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ICHTHYOPLANKTON AND STATION DATA FOR SURFACE (MANTA) AND OBLIQUE (BONGO) PLANKTON TOWS TAKEN DURING A SURVEY IN THE EASTERN TROPICAL PACIFIC OCEAN JULY 28 - DECEMBER 9, 2000

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U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
National Marine Fisheries Service
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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 2000 Southwest Fisheries Science Center *Stenella* Abundance Research (STAR00) survey to the eastern tropical Pacific. It is the eighth 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, 193 Manta net tows and 167 Bongo net tows were taken between 28 July and 9 December, 2000, during which two research vessels surveyed within an area between approximately 30° N and 13° S latitude, from the Gulf of Panama westward to about 150° 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 2000 the Southwest Fisheries Science Center (SWFSC) conducted a two-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 STAR 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 2000 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 2000 STAR survey in the ETP from July 28 to December 9, 1998 (surface tow data: Tables 1–6; oblique tow data: Tables 7–11). The survey was conducted aboard 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 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. 2001), data on bird and turtle sightings were made throughout the survey (Olson et al. 2001). 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. 2001). 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 193 Manta tows was made on the survey, 91 aboard the *Jordan* and 102 aboard the *McArthur;* 167 Bongo tows were made with 67 and 100 tows taken aboard the *Jordan* and *McArthur*; respectively.

The survey was conducted in six legs on the *Jordan* and five legs on the *McArthur*:

Jordan Leg 1	29 July–16 August	San Diego, California to Manzanillo, Mexico
Jordan Leg 2	19 August–8 September	Manzanillo, Mexico to Acapulco, Mexico
Jordan Leg 3	12 September–1 October	Acapulco, Mexico to Puntarenas, Costa Rica
Jordan Leg 4	5 October–23 October	Puntarenas, Costa Rica to Puerto Quetzal, Guatamala
Jordan Leg 5	29 October–16 November	Puerto Quetzal, Guatamala to Manzanillo, Mexico
Jordan Leg 6	20 November–9 December	Manzanillo, Mexico to San Diego, California
McArthur Leg 1	28 July–25 August	San Diego, California. to Honolulu, Hawaii
McArthur Leg 2	30 August–29 September	Honolulu, Hawaii to Puntarenas, Costa Rica
McArthur Leg 3	5 October–25 October	Puntarenas, Costa Rica to Callao, Peru
McArthur Leg 4	29 October–14 November	Callao, Peru to Panama City, Panama
McArthur Leg 5	18 November–9 December	Panama City, Panama 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 STAR 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). A 0.505 mm mesh net was used by the *McArthur* for tow numbers 50-103. 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 a 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:

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

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^3) 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^2) 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 fractioned 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 B. MacCall, 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 164 larval fish categories (including "unidentified" and "disintegrated") was identified: 85 to species, 46 to genus, 5 to subfamily, and 24 to family, and 2 to order. In Bongo net samples a total of 269 categories (including "unidentified" and "disintegrated") was identified: 152 to species, 73 to genus, 6 to subfamily, 33 to family, 1 to suborder, 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 *Nannobrachium* 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 2000 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, anchovetta *Cetengraulis mysticetis* ranked first in abundance but tied for 26th in occurrence with 14.8% of the total larvae and 3.1% positive tows (Tables 2 and 3). Panama lightfish *Vinciguerria lucetia* ranked second in abundance and first in occurrence, with 12.9% of the total larvae and 39.9% positive tows. The anchovy family Engraulidae ranked third in abundance, with 10.0% of the total larvae, and tied for 31th in occurrence with 2.6% positive tows. The scombrid genus *Auxis* ranked fourth in abundance with 9.6% of the larvae and was third in occurrence with 27.5% positive tows. A dwarf saury *Elassichthys adocetus* ranked fifth in abundance with 7.7% of the total larvae and and tied for 11th in occurrence with 6.7% positive tows. The next five most abundant taxa were shortwing flyingfish *Oxyporhamphus micropterus* (5.9% of total larvae), Panama lanternfish *Benthosema panamense* (4.4%), Pacific mackerel *Scomber japonicus* (3.9%), Atlantic saury *Scomberesox saurus* (3.7%), and the flyingfish genus *Prognichthys* (3.5%). These species ranked 2nd, tied for 17th, tied for 59th, tied for 22nd, and ranked 5th in frequency of occurrence, respectively. The ten most abundant taxa accounted for 76.4% of all the larvae collected in the survey area. The remaining 23.6% was distributed among 154 other taxa (including "disintegrated" and "unidentified"). Of the ten most abundant taxa, three (*E. adocetus, O. micropterus, S. saurus*) are epipelagic species, one (*Prognichthys*) is a genus containing both an epipelagic (*P. sealí*) and a coastal pelagic species (*P. tringa*), four (*C. mysticetus*, Engraulidae, *Auxis, S. japonicus*) are coastal pelagic taxa, and two (*B. panamense, V. lucetia*) are midwater species that migrates to the epipelagic zone at night.

Of the five most abundant taxa taken in Bongo net samples on this survey, Diogenes lanternfish *Diogenichthys lanternatus* ranked first in abundance and second occurrence with 31.8% of the total larvae and 93.4% positive tows (Tables 8 and 9). Panama lightfish *Vincigueria lucetia* ranked second in abundance and first in occurrence with 25.0% of the total larvae and 85.0% positive tows. The codlet *Bregmaceros bathymaster* ranked third in abundance and tied for 32nd in occurrence with 5.3% of the total larvae and 12.6% positive tows. Panama lanternfish *Benthosema panamense* ranked fourth in abundance with 5.0% of the larvae and was tied for 15th in occurrence with 9.0% positive tows. Pacific headlightfish *Diaphus pacificus* ranked fifth in abundance with 3.2% of the larvae and fourth in occurrence with 44.9% positive tows. The next five most abundant taxa were the smoothtongue *Leuroglossus urotranus* (2.1% of total larvae), the hatchetfish genus *Sternoptyx* (1.7%), the Pacific anchoveta *Cetengraulis mysticetus* (1.4%), the lanternfish genus *Lampanyctus*, including *Nannobrachium*, (1.4%), and Blackchin blacksmelt *Bathylagus nigrigenys* (1.2%) . These species ranked tied for 15th, tied for 5th, tied for 99th, 3rd, and 7th in frequency of occurrence, respectively. The ten most abundant taxa totalled 78.1% of all the larvae collected in the survey area. The remaining 21.9% was distributed among 259 other taxa (including "disintegrated" and "unidentified"). Of the ten most abundant taxa, one (*C. mysticetus*) is a coastal pelagic species, one (*B. bathymaster*) is a neritic schooling 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 *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 JD (*David Starr Jordan*) or M4 (*McArthur*). Data are listed sequentially by tow number. Regions are based on 15° latitude × 15° longitude squares (Figure 3). 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 2000 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 *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. 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 *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. Taxa are listed in rank order.

Table 4. Numbers of fish larvae for each taxon taken in Manta net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4, listed by tow number (Figures 1–2). Numbers of larvae are listed as raw counts and number per 100 m^3 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^3 of water filtered) for each taxon taken in Manta net tows in the regions (see Figure 3) occupied on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Table 6. Numbers (raw counts) and size ranges of juvenile fishes taken in Manta net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. 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 *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 *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. Taxa are listed in rank order.

Table 9. Pooled numbers of larvae per 10 m^2 (adjusted for standard haul factor) of all larval fish taxa taken in Bongo net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. Taxa are listed in rank order.

Table 10. Numbers of fish larvae for each taxon taken in Bongo net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4, listed by tow number (Figures 1–2). Larvae are listed as number per 10 m^2 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^2 of sea surface) for each taxon taken in Bongo net tows in the regions (see Figure 3) occupied on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

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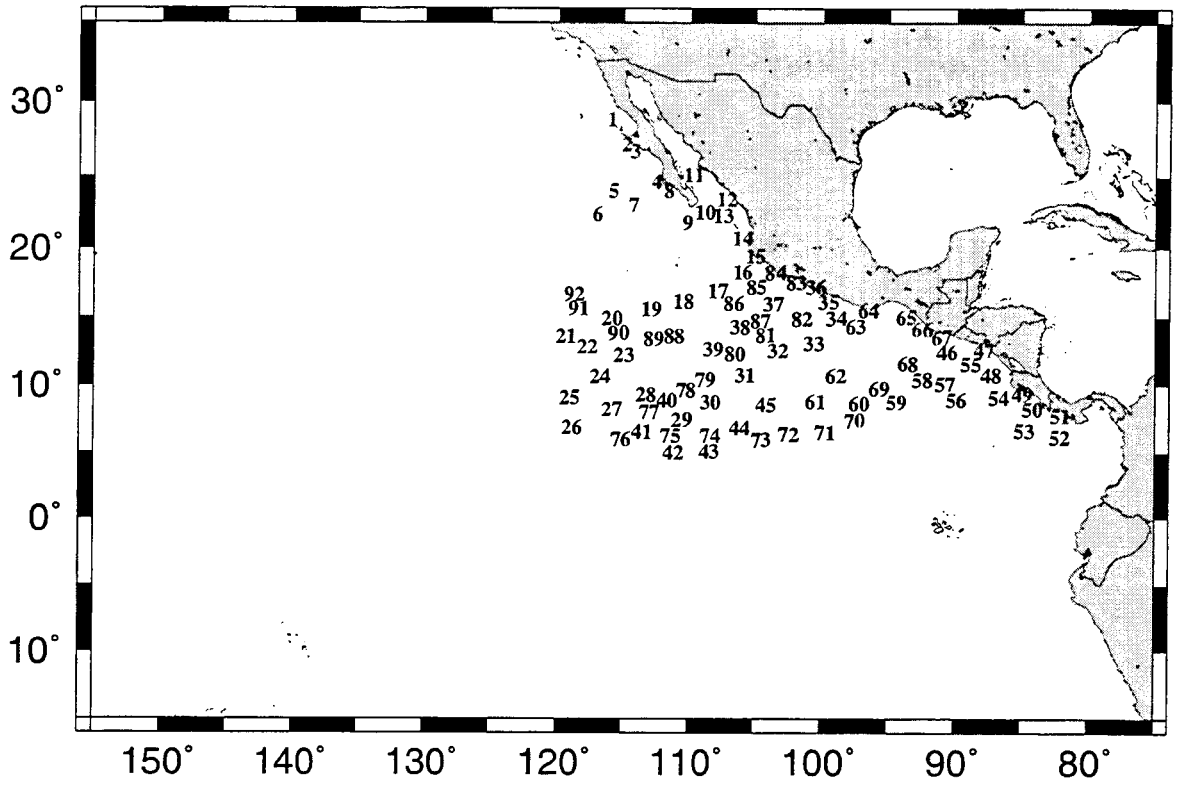

Figure 1. Manta and Bongo net tow stations for *Jordan* cruise 0010JD.

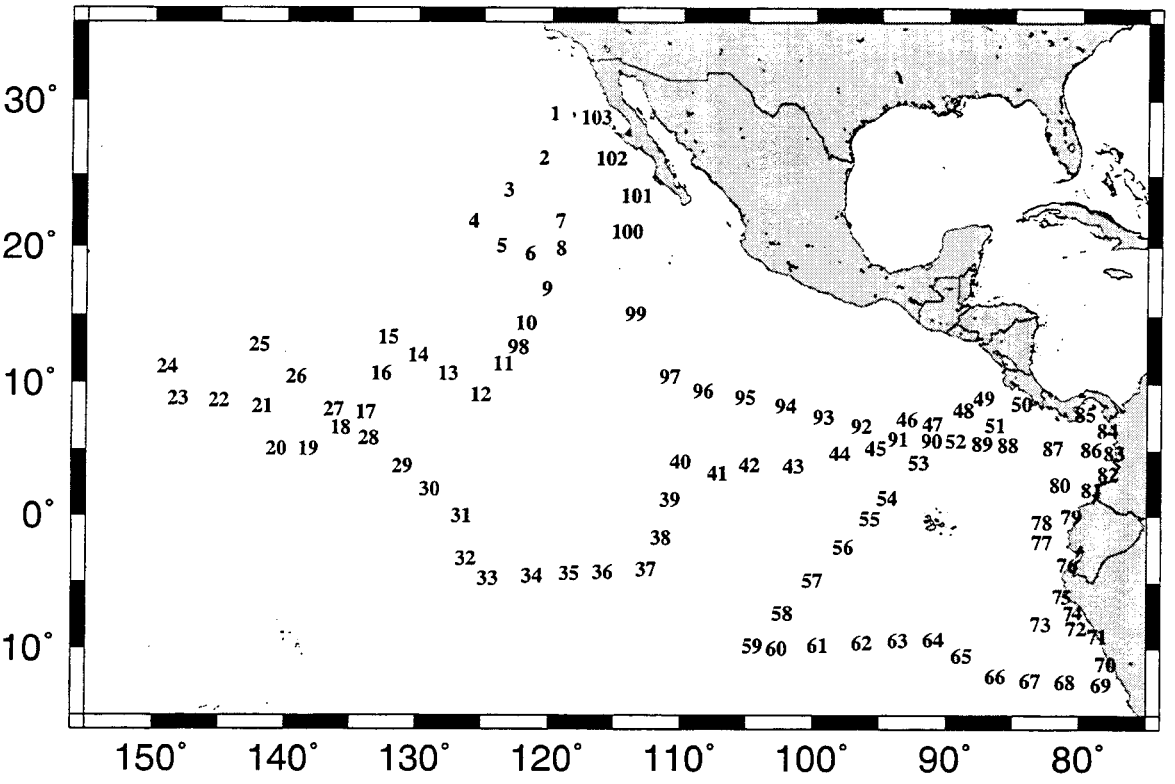

Figure 2. Manta and Bongo net tow stations for *McArthur* cruise 0010M4.

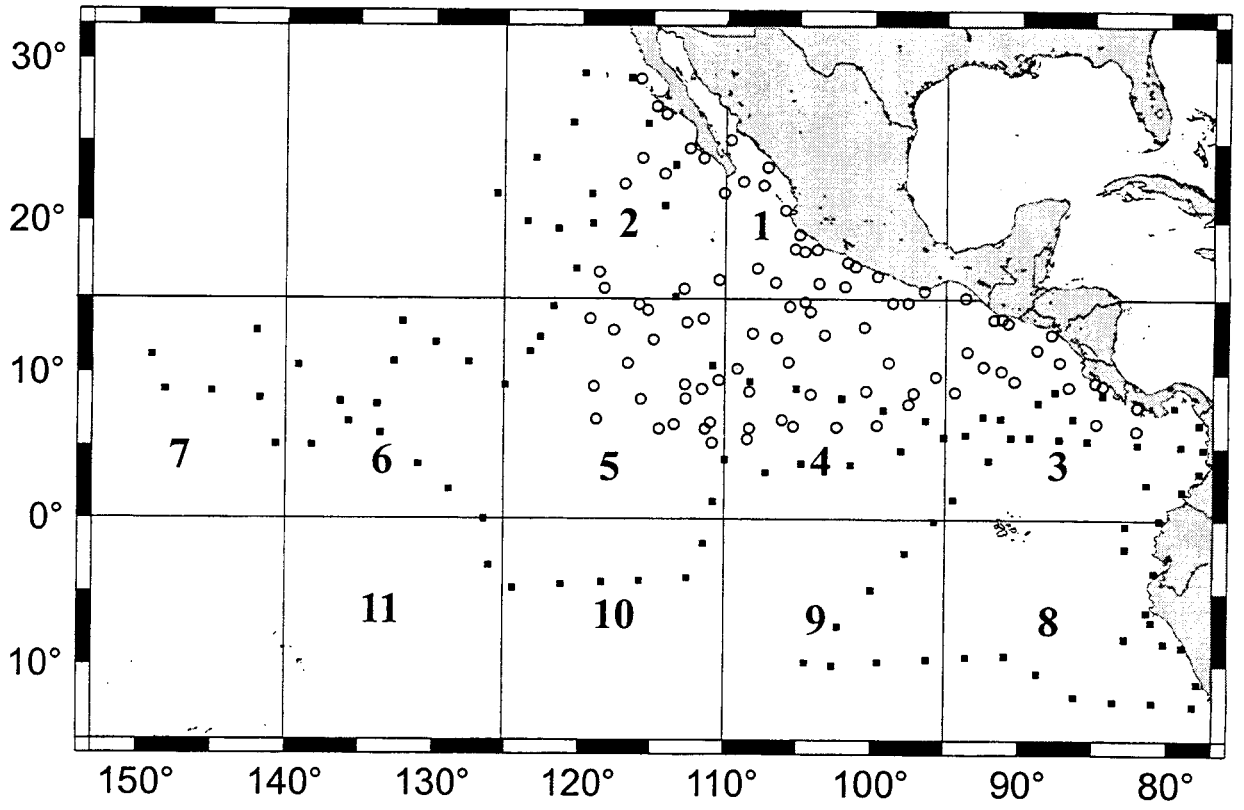

Figure 3. Sampling regions for 2000 eastern tropical Pacific common dolphin survey indicated by numbers 1 to 11; net tow stations for *Jordan* cruise 0010JD are indicated by circles and for *McArthur* cruise 0010M4 by solid squares. *McArthur* tow 4, to the left of region 2, was included in region 2.

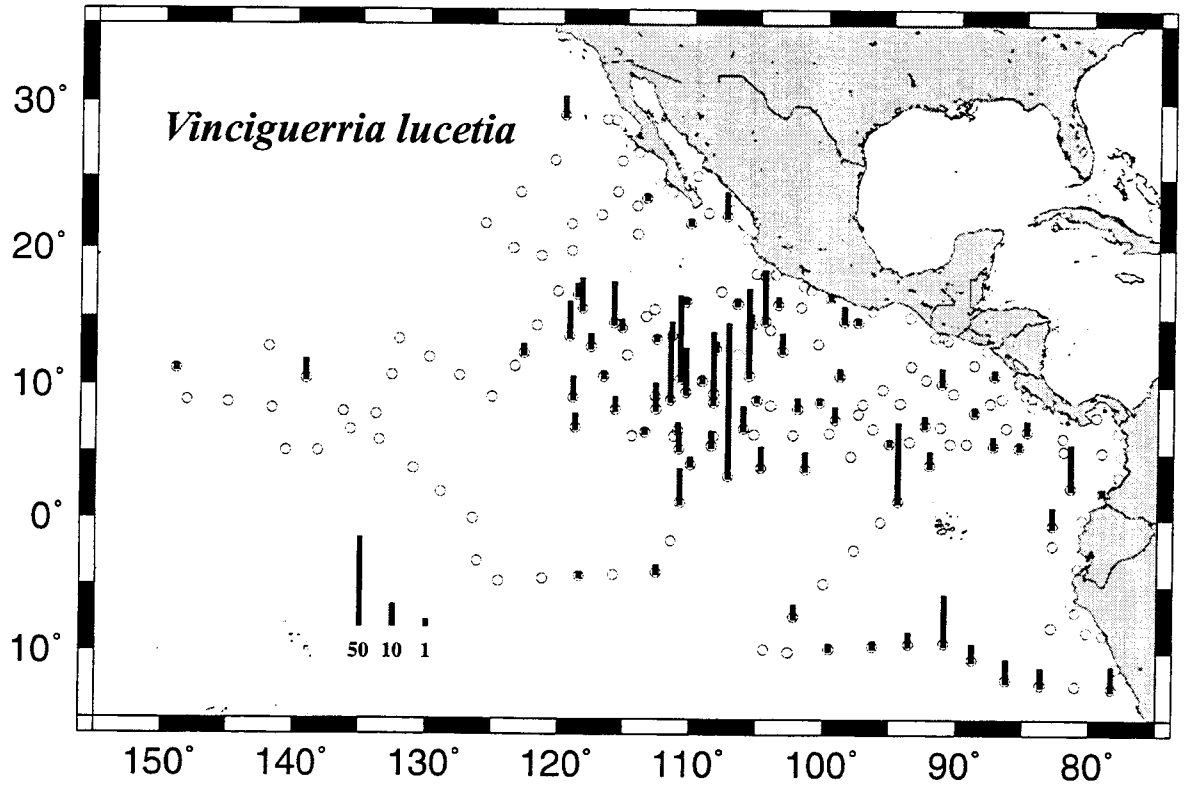

Figure 4. Distribution of *Vinciguerria lucetia* larvae from Manta net tows: 0010JD and 0010M4. Lengths of vertical bars are proportional to total larval counts for each station.

