-	-	-
<i>Melanocetus johnsoni</i>	0.4	-	-	-	-	-	-	-	-	-
<i>Chaenophryne</i> spp.	-	-	-	-	-	-	-	-	-	3.1
<i>Dolopichthys</i> spp.	-	-	0.3	0.6	-	-	0.7	-	-	-
<i>Oneirodes</i> spp.	-	0.2	1.4	0.3	0.6	0.2	-	0.5	-	-
<i>Gigantactis</i> spp.	-	0.2	-	-	0.5	-	-	-	-	-
<i>Borophryne</i> spp.	-	-	-	0.3	-	-	-	-	-	-
<i>Cheilopogon xenopterus</i>	-	-	-	-	-	0.3	-	-	-	-
<i>Exocoetus</i> spp.	-	-	0.4	-	-	0.4	-	-	-	-
<i>Oxyporhamphus micropterus</i>	5.5	0.7	2.4	1.7	1.1	-	-	0.3	-	-
Melamphidae	-	0.6	-	-	-	0.2	0.9	-	-	-
<i>Melamphaes</i> spp.	2.0	2.3	12.2	2.4	1.7	3.5	3.1	2.5	3.5	-
<i>Melamphaes lugubris</i>	-	0.7	-	-	-	-	-	-	-	-
<i>Poromitra crassiceps</i>	-	-	1.2	0.2	0.6	-	-	-	-	-
<i>Scopeloberyx robustus</i>	-	-	-	-	0.4	-	-	-	-	-
<i>Scopelogadus bispinosus</i>	3.5	2.7	7.8	2.6	4.1	3.3	2.5	3.1	2.2	-
<i>Sargocentron suborbitalis</i>	-	-	0.3	-	-	-	-	-	-	-
Scorpaenidae	-	0.3	-	-	-	0.3	-	-	-	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Pontinus</i> spp.	-	-	1.3	-	-	-	-	0.3	-	-
<i>Pontinus sierra</i>	-	-	0.4	-	-	-	-	-	-	-
<i>Scorpaenodes xyris</i>	-	0.2	-	0.4	-	-	-	-	-	-
Triglidae	-	-	-	-	-	-	-	0.6	-	-
<i>Howella</i> spp.	-	-	0.3	-	0.8	1.3	1.1	-	-	-
<i>Howella pammelas</i>	-	-	1.7	3.2	0.6	1.8	1.0	-	2.4	-
Serraninae	2.3	-	-	-	-	-	-	-	-	-
<i>Diplectrum</i> spp.	-	-	0.3	-	-	-	-	-	-	-
<i>Hemanthias peruanus</i>	-	-	0.4	-	-	-	-	-	-	-
<i>Pronotogrammus</i>	-	0.2	-	-	-	-	-	-	-	-
<i>Opisthognathidae</i>	-	-	-	-	-	-	-	0.4	-	-
<i>Apogon</i> spp.	-	-	-	0.3	-	-	-	-	-	-
<i>Caulolatilus</i> spp.	-	-	0.4	-	-	-	-	-	-	-
<i>Remora</i> spp.	-	-	0.3	-	-	-	-	-	-	-
Carangidae	0.9	0.3	0.4	-	-	0.2	-	-	-	-
<i>Caranx</i> spp.	-	-	0.6	0.4	-	-	-	1.3	-	-
<i>Naucrates ductor</i>	-	-	-	0.6	-	-	-	-	-	-
<i>Coryphaena equiselis</i>	-	0.7	0.7	0.3	0.4	-	0.6	-	-	-
<i>Coryphaena hippurus</i>	4.3	1.2	0.2	0.4	0.3	0.2	0.9	-	-	-
<i>Brama</i> spp.	-	-	-	-	-	0.3	-	-	-	-
<i>Brama dussumieri</i>	-	0.2	-	0.4	-	-	-	1.2	0.6	-
<i>Taractichthys steindachneri</i>	-	-	-	-	0.1	-	-	-	-	-
<i>Caristius maderensis</i>	-	-	-	0.3	-	-	-	-	1.8	-
<i>Lutjanus</i> spp.	0.5	-	-	-	-	-	-	-	-	-
Gerreidae	2.3	-	-	-	-	-	-	-	-	-
Haemulidae	0.5	-	-	-	-	-	-	-	-	-
Sciaenidae	0.9	-	-	-	-	-	-	1.7	-	-
<i>Polydactylus approximans</i>	2.3	-	-	-	-	-	-	-	-	-
<i>Mugil</i> spp.	0.9	-	-	-	-	-	-	-	-	-
Pomacentridae	-	-	-	-	-	-	-	0.4	-	-
Labridae	0.5	-	0.2	-	-	-	-	-	-	-