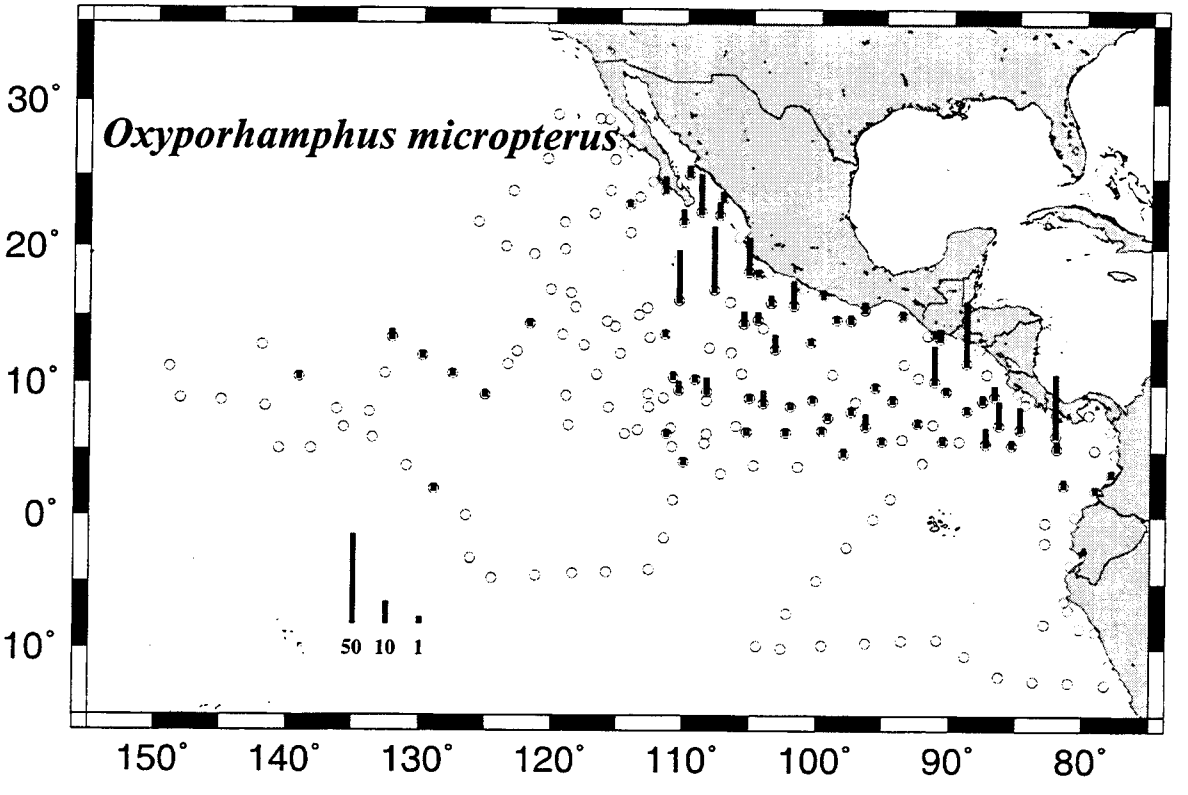

Figure 5. Distribution of *Oxyporhamphus micropterus* larvae from Manta net tows: 0010JD and 0010M4.

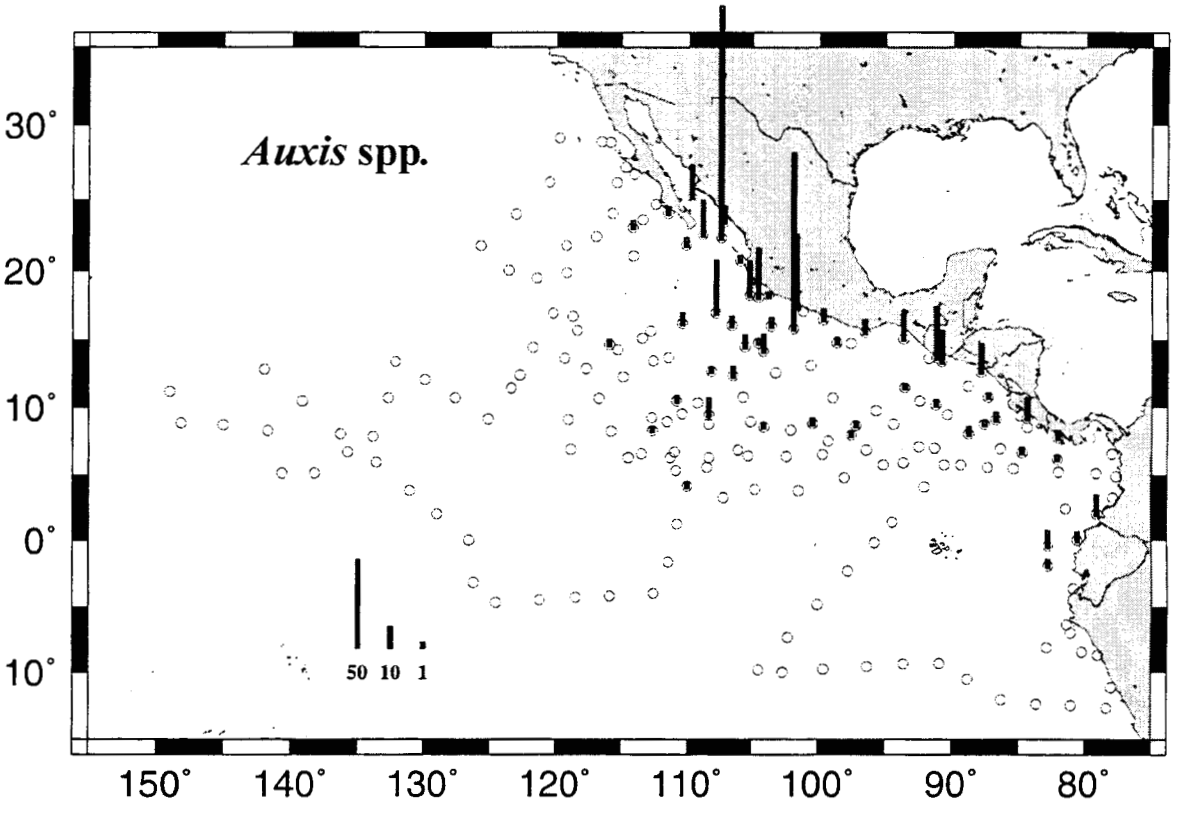

Figure 6. Distribution of *Auxis* spp. larvae from Manta net tows: 0010JD and 0010M4.

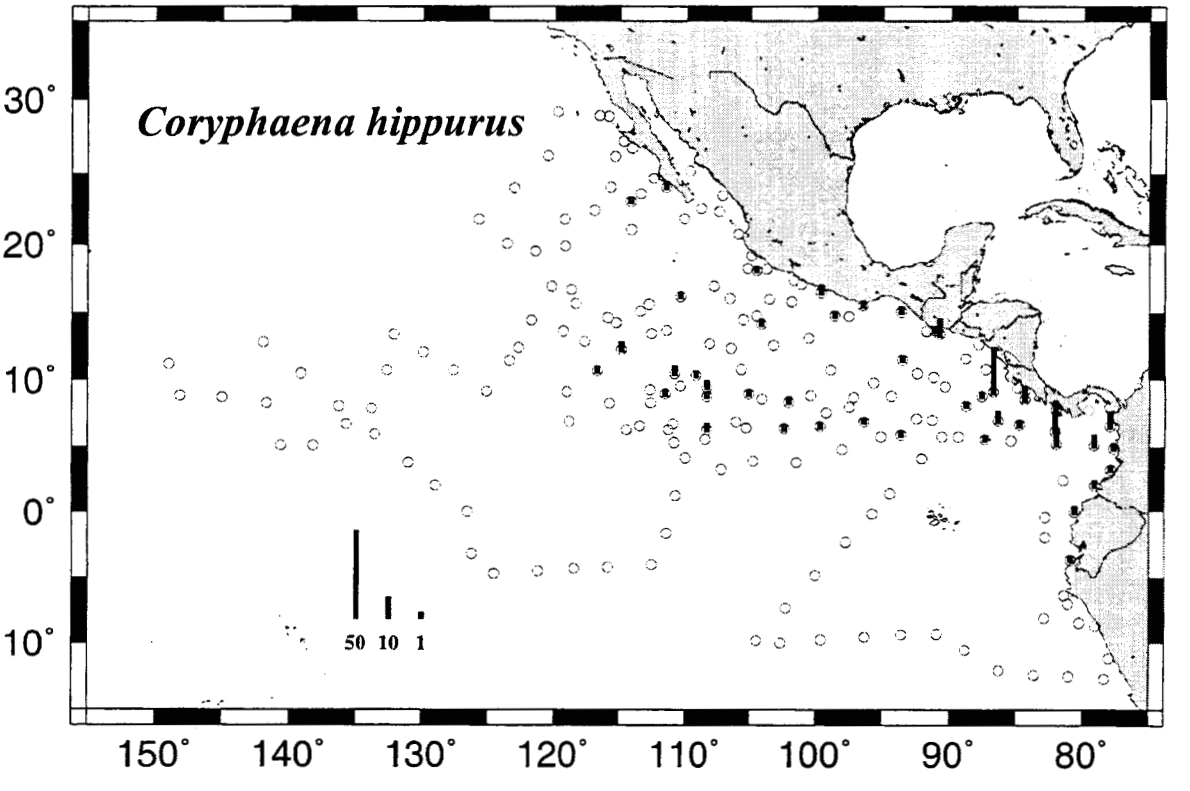

Figure 7. Distribution of *Coryphaena hippurus* larvae from Manta net tows: 0010JD and 0010M4.

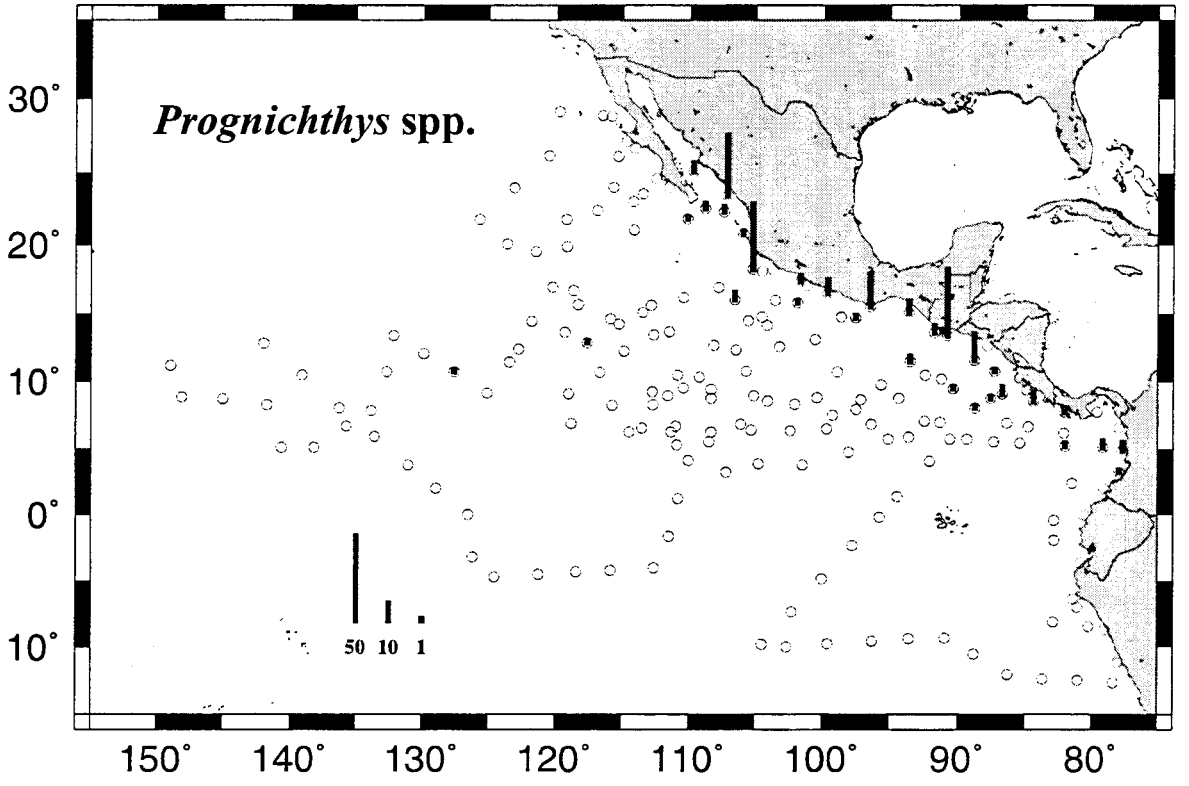

Figure 8. Distribution of *Prognichthys* spp. larvae from Manta net tows: 0010JD and 0010M4.

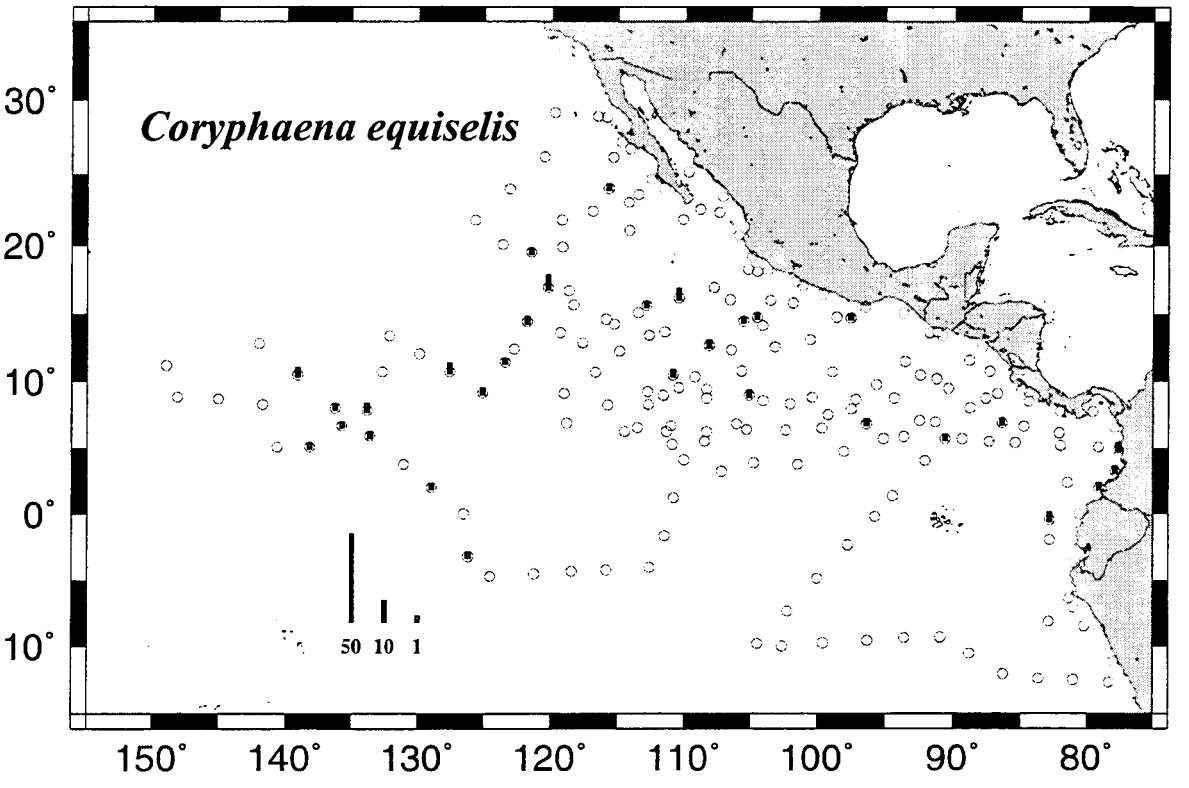

Figure 9. Distribution of *Coryphaena equiselis* larvae from Manta net tows: 0010JD and 0010M4.

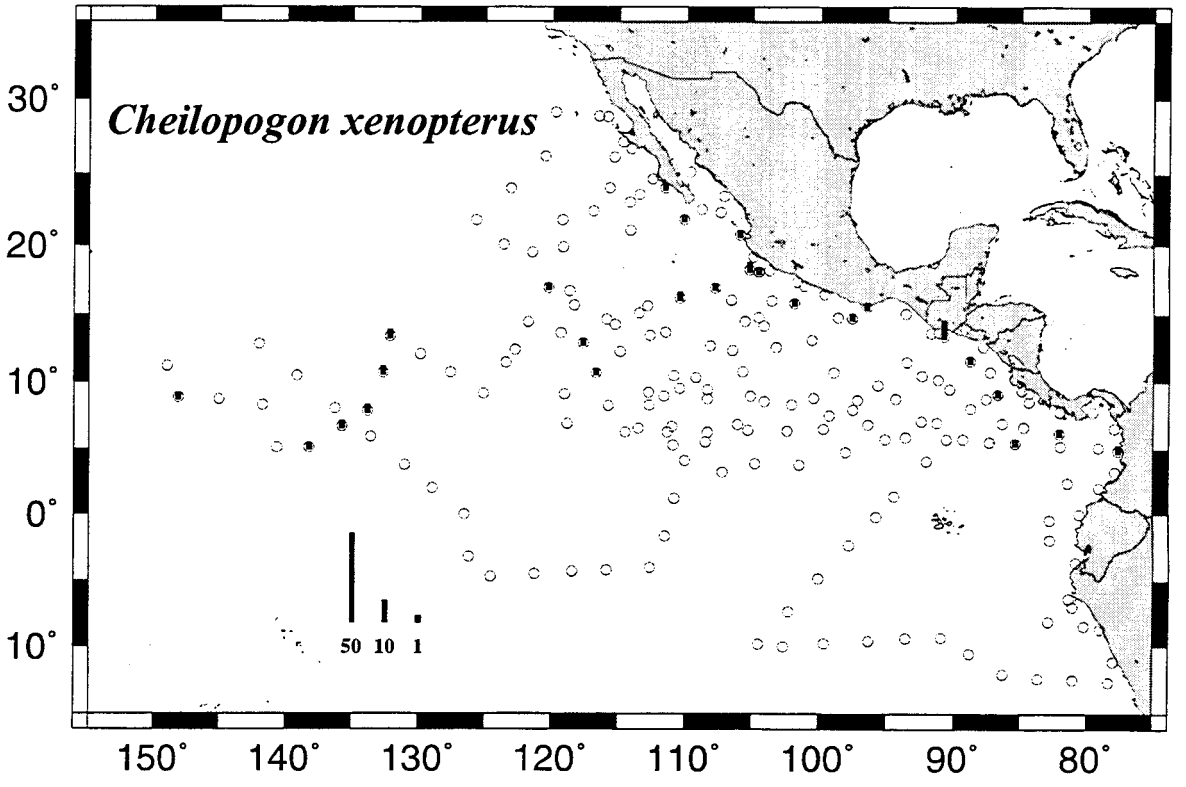

Figure 10. Distribution of *Cheilopogon xenopterus* larvae from Manta net tows: 0010JD and 0010M4.

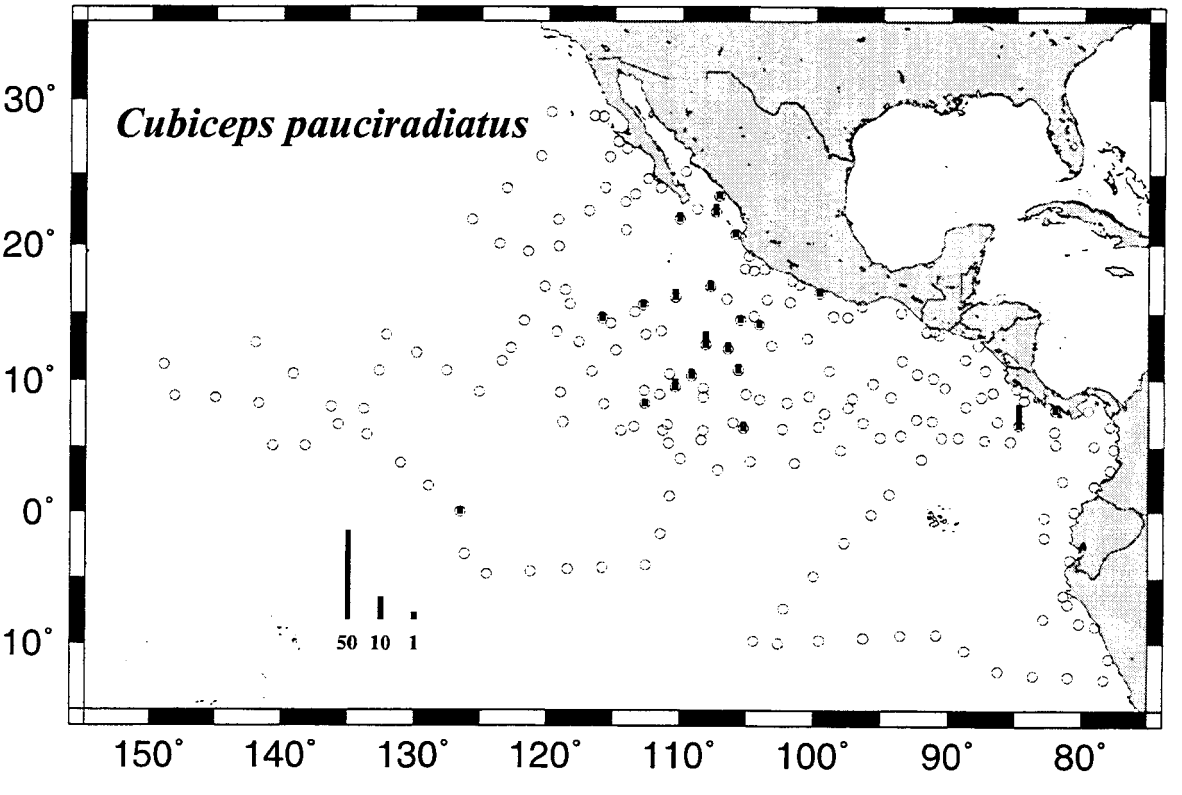

Figure 11. Distribution of *Cubiceps pauciradiatus* larvae from Manta net tows: 0010JD and 0010M4.

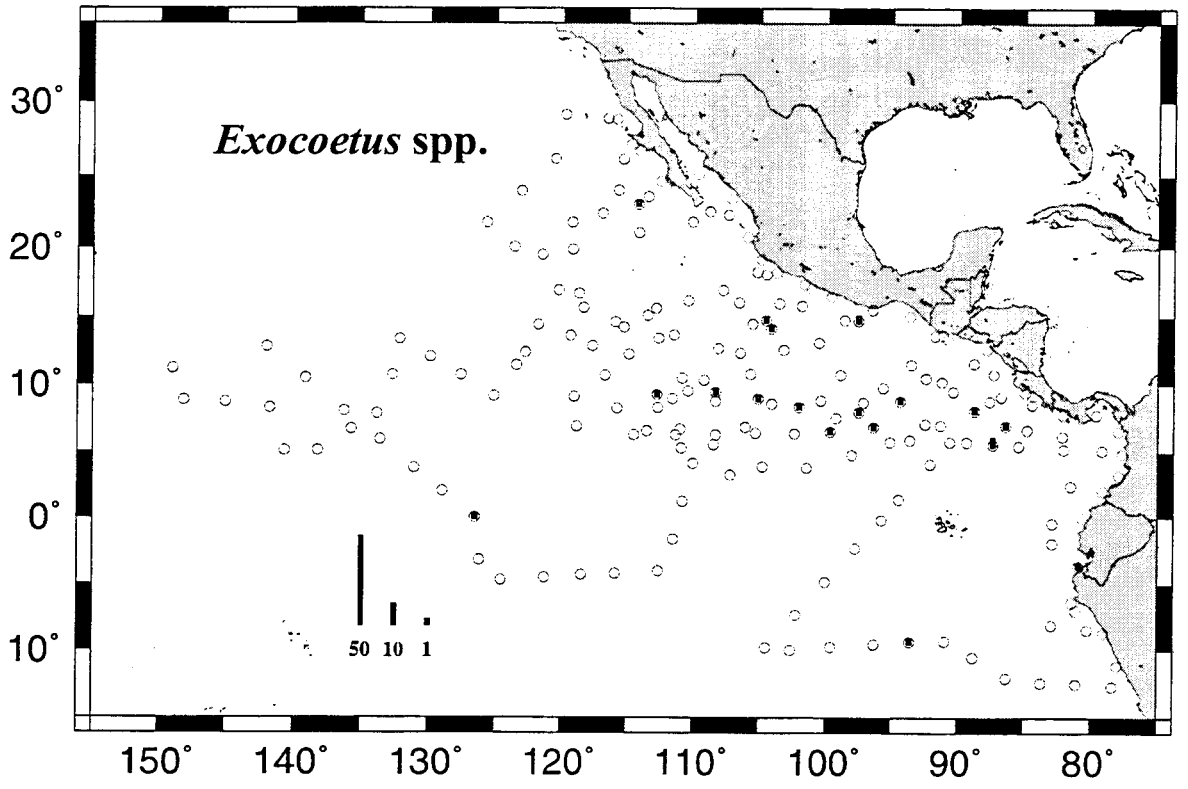

Figure 12. Distribution of *Exocoetus* spp. larvae from Manta net tows: 0010JD and 0010M4.

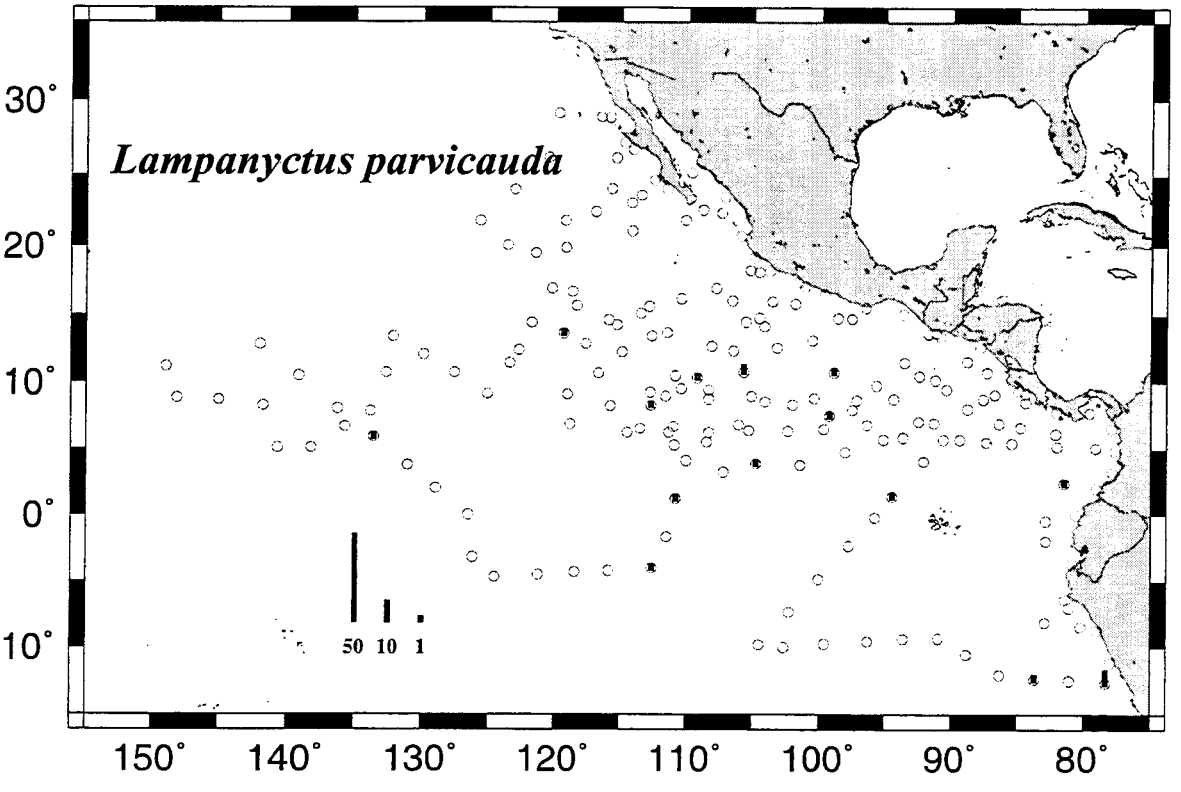

Figure 13. Distribution of *Lampanyctus parvicauda* larvae from Manta net tows: 0010JD and 0010M4.

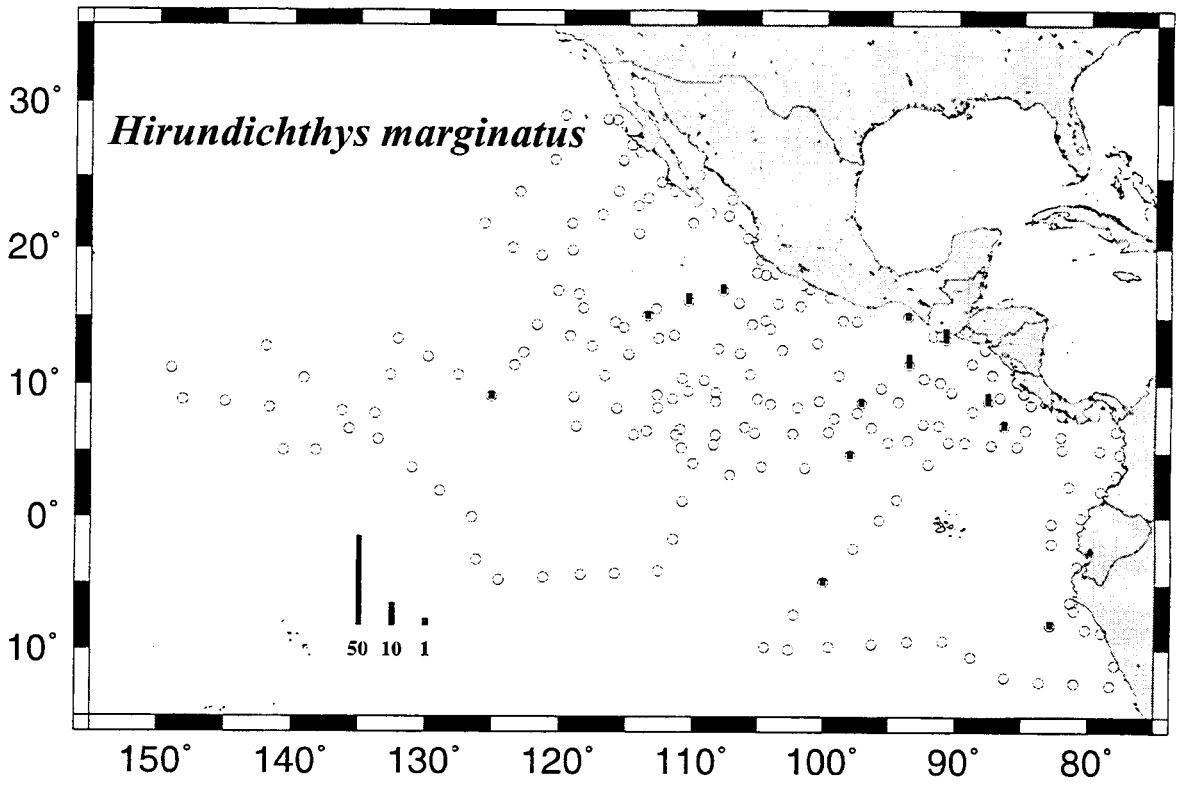

Figure 14. Distribution of *Hirundichthys marginatus* larvae from Manta net tows: 0010JD and 0010M4.

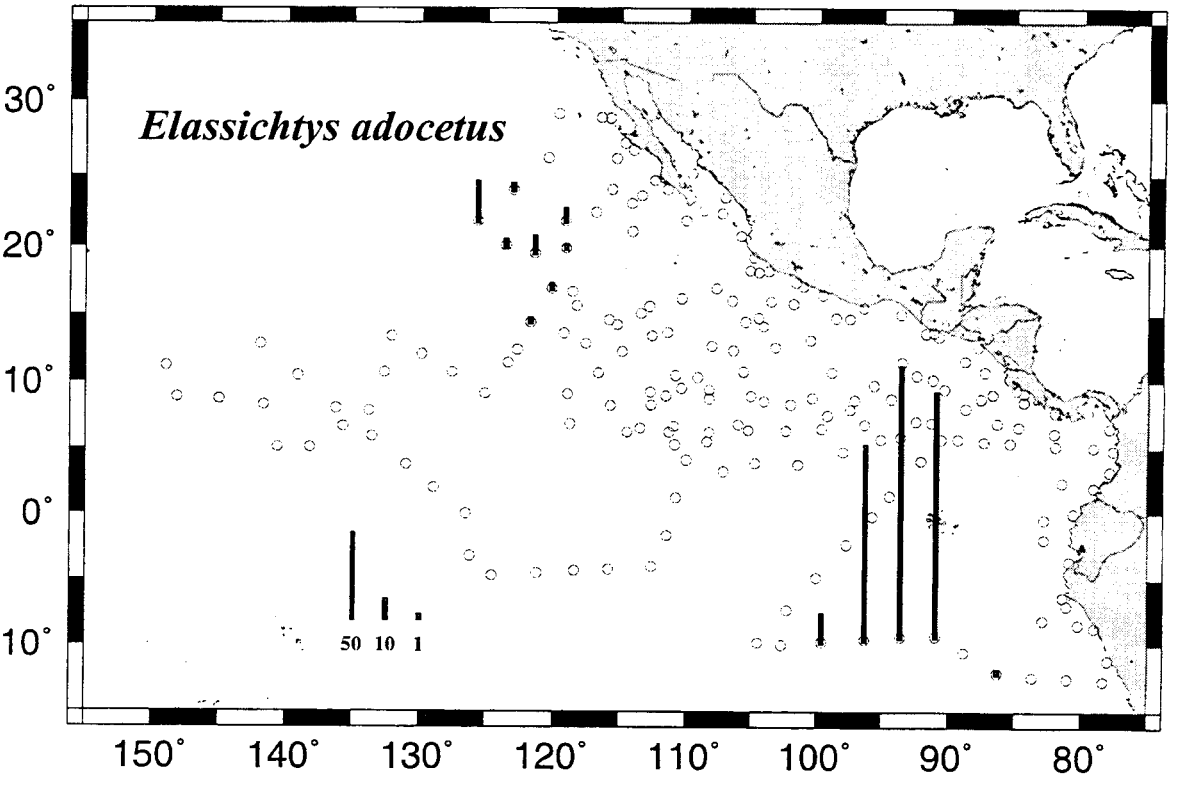

Figure 15. Distribution of *Elassichtys adocetus* larvae from Manta net tows: 0010M4.

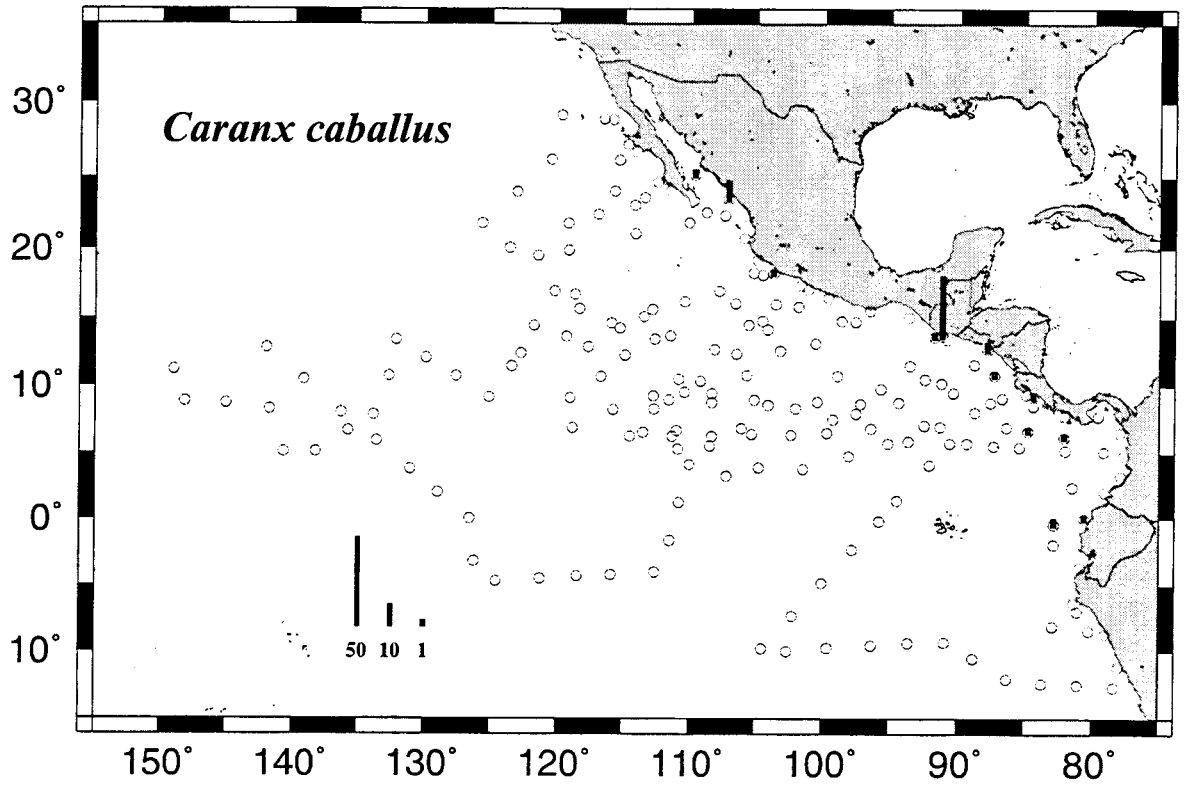

Figure 16. Distribution of *Caranx caballus* larvae from Manta net tows: 0010JD and 0010M4.