<i>Thalassoma</i> spp.	0.8	-	0.6	-	-	-	-	-	-	-
<i>Xyrichtys</i> spp.	1.3	-	-	-	-	-	-	-	-	-
<i>Xyrichtys mundiceps</i>	3.9	0.2	1.7	-	-	-	-	-	-	-
<i>Chiasmodon niger</i>	0.4	1.4	0.6	0.5	0.3	0.3	1.6	0.8	-	2.8
<i>Ammodytoides gilli</i>	-	0.3	-	-	-	-	-	-	-	-
Eleotridae	34.7	-	4.5	0.7	-	-	-	-	-	-
Gobiidae	2.2	0.3	13.0	0.7	-	-	-	-	0.8	-
<i>Acanthurus triostegus</i>	-	-	-	0.2	-	-	-	-	-	-
<i>Diplospinus multistriatus</i>	-	0.9	-	-	-	-	-	3.6	-	-
<i>Gempylus serpens</i>	1.2	1.6	0.3	0.8	1.0	0.2	-	0.5	-	-
<i>Lepidocybium flavobrunneum</i>	-	-	-	-	-	0.2	0.6	-	-	-
<i>Nealotus tripes</i>	-	-	8.2	1.1	1.7	1.5	1.1	-	-	-
<i>Trichiurus lepturus</i>	-	-	0.4	-	-	-	-	-	-	-
Istiophoridae	0.8	-	-	-	-	-	-	-	-	-
<i>Auxis</i> spp.	7.8	-	3.4	1.4	0.2	0.5	-	-	0.5	-
<i>Euthynnus lineatus</i>	0.4	-	-	-	-	-	-	-	-	-
<i>Katsuwonus pelamis</i>	-	-	0.1	-	-	0.2	-	-	-	-

Taxon	Region									
	1	2	3	4	5	6	7	8	9	10
<i>Scomber japonicus</i>	-	-	-	-	0.2	-	-	18.3	-	-
<i>Scomberomorus sierra</i>	0.5	-	-	-	-	-	-	-	-	-
<i>Thunnus</i> spp.	-	-	0.3	0.7	-	0.2	-	-	-	-
Nomeidae	-	0.8	0.9	-	-	-	-	-	-	-
<i>Cubiceps baxteri</i>	-	0.7	-	-	0.2	0.2	-	0.4	1.5	2.2
<i>Cubiceps pauciradiatus</i>	10.5	7.6	5.1	13.4	16.1	1.7	0.9	-	1.1	-
<i>Nomeus gronovii</i>	-	-	-	0.2	-	-	-	-	-	6.2
<i>Psenes</i> spp.	-	0.3	-	-	-	-	-	-	-	-
<i>Psenes arafurensis</i>	-	-	0.3	-	-	0.4	0.7	-	-	-
<i>Psenes cyanophrys</i>	-	-	-	0.4	-	-	-	-	-	-
<i>Psenes maculatus</i>	-	-	-	-	0.2	-	-	-	-	-
<i>Psenes pellucidus</i>	1.7	-	1.1	-	-	-	-	0.5	-	-
<i>Psenes sio</i>	1.3	-	0.7	-	0.2	-	-	1.9	-	-
<i>Tetragonurus cuvieri</i>	-	0.2	-	-	-	-	-	-	-	-
<i>Cyclopsetta</i> spp.	1.1	-	0.3	-	-	-	-	-	-	-
<i>Syacium</i> spp.	6.5	0.2	5.7	0.3	-	-	-	-	-	-
<i>Bothus</i> spp.	0.9	0.2	0.6	0.3	0.2	-	-	-	-	-
<i>Monolene</i> spp.	-	-	0.6	0.2	-	-	-	-	-	-
<i>Perissias taeniopterus</i>	-	-	0.4	-	-	-	-	-	-	-
<i>Symphurus</i> spp.	2.1	-	1.2	-	-	-	-	0.3	-	-
Balistidae	-	-	-	-	-	0.3	-	-	-	-
<i>Canthidermis maculatus</i>	-	-	0.3	-	-	-	-	-	-	-
Monacanthidae	-	-	-	-	-	0.3	-	-	-	-
Ostraciidae	-	0.3	-	0.4	-	-	-	-	-	-
<i>Lactoria fornasini</i>	-	0.2	-	-	-	-	-	-	-	-
<i>Diodon eydouxii</i>	-	-	-	-	0.3	-	-	-	-	-
Disintegrated fish larvae	1.4	-	0.9	-	0.3	0.4	-	-	0.6	-
Unidentified fish larvae	4.2	2.2	2.6	3.3	1.7	0.3	-	1.5	1.7	-

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