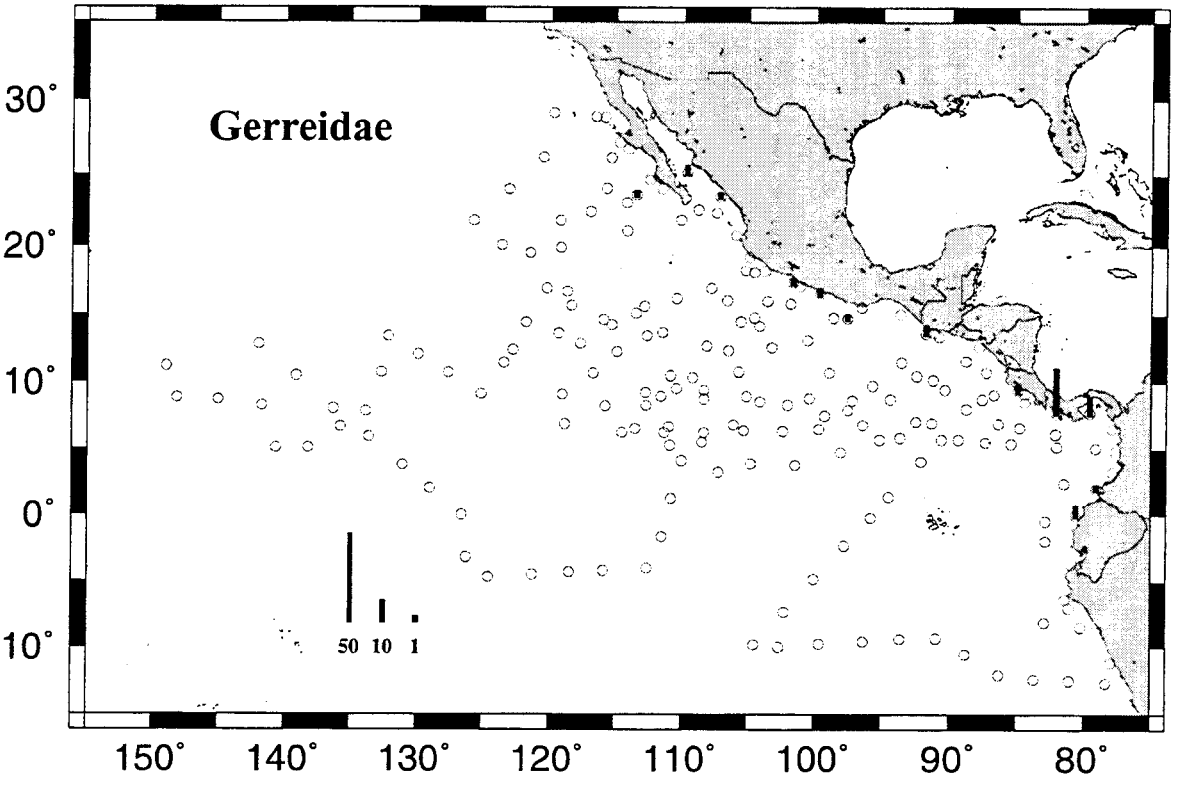

Figure 17. Distribution of Gerreidae larvae from Manta net tows: 0010JD and 0010M4.

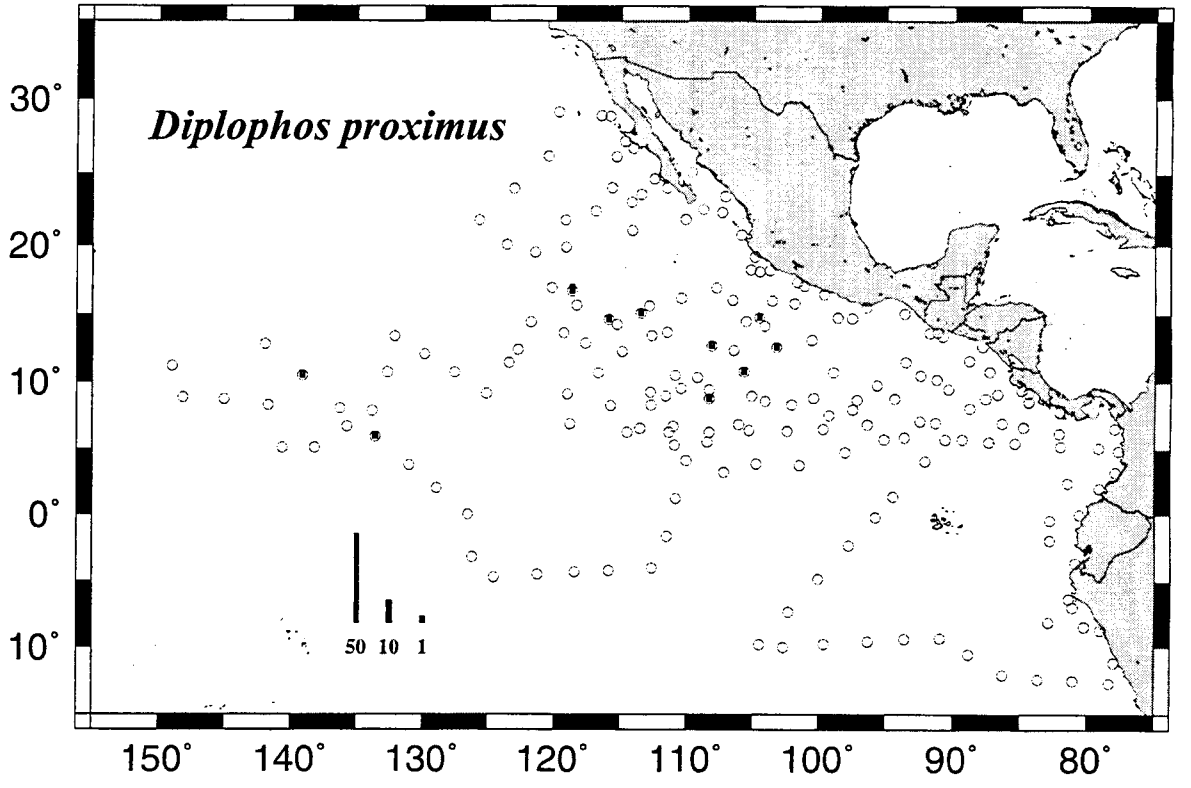

Figure 18. Distribution of *Diplophos proximus* larvae from Manta net tows: 0010JD and 0010M4.

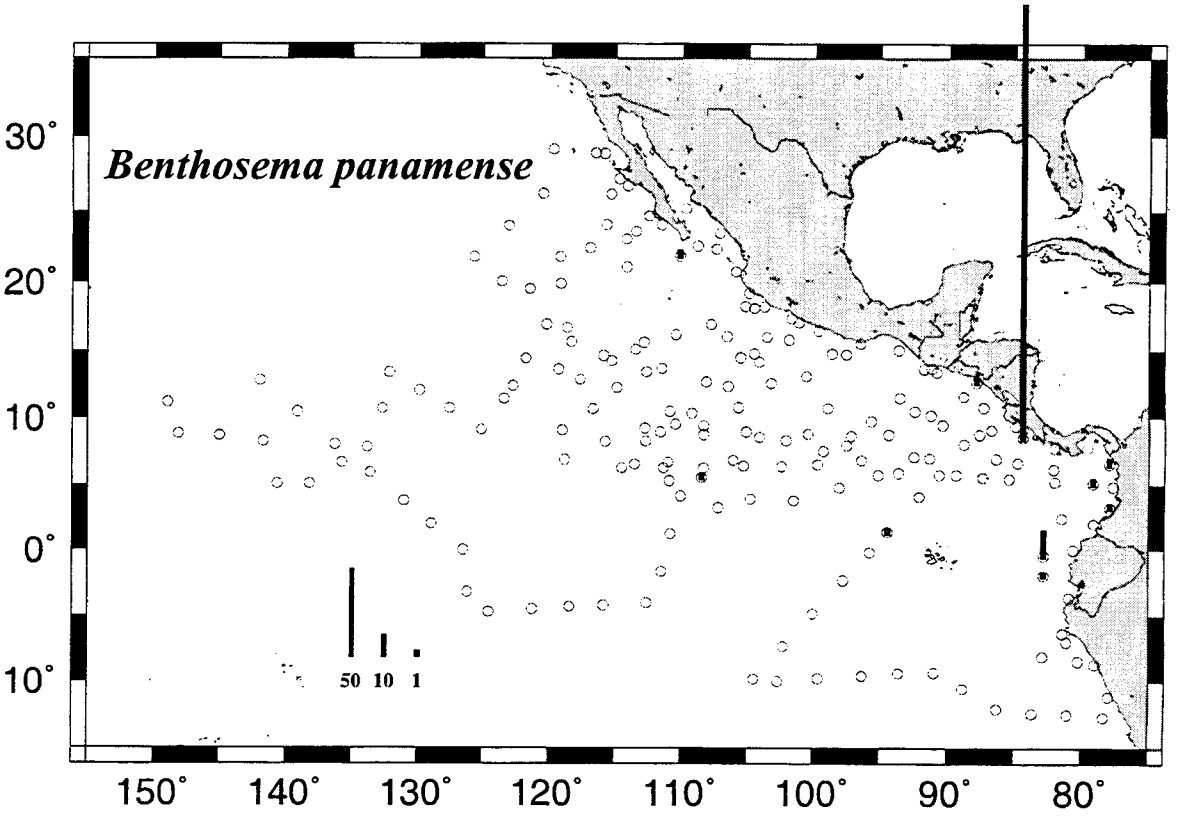

Figure 19. Distribution of *Benthosema panamense* larvae from Manta net tows: 0010JD and 0010M4.

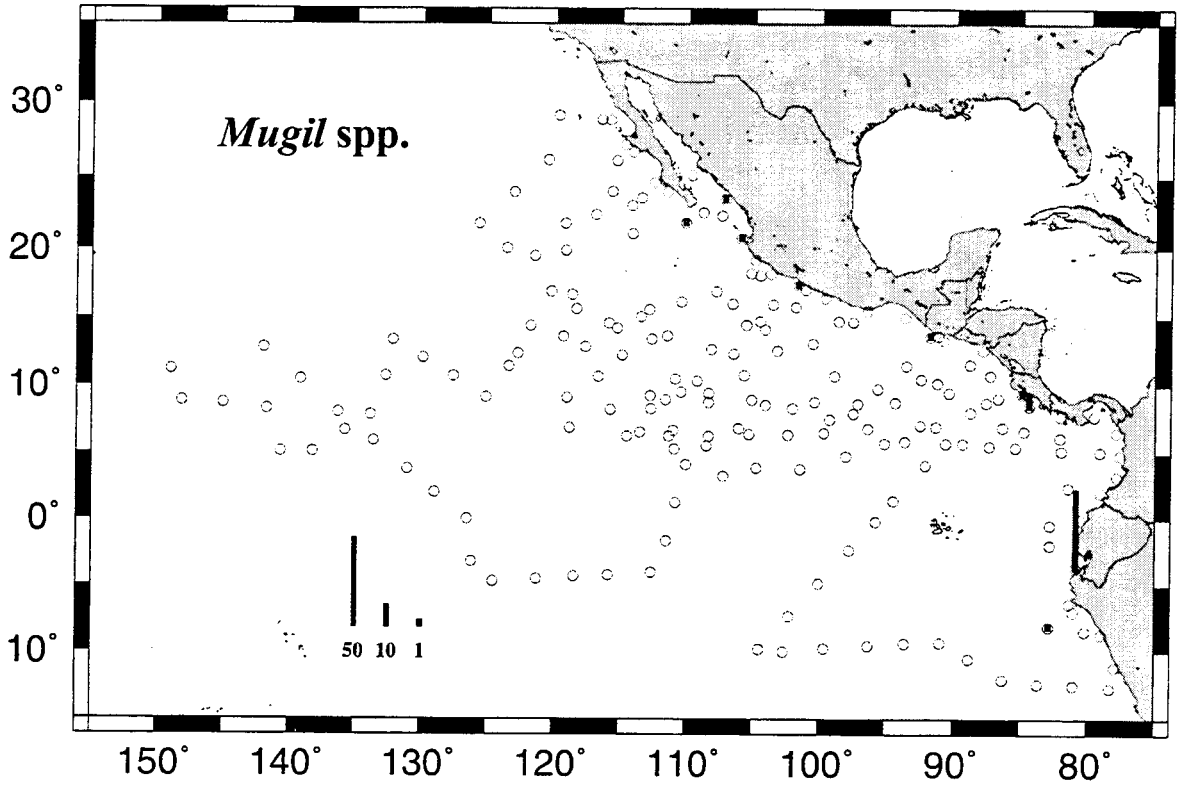

Figure 20. Distribution of *Mugil* spp. larvae from Manta net tows: 0010JD and 0010M4.

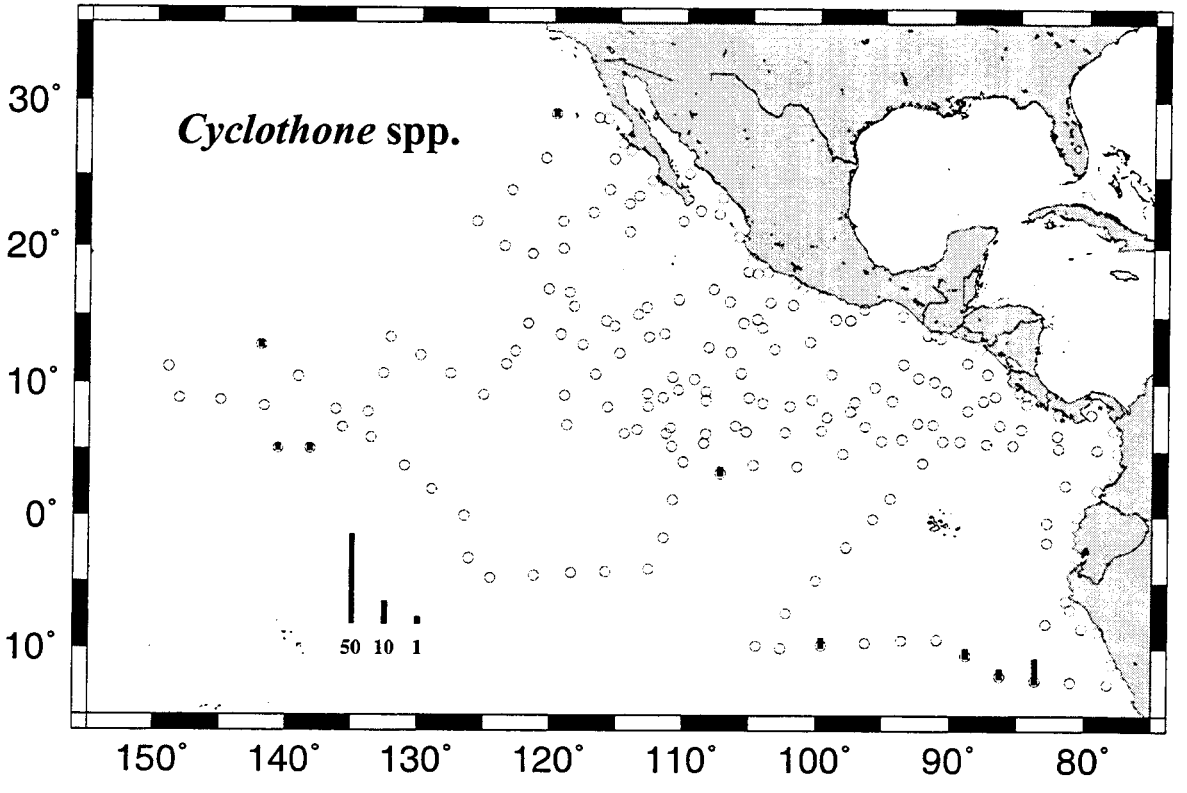

Figure 21. Distribution of *Cyclothone* spp. larvae from Manta net tows: 0010JD and 0010M4.

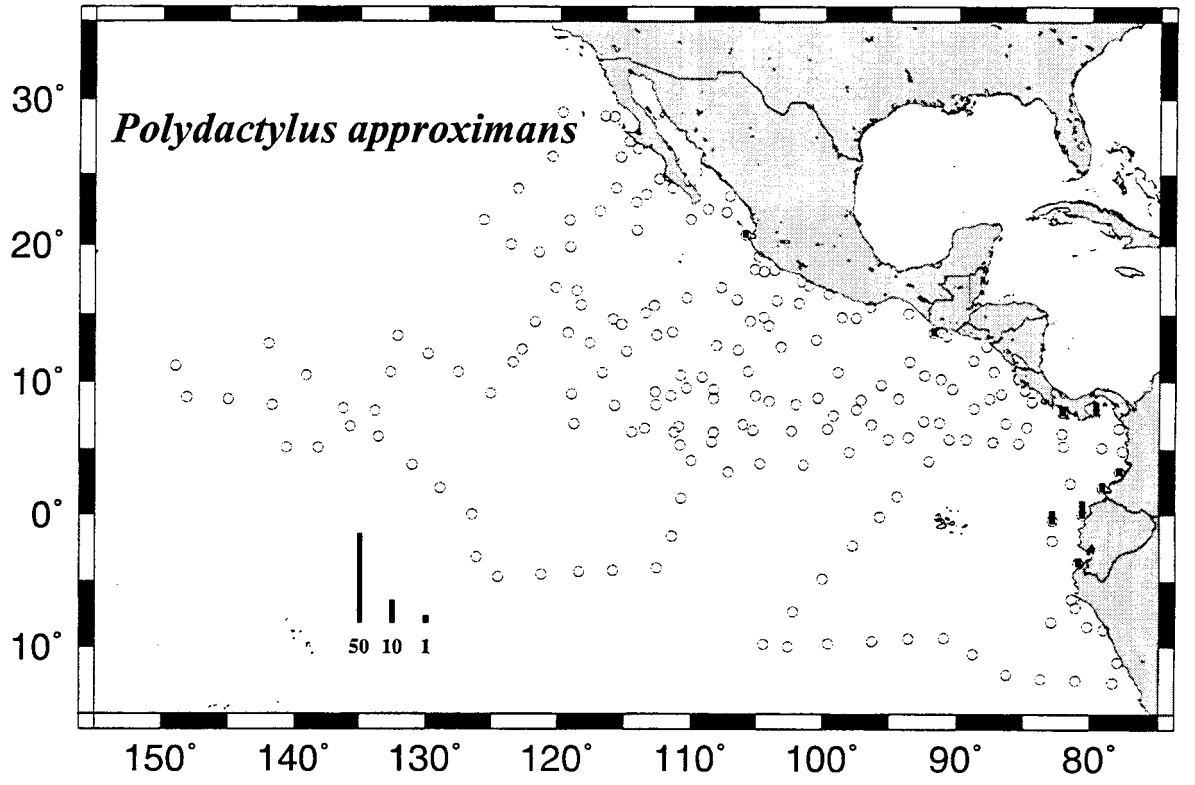

Figure 22. Distribution of *Polydactylus approximans* larvae from Manta net tows: 0010JD and 0010M4.

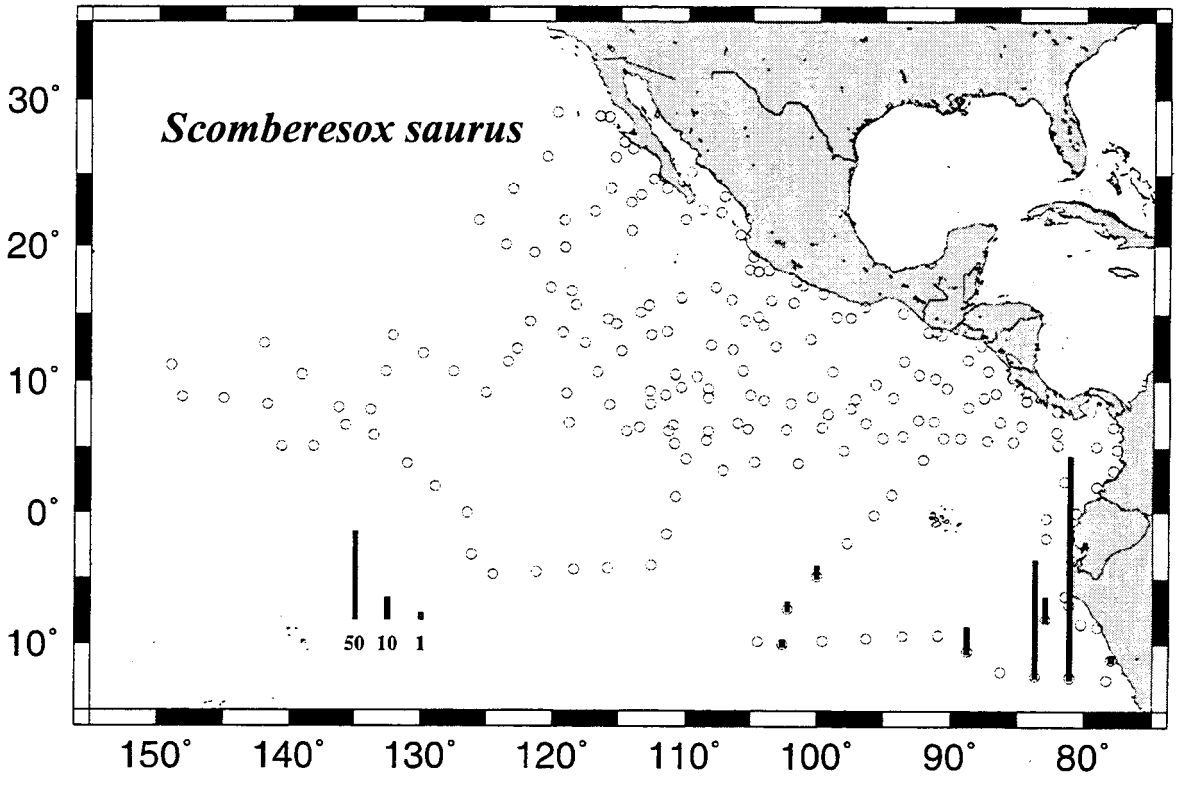

Figure 23. Distribution of *Scomberesox saurus* larvae from Manta net tows: 0010JD and 0010M4.

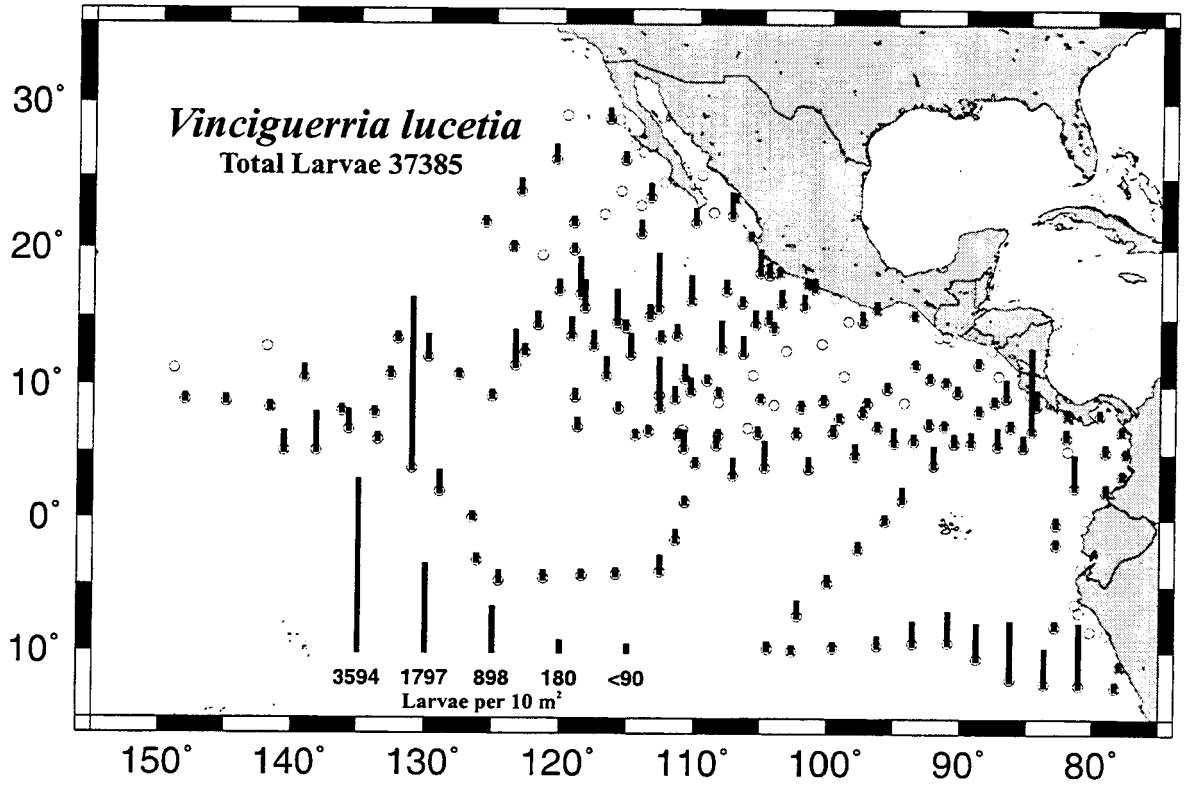

Figure 24. Distribution of *Vinciguerria lucetia* larvae from Bongo net tows: 0010JD and 0010M4.

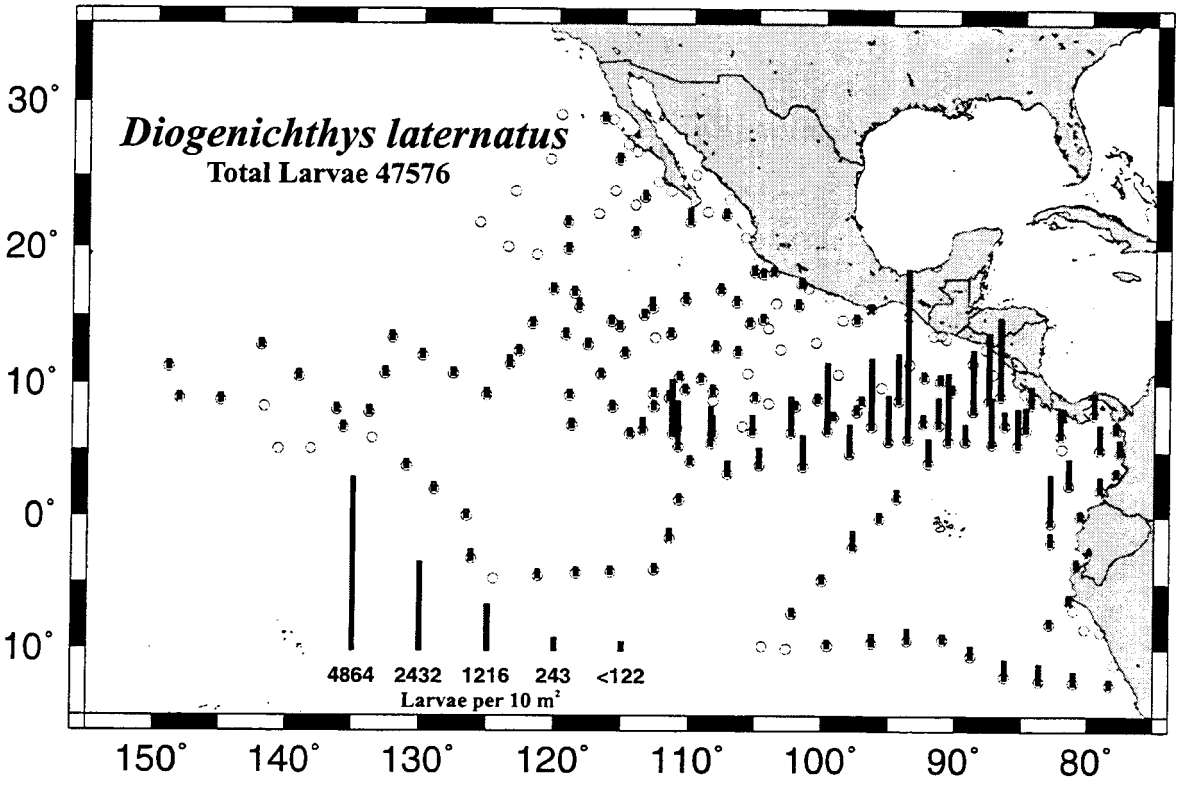

Figure 25. Distribution of *Diogenichthys laternatus* larvae from Bongo net tows: 0010JD and 0010M4.

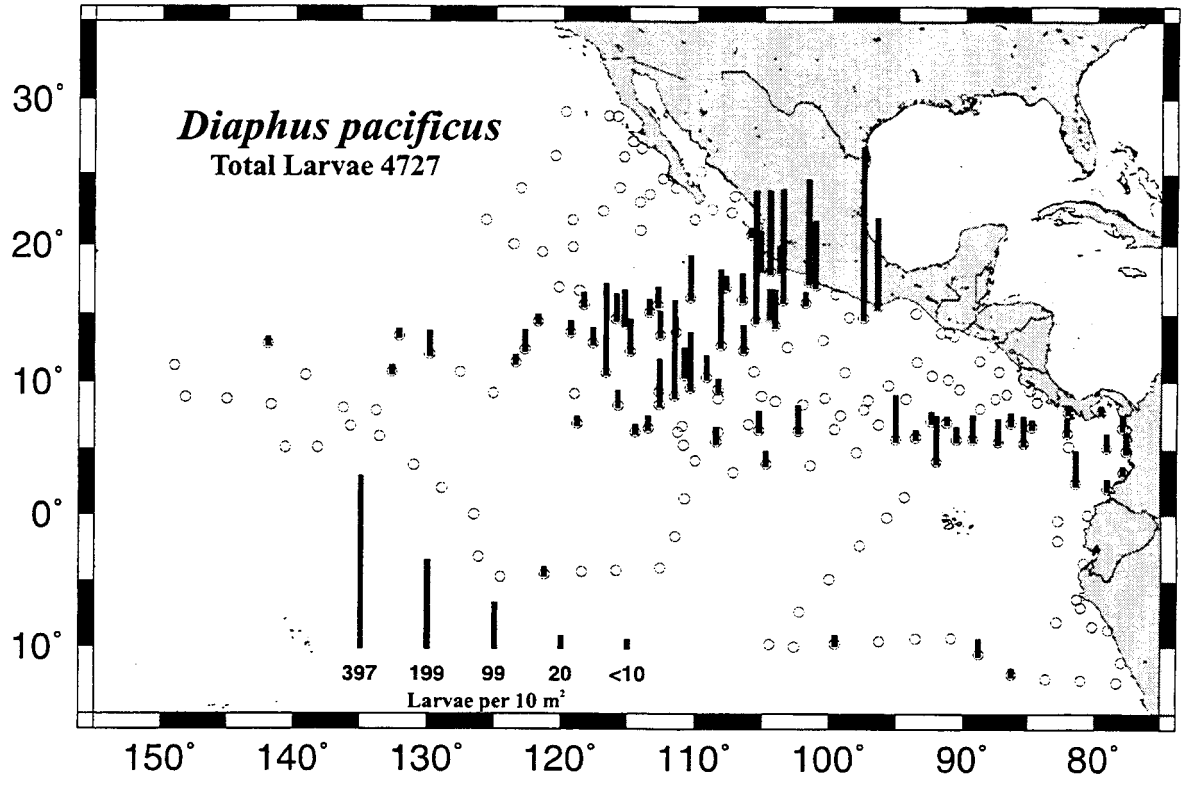

Figure 26. Distribution of *Diaphus pacificus* larvae from Bongo net tows: 0010JD and 0010M4.

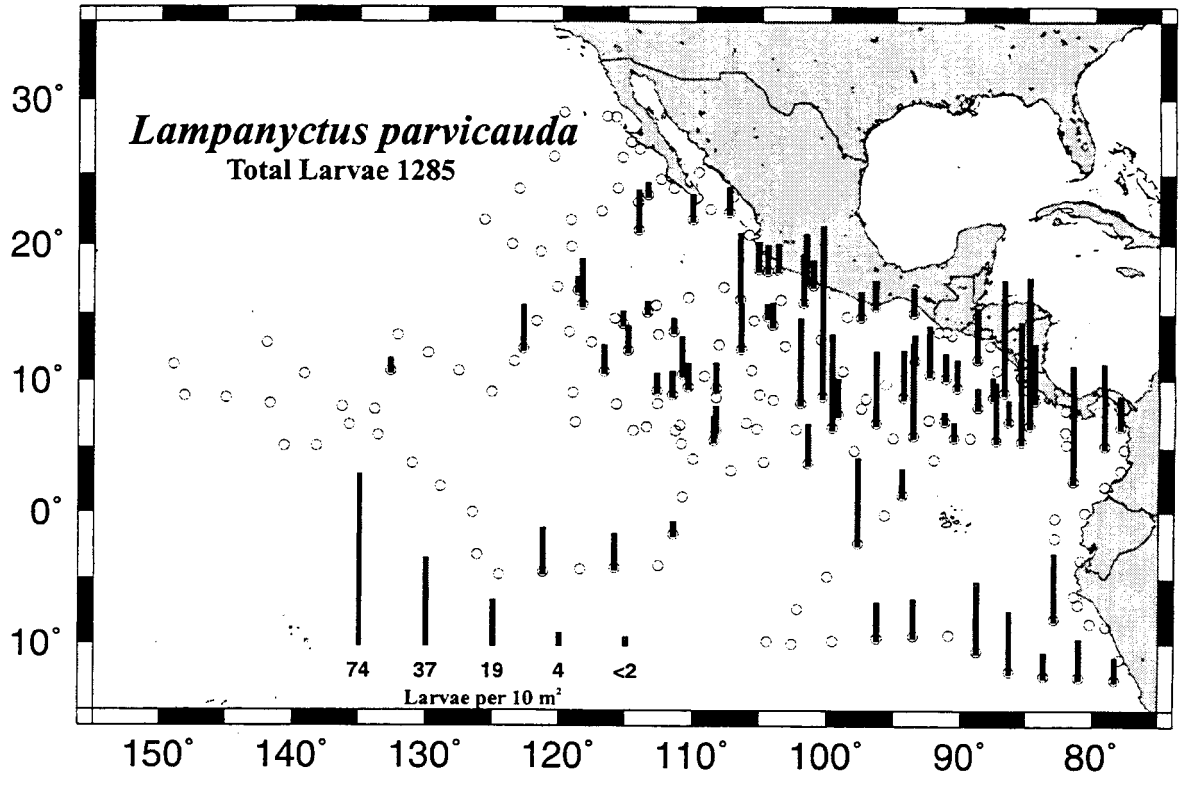

Figure 27. Distribution of *Lampanyctus parvicauda* larvae from Bongo net tows: 0010JD and 0010M4.

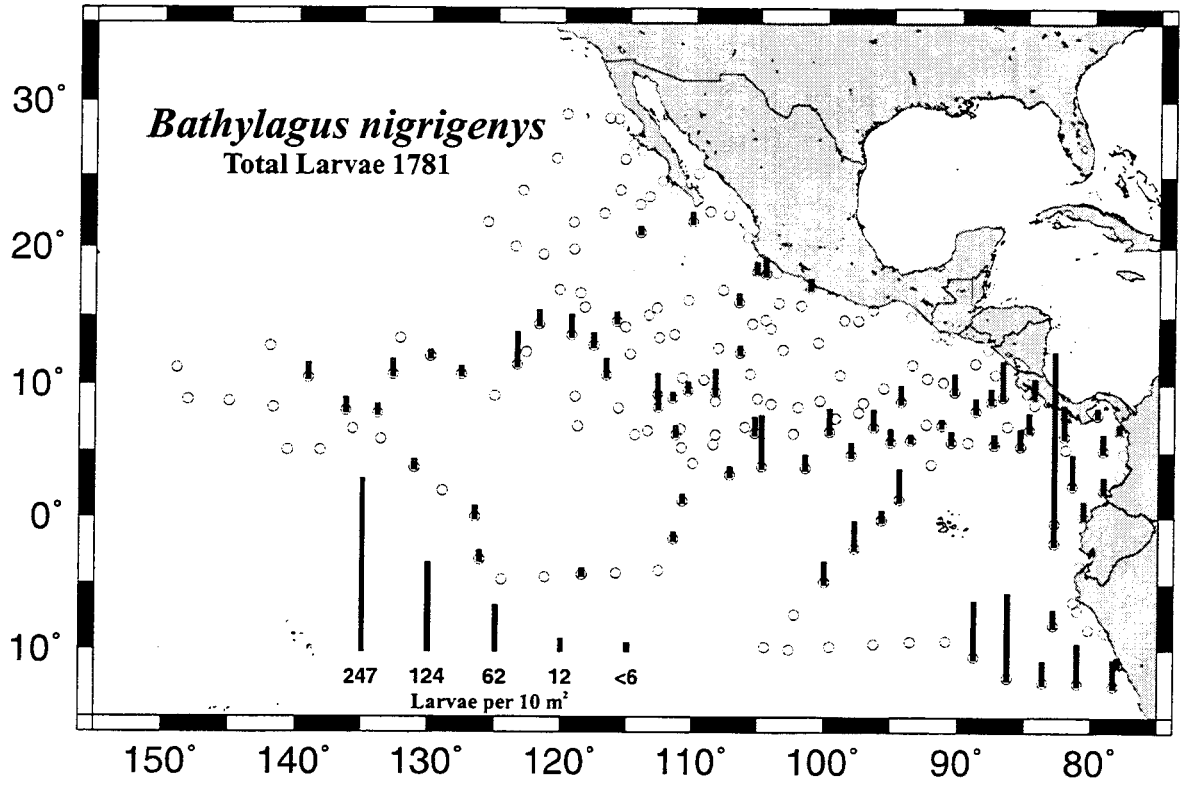

Figure 28. Distribution of *Bathylagus nigrigenys* larvae from Bongo net tows: 0010JD and 0010M4.

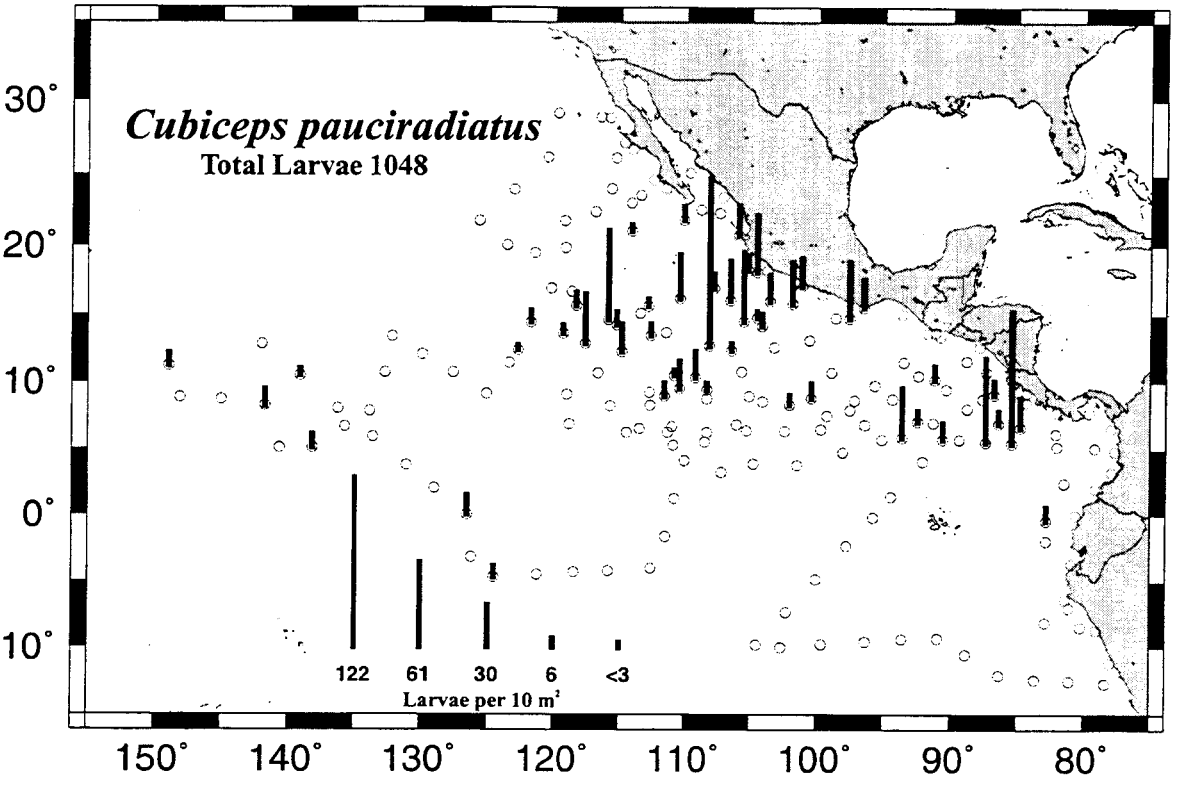

Figure 29. Distribution of *Cubiceps pauciradiatus* larvae from Bongo net tows: 0010JD and 0010M4.

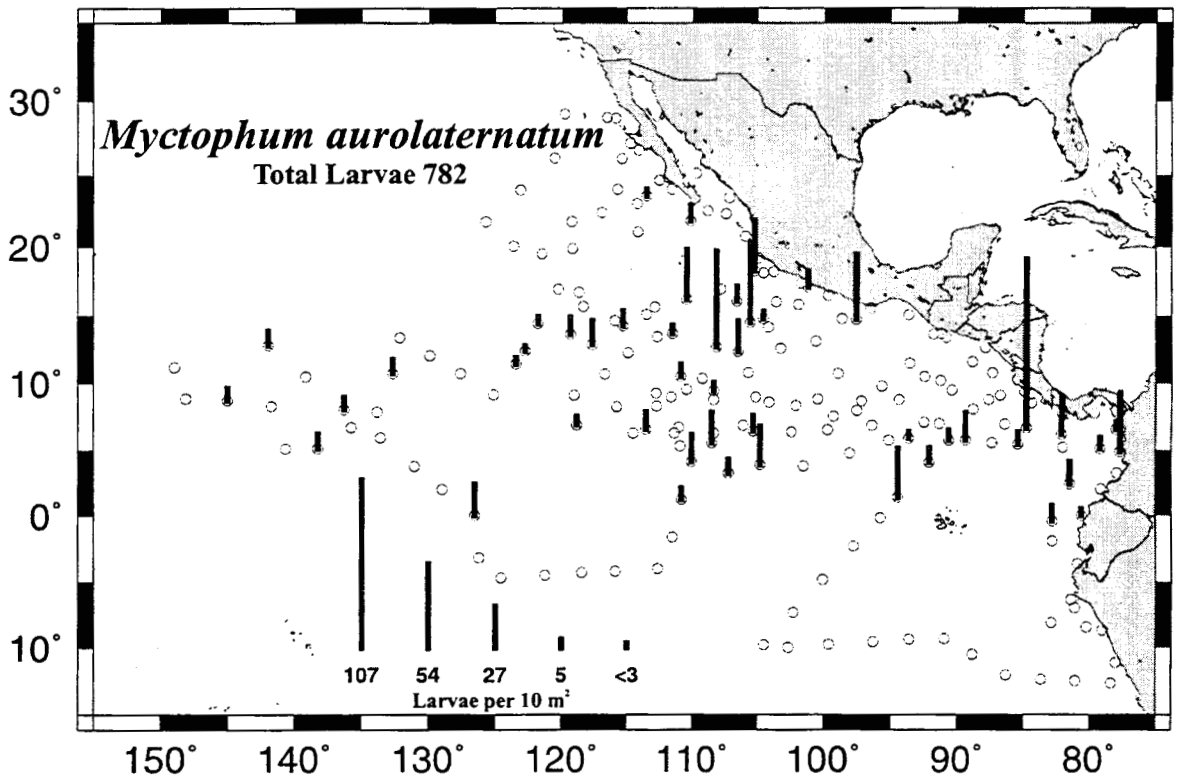

Figure 30. Distribution of *Myctophum aurolaternatum* larvae from Bongo net tows: 0010JD and 0010M4.

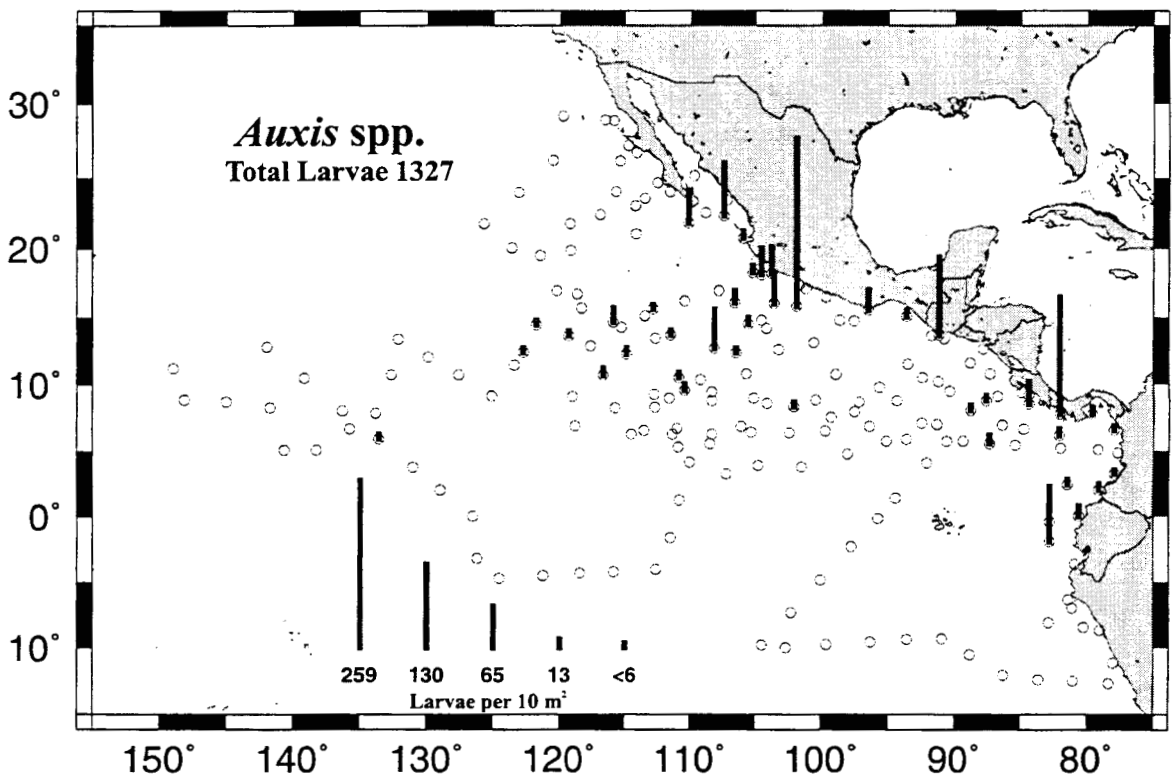

Figure 31. Distribution of *Auxis* spp. larvae from Bongo net tows: 0010JD and 0010M4.

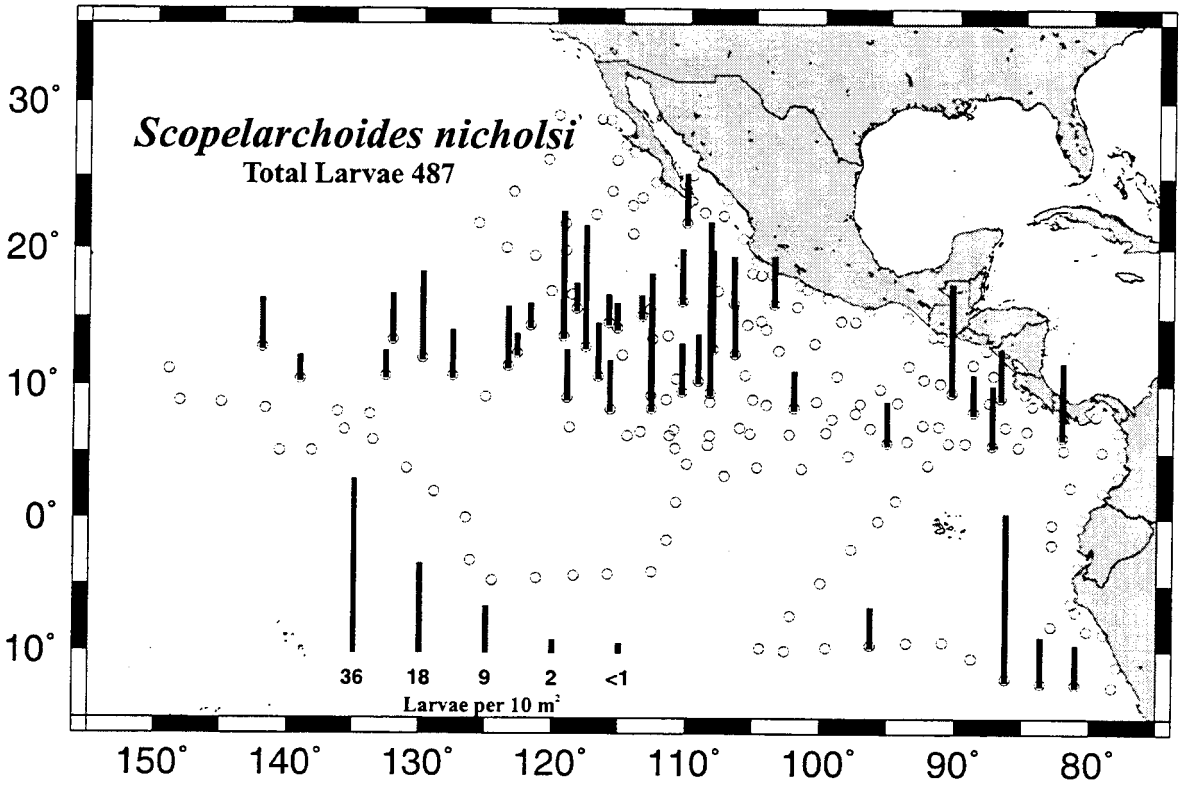

Figure 32. Distribution of *Scopelarchoides nicholsi* larvae from Bongo net tows: 0010JD and 0010M4.

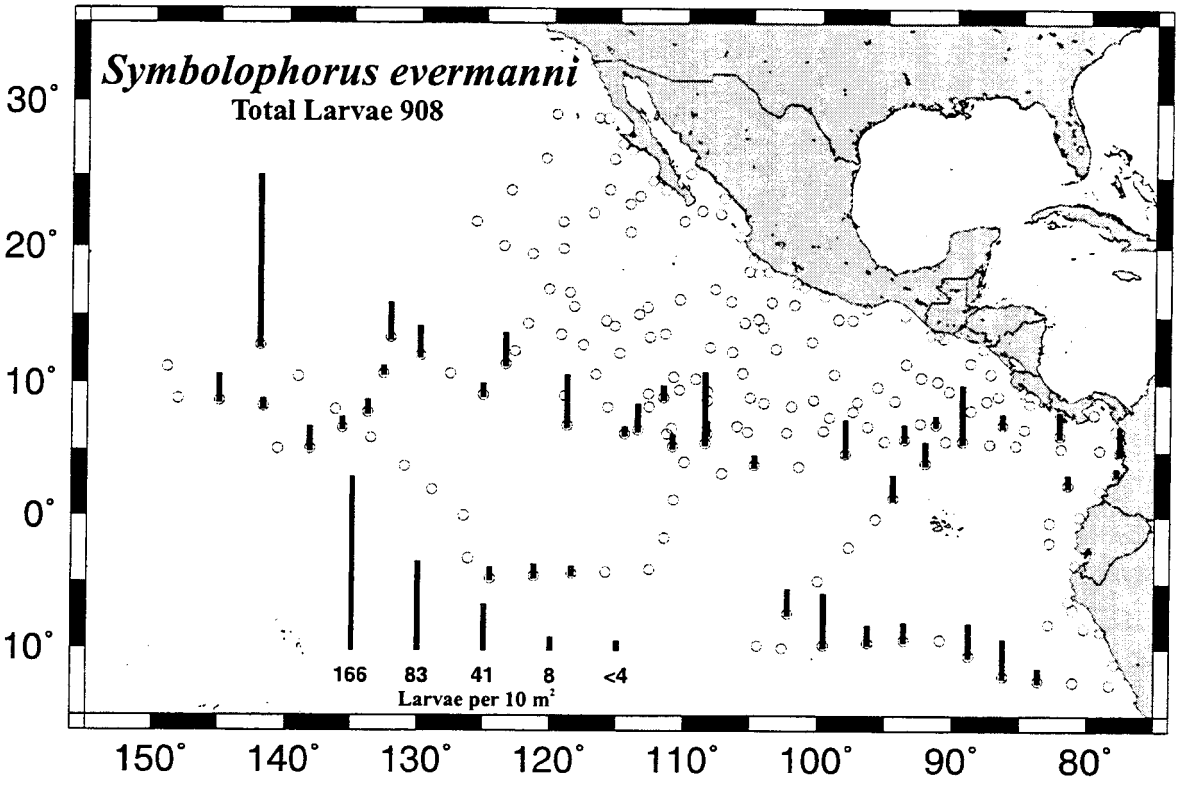

Figure 33. Distribution of *Symbolophorus evermanni* larvae from Bongo net tows: 0010JD and 0010M4.

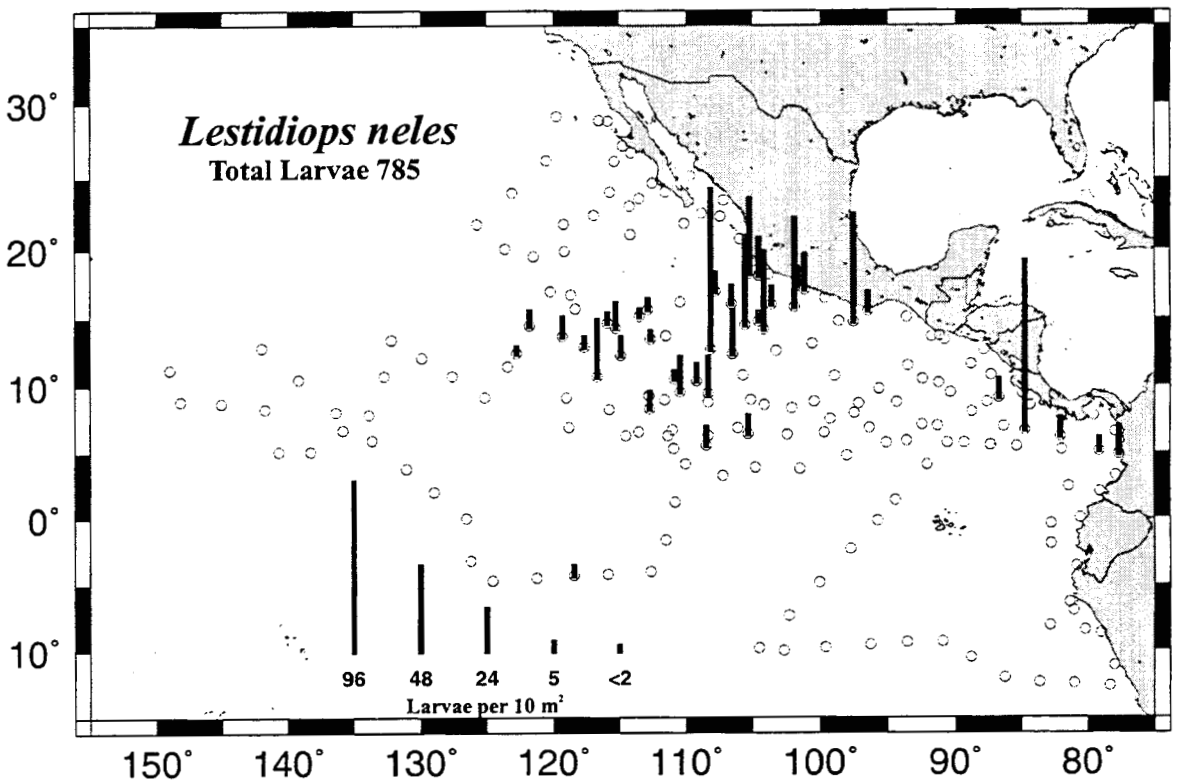

Figure 34. Distribution of *Lestidiops neles* larvae from Bongo net tows: 0010JD and 0010M4.

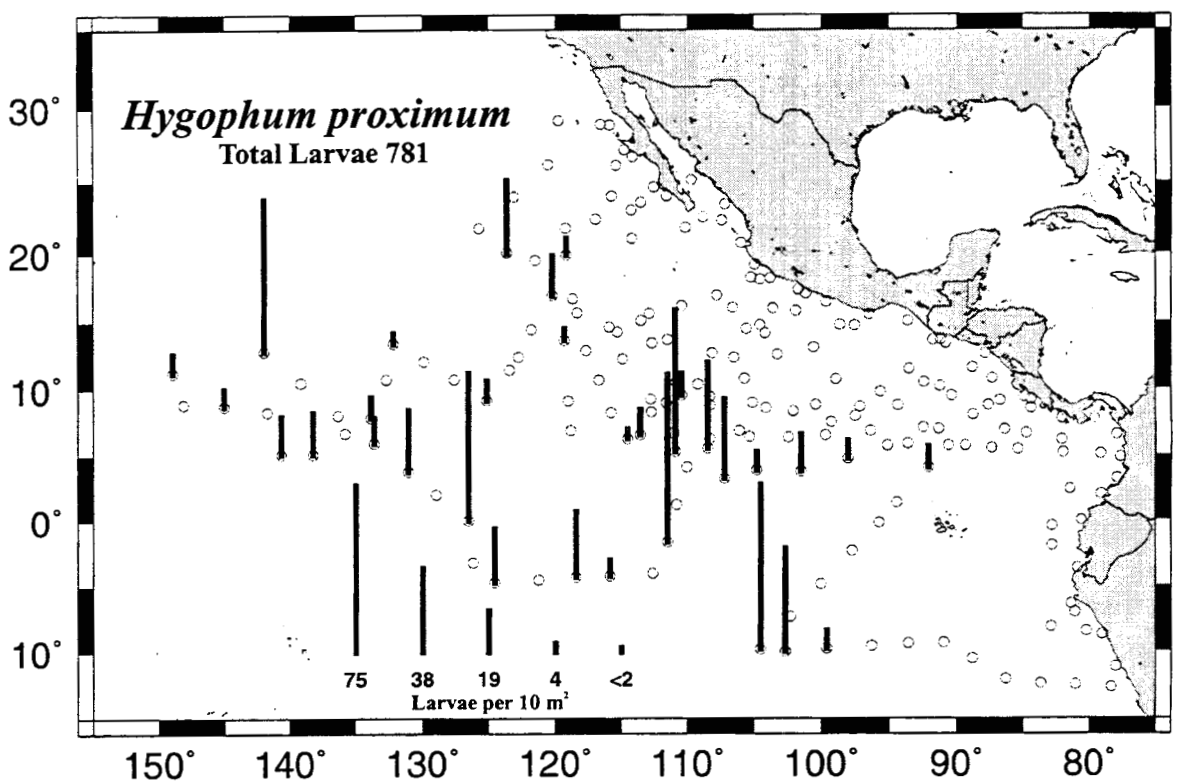

Figure 35. Distribution of *Hygophum proximum* larvae from Bongo net tows: 0010JD and 0010M4.

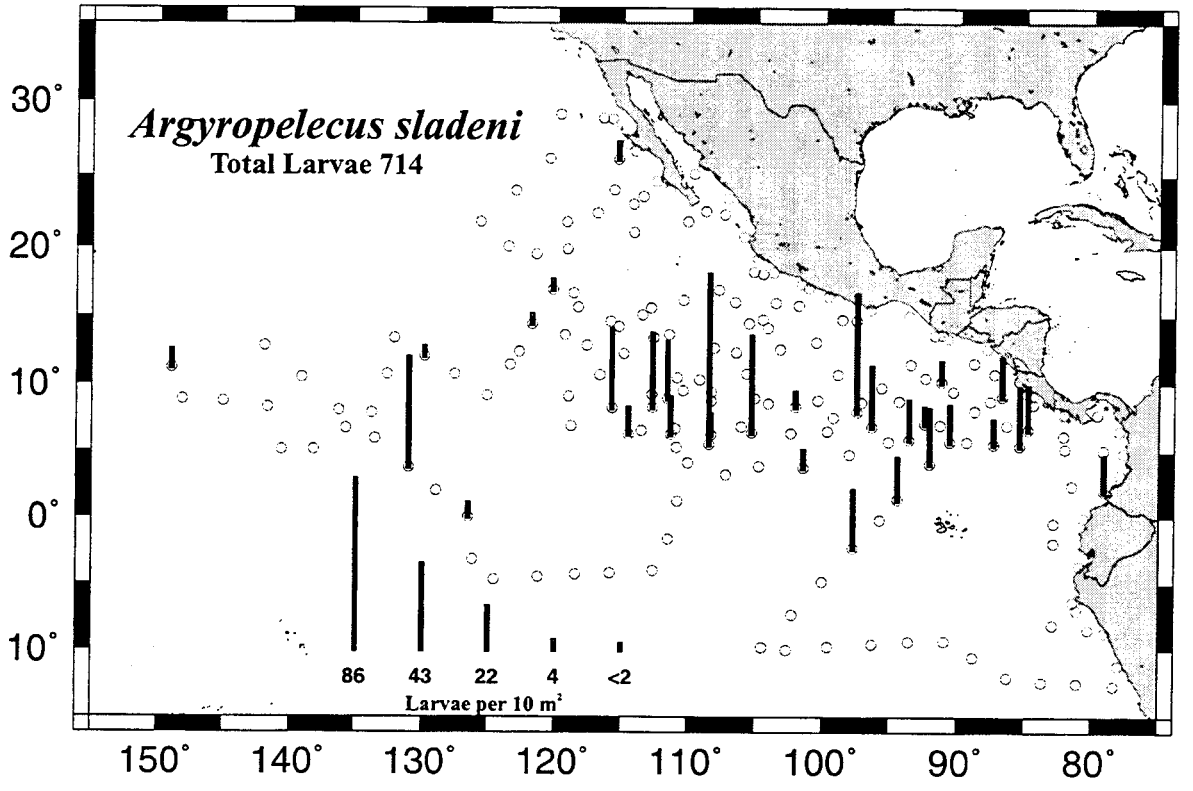

Figure 36. Distribution of *Argyropelecus sladeni* larvae from Bongo net tows: 0010JD and 0010M4.

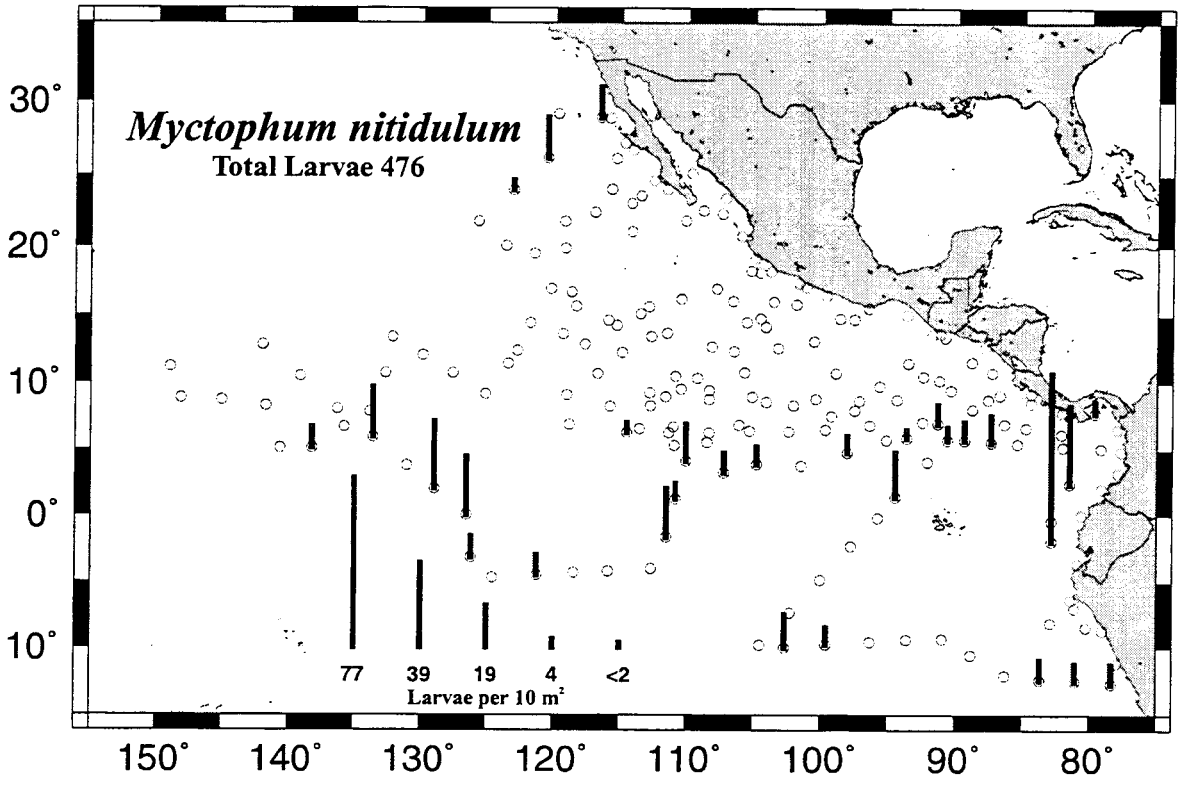

Figure 37. Distribution of *Myctophum nitidulum* larvae from Bongo net tows: 0010JD and 0010M4.

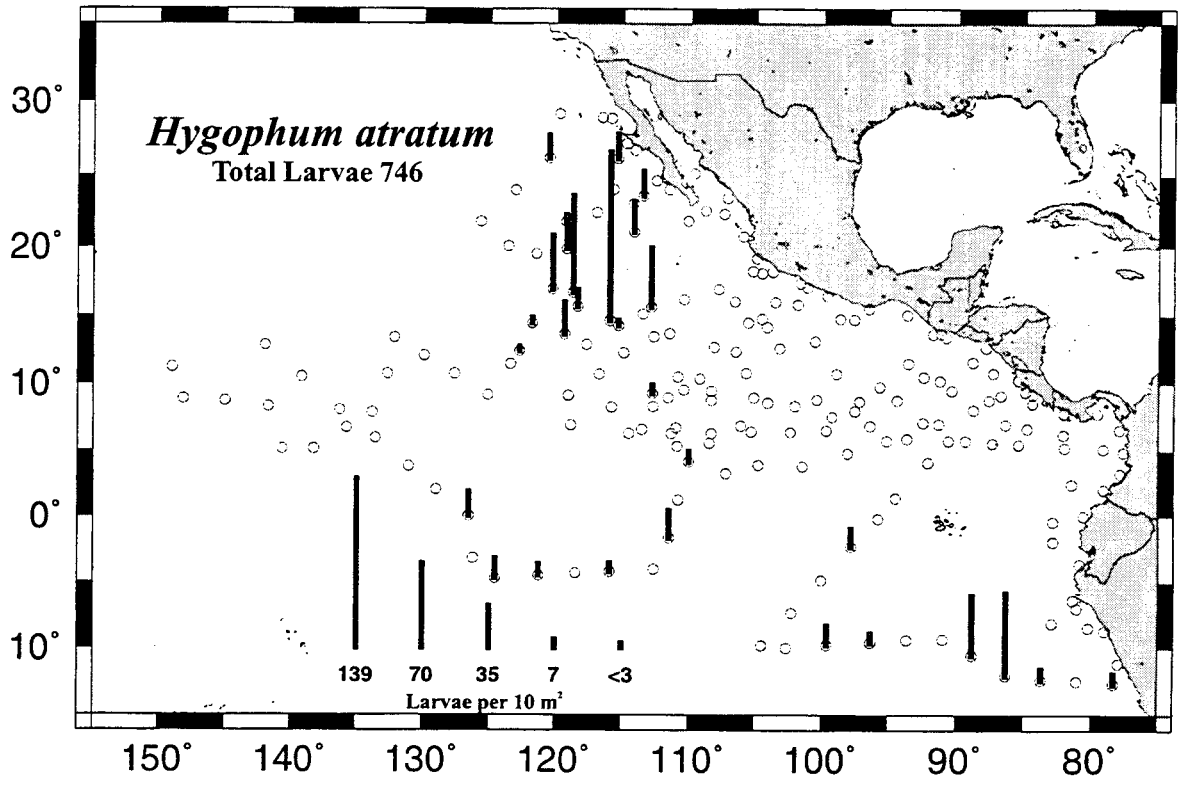

Figure 38. Distribution of *Hygophum atratum* larvae from Bongo net tows: 0010JD and 0010M4.

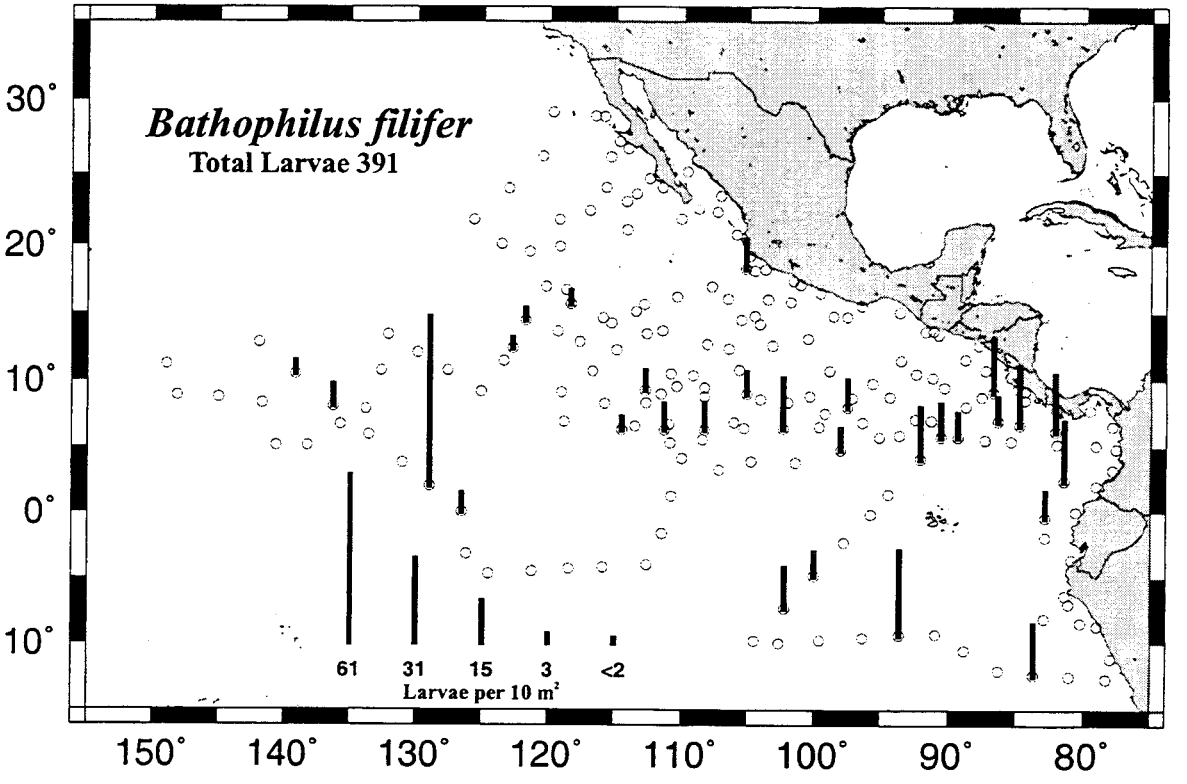

Figure 39. Distribution of *Bathophilus filifer* larvae from Bongo net tows: 0010JD and 0010M4.

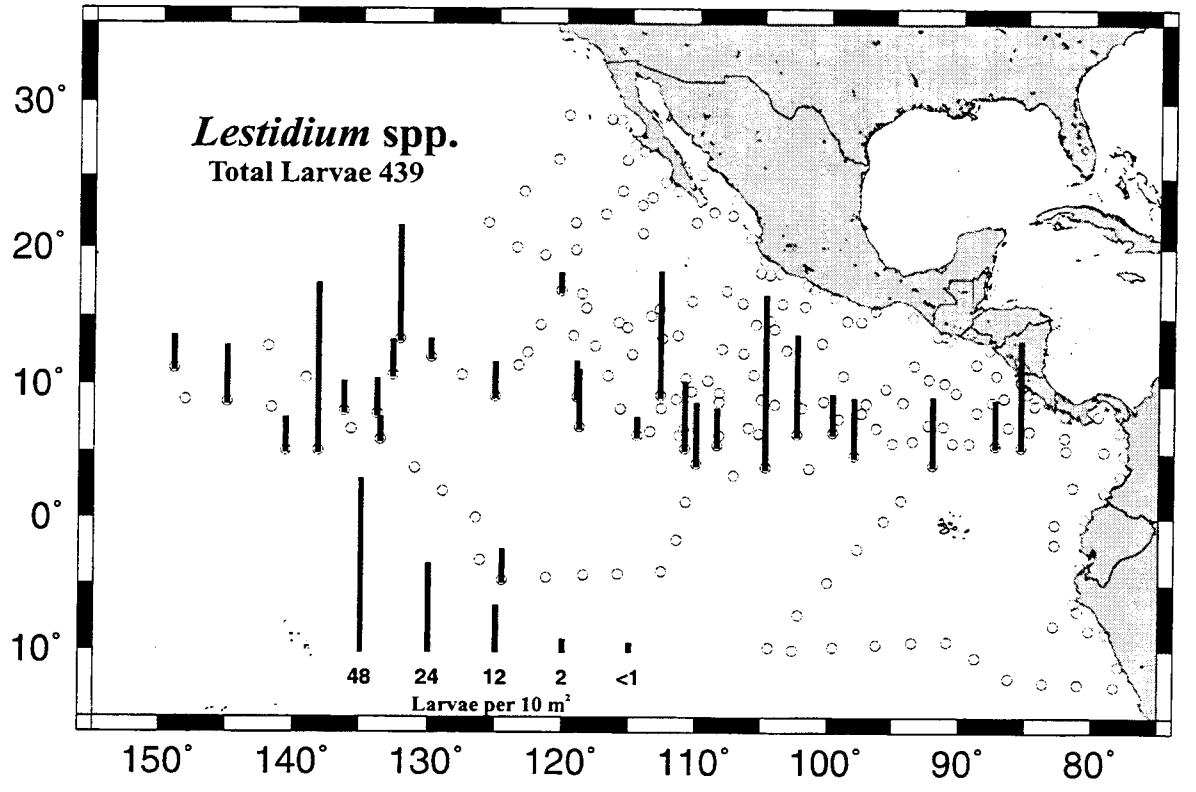

Figure 40. Distribution of *Lestidium* spp. larvae from Bongo net tows: 0010JD and 0010M4.

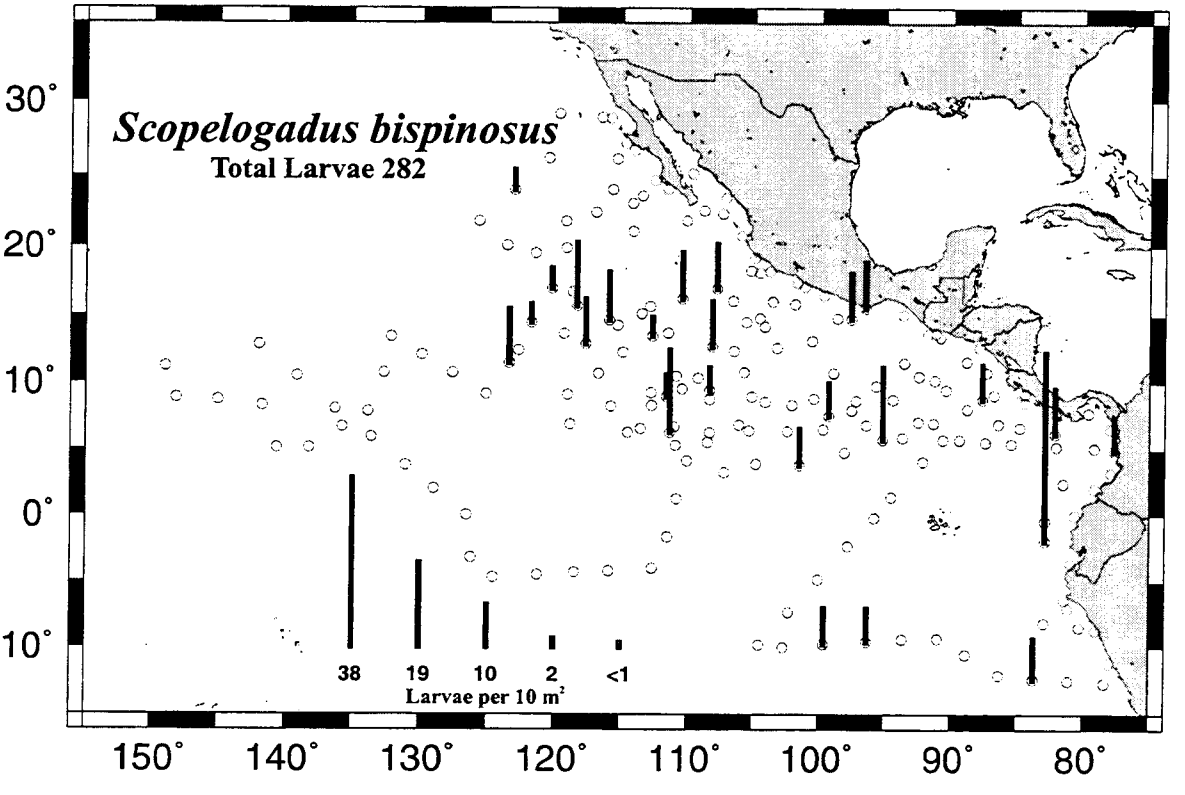

Figure 41. Distribution of *Scopelogadus bispinosus* larvae from Bongo net tows: 0010JD and 0010M4.

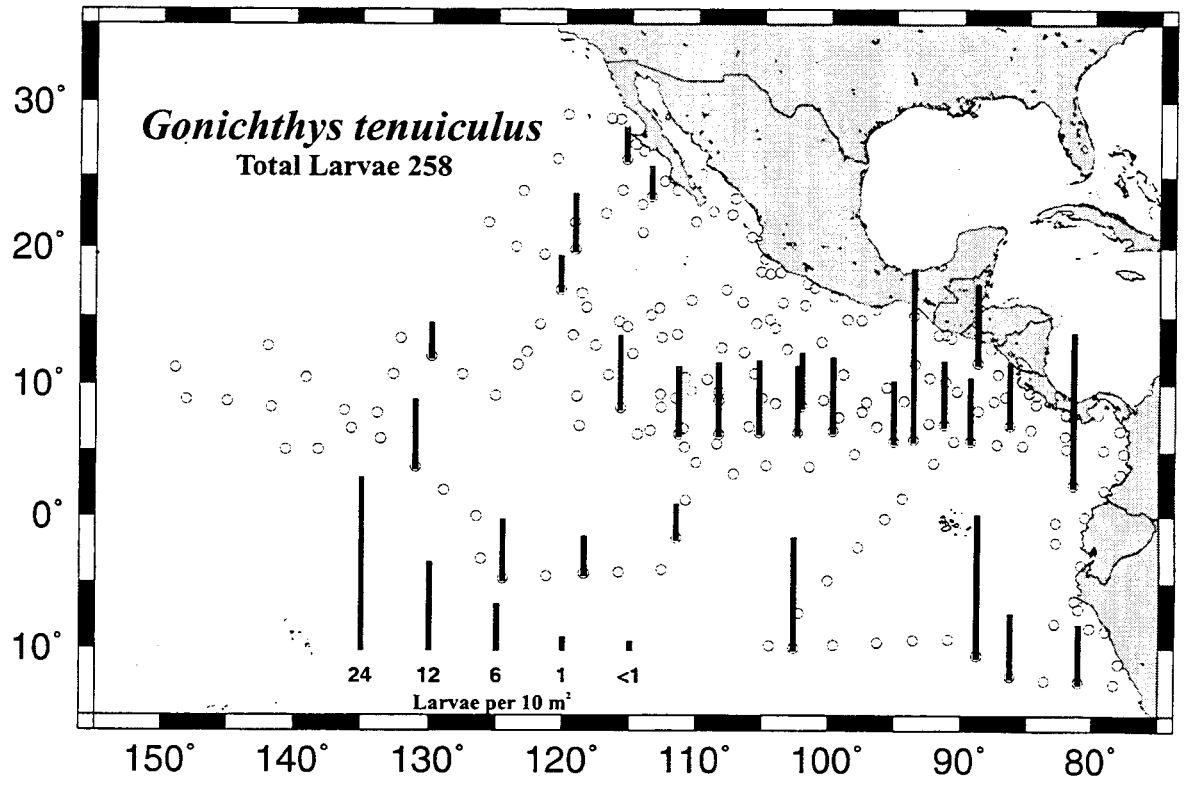

Figure 42. Distribution of *Gonichthys tenuiculus* larvae from Bongo net tows: 0010JD and 0010M4.

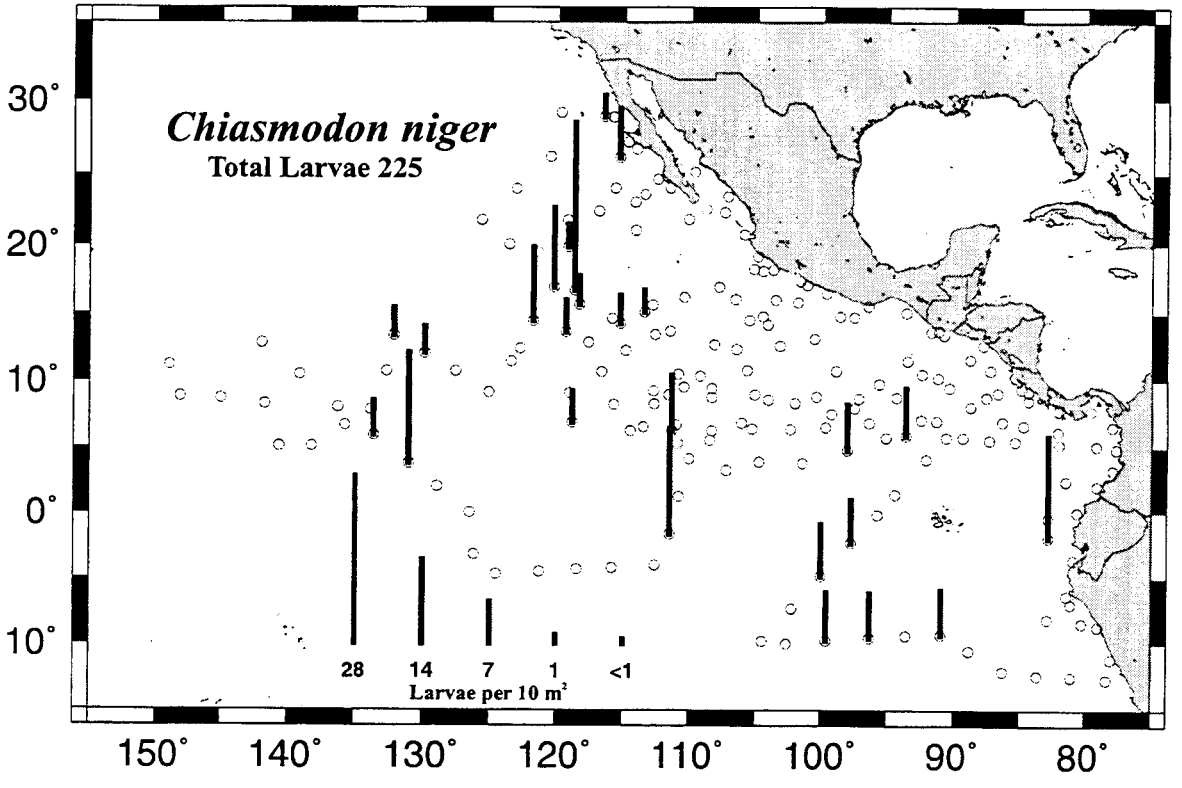

Figure 43. Distribution of *Chiasmodon niger* larvae from Bongo net tows: 0010JD and 0010M4.

Table 1. Station and Manta net tow data for *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m^3) Water Strained	Total Larvae	Total Eggs
1	1-001	28	51.0	N	115	51.2	2	JD	000730	2211	84.2	2	707
2	1-003	27	10.4	N	114	46.0	2	JD	000731	2139	80.8	9	473
3	1-005	26	42.1	N	114	06.3	2	JD	000801	2134	74.7	7	0
4	1-007	24	36.9	N	112	31.6	2	JD	000802	2135	84.8	8	1
5	1-009	23	59.7	N	115	44.8	2	JD	000803	2132	73.2	1	44
6	1-011	22	24.4	N	116	57.3	2	JD	000804	2135	55.2	1	349
7	1-013	23	01.9	N	114	12.9	2	JD	000805	2135	66.9	7	76
8	1-015	23	59.5	N	111	34.0	2	JD	000806	2125	86.5	20	20
9	1-017	21	49.6	N	110	08.1	2	JD	000807	2104	62.6	18	663
10	1-019	22	32.9	N	108	50.9	1	JD	000808	2105	70.0	44	246
11	1-021	25	06.6	N	109	44.1	1	JD	000809	2205	69.8	88	781
12	1-023	23	25.4	N	107	11.5	1	JD	000810	2149	85.9	62	3927
13	1-024	22	18.3	N	107	27.4	1	JD	000811	2152	63.2	163	563
14	1-026	20	43.5	N	105	58.8	1	JD	000812	2147	70.9	8	525
15	1-030	19	08.2	N	104	56.7	1	JD	000815	2134	72.5	1	1146
16	2-031	18	14.9	N	105	14.9	1	JD	000819	2238	96.9	79	298
17	2-033	16	57.2	N	107	50.9	1	JD	000820	2134	101.7	71	61
18	2-035	16	12.1	N	110	26.8	2	JD	000821	2157	84.2	47	377
19	2-037	15	36.5	N	112	52.4	2	JD	000822	2208	77.5	2	17
20	2-039	14	37.6	N	115	55.3	5	JD	000823	2208	67.7	32	60
21	2-041	13	39.5	N	119	17.6	5	JD	000824	2226	61.8	20	92
22	2-043	12	53.6	N	117	39.0	5	JD	000825	2205	57.9	8	64
23	2-045	12	14.7	N	114	54.4	5	JD	000826	2203	61.1	3	19
24	2-047	10	40.1	N	116	41.1	5	JD	000827	2217	63.0	4	41
25	2-049	9	05.0	N	119	01.4	5	JD	000828	2201	62.5	11	65
26	2-051	6	52.3	N	118	49.4	5	JD	000829	2206	67.3	14	7
27	2-053	8	13.7	N	115	48.0	5	JD	000830	2215	60.8	7	2
28	2-055	9	14.0	N	112	45.4	5	JD	000831	2145	63.7	1	91
29	2-057	6	39.7	N	111	00.8	5	JD	000901	2131	67.9	6	4
30	2-059	8	45.2	N	108	21.8	4	JD	000902	2132	66.8	45	95
31	2-061	10	45.6	N	105	43.0	4	JD	000903	2115	68.2	58	128
32	2-063	12	36.8	N	103	15.2	4	JD	000904	2108	69.8	18	125
33	2-065	13	07.2	N	100	34.9	4	JD	000905	2050	68.2	2	2
34	2-067	14	45.0	N	98	38.7	4	JD	000906	2048	61.4	12	60
35	2-069	16	28.6	N	99	41.6	1	JD	000907	2150	73.5	27	18
36	3-070	17	05.5	N	101	11.0	1	JD	000912	2221	62.5	0	917
37	3-072	15	59.4	N	103	37.8	1	JD	000913	2206	62.7	10	22
38	3-074	14	28.0	N	105	36.4	4	JD	000914	2123	65.3	20	19
39	3-076	12	40.9	N	108	09.0	4	JD	000915	2120	65.6	13	21
40	3-080	8	56.6	N	111	36.6	5	JD	000917	2134	56.8	40	4
41	3-082	6	31.5	N	113	31.7	5	JD	000918	2134	64.9	1	3
42	3-084	5	16.5	N	110	54.7	5	JD	000919	2120	62.9	11	4
43	3-086	5	32.0	N	108	29.3	4	JD	000920	2119	60.6	9	5
44	3-088	6	49.2	N	106	07.8	4	JD	000921	2109	67.0	12	11
45	3-090	8	34.4	N	104	09.5	4	JD	000922	2105	65.3	7	56
46	3-100	13	24.2	N	90	49.4	3	JD	000927	2107	67.2	81	31
47	3-102	12	39.4	N	87	51.5	3	JD	000928	2105	48.2	105	3
48	3-104	10	47.4	N	87	17.9	3	JD	000929	2112	59.5	54	33

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m^3) Water Strained	Total Larvae	Total Eggs
49	3-106	9	23.7	N	84	55.0	3	JD	000930	2051	60.4	534	168
50	4-107	9	11.8	N	84	23.8	3	JD	001005	1935	77.9	148	379
51	4-109	7	44.7	N	82	03.5	3	JD	001006	2022	69.8	267	33
52	4-111	6	08.6	N	82	06.7	3	JD	001007	2019	70.9	49	86
53	4-113	6	37.0	N	84	48.3	3	JD	001008	2035	66.3	40	64
54	4-115	9	06.1	N	86	42.9	3	JD	001009	2050	72.3	38	27
55	4-117	11	36.4	N	88	49.6	3	JD	001010	2139	78.5	52	12
56	4-119	9	29.5	N	90	22.1	3	JD	001011	2105	68.7	9	119
57	4-121	10	10.7	N	91	13.4	3	JD	001012	2109	69.4	30	13
59	4-125	8	44.1	N	94	22.8	3	JD	001014	2107	69.1	9	43
60	4-127	8	39.1	N	97	13.6	4	JD	001015	2120	72.4	4	2
61	4-129	8	48.2	N	100	26.8	4	JD	001016	2137	62.5	4	8
62	4-131	10	43.9	N	98	55.9	4	JD	001017	2136	69.2	5	28
63	4-135	14	44.2	N	97	36.3	4	JD	001019	2122	68.6	12	1331
64	4-137	15	31.0	N	96	32.6	1	JD	001020	2107	77.9	30	73
65	4-139	15	03.3	N	93	40.0	3	JD	001021	2107	69.8	28	27
66	4-141	13	37.1	N	91	46.0	3	JD	001022	2051	68.9	16	0
67		13	40.5	N	91	10.7	3	JD	001029	1955	72.4	80	75
68	5-143	11	29.3	N	93	33.1	3	JD	001030	2010	68.3	10	10
69	5-145	9	46.5	N	95	42.6	4	JD	001031	2013	56.6	1	4
70	5-147	7	56.6	N	97	33.8	4	JD	001101	2025	83.7	3	5
71	5-149	6	29.2	N	99	42.5	4	JD	001102	2039	64.3	3	45
72	5-151	6	20.9	N	102	25.2	4	JD	001103	2035	75.7	2	93
73	5-153	6	24.0	N	105	20.7	4	JD	001104	2100	59.9	3	157
74	5-155	6	15.8	N	108	22.5	4	JD	001105	2105	62.9	2	11
75	5-157	6	14.3	N	111	21.3	5	JD	001106	2125	61.3	2	1
76	5-159	6	13.2	N	114	30.6	5	JD	001107	2121	62.4	0	0
77	5-161	8	15.4	N	112	42.9	5	JD	001108	2123	67.1	19	53
78	5-163	9	31.4	N	110	27.4	5	JD	001109	2107	64.7	32	293
79	5-165	10	19.3	N	109	12.7	4	JD	001110	2108	70.8	8	1632
80	5-167	12	22.2	N	106	30.4	4	JD	001111	2051	70.8	6	171
81	5-169	14	08.7	N	104	11.9	4	JD	001112	2036	75.7	13	83
82	5-171	15	48.6	N	101	54.9	1	JD	001113	2020	79.6	118	552
83	5-173	17	22.1	N	101	43.4	1	JD	001114	2020	76.4	50	79
84	5-175	18	10.2	N	103	47.7	1	JD	001115	2035	72.8	10	77
85	6-176	18	04.9	N	104	35.6	1	JD	001120	2037	81.2	33	329
86	6-178	16	03.0	N	106	36.8	1	JD	001121	2040	72.8	10	172
87	6-180	14	45.9	N	104	34.2	4	JD	001122	2003	74.7	35	61
88	6-182	13	41.0	N	111	29.2	5	JD	001123	2011	68.8	10	39
89	6-184	13	25.5	N	112	39.3	5	JD	001124	2011	71.7	1	964
90	6-186	14	13.8	N	115	17.4	5	JD	001125	2023	74.3	4	22
91	6-188	15	39.0	N	118	20.2	2	JD	001126	2021	69.1	20	38
92	6-190	16	42.7	N	118	40.7	2	JD	001127	2040	76.2	12	7
1	1-002	29	09.8	N	119	45.2	2	M4	000729	2216	135.8	16	518
2	1-004	26	10.7	N	120	33.0	2	M4	000730	2205	138.9	2	4
3	1-006	23	58.7	N	123	04.7	2	M4	000731	2359	128.3	8	1
4	1-008	21	45.9	N	125	42.9	2	M4	000801	2252	131.5	23	1
5	1-010	20	00.4	N	123	39.2	2	M4	000802	2352	151.7	4	7
6	1-012	19	29.5	N	121	29.8	2	M4	000803	2255	140.5	14	36
7	1-014	21	46.1	N	119	14.3	2	M4	000804	2240	127.8	7	11

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m^3) Water Strained	Total Larvae	Total Eggs
8	1-016	19	50.8	N	119	09.3	2	M4	000805	2230	123.9	1	28
9	1-018	16	56.5	N	120	15.2	2	M4	000806	2250	136.8	9	8137
10	1-020	14	27.0	N	121	47.0	5	M4	000807	2255	164.6	9	163
11	1-022	11	26.4	N	123	25.4	5	M4	000808	2250	137.4	1	122
12	1-024	9	08.4	N	125	07.5	6	M4	000809	2125	128.4	5	17
13	1-026	10	42.6	N	127	35.5	6	M4	000810	2141	128.5	6	39
14	1-028	12	03.4	N	129	53.4	6	M4	000811	2155	126.3	1	17
15	1-030	13	25.1	N	132	09.5	6	M4	000812	2155	119.4	5	12
16	1-032	10	44.7	N	132	43.0	6	M4	000813	2155	136.2	2	94
17	1-034	7	51.1	N	133	51.2	6	M4	000814	2210	139.2	9	5
18	1-036	6	39.6	N	135	47.6	6	M4	000815	2200	144.6	4	8
19	1-038	5	04.6	N	138	15.8	6	M4	000816	2210	127.1	5	3
20	1-040	5	04.9	N	140	42.2	7	M4	000817	2210	140.5	5	7
21	1-042	8	14.9	N	141	44.7	7	M4	000818	2120	131.1	0	0
22	1-044	8	42.5	N	145	03.3	7	M4	000819	2145	127.5	0	2
23	1-046	8	50.5	N	148	08.6	7	M4	000820	2137	130.6	1	0
24	1-048	11	12.2	N	148	59.5	7	M4	000821	2210	110.0	1	18
25	2-049	12	48.9	N	141	59.1	7	M4	000903	2145	101.9	1	8
26	2-051	10	29.8	N	139	10.5	6	M4	000904	2135	103.1	18	192
27	2-053	8	01.4	N	136	20.9	6	M4	000905	2148	109.9	2	11
28	2-055	5	54.0	N	133	37.6	6	M4	000906	2048	67.9	22	7
29	2-057	3	44.7	N	131	02.7	6	M4	000907	2130	87.2	1	8
30	2-059	2	01.5	N	128	58.1	6	M4	000908	2136	116.2	2	13
31	2-061	0	00.1	S	126	32.4	11	M4	000909	2132	111.0	2	8
32	2-063	3	12.8	S	126	13.4	11	M4	000910	2125	112.6	2	10
33	2-065	4	44.2	S	124	33.4	10	M4	000911	2140	120.1	0	8
34	2-067	4	31.6	S	121	14.2	10	M4	000912	2207	150.9	0	16
35	2-069	4	21.3	S	118	26.4	10	M4	000913	2223	93.1	1	2
36	2-071	4	15.1	S	115	52.4	10	M4	000914	2211	111.7	1	30
37	2-073	4	03.2	S	112	37.9	10	M4	000915	2227	112.7	5	12708
38	2-075	1	38.5	S	111	30.0	10	M4	000916	2217	117.0	2	5
39	2-077	1	12.3	N	110	49.4	5	M4	000917	2147	111.0	26	37
40	2-079	4	06.8	N	110	03.2	5	M4	000918	2138	126.2	7	6
41	2-081	3	12.2	N	107	15.8	4	M4	000919	2132	120.1	108	17
42	2-083	3	50.7	N	104	48.0	4	M4	000920	2117	126.3	19	15
43	2-085	3	44.8	N	101	30.3	4	M4	000921	2217	126.3	9	32
44	2-087	4	43.7	N	98	04.0	4	M4	000922	2140	217.4	3	9
45	2-089	5	40.9	N	95	09.2	4	M4	000923	2135	126.3	2	15
46	2-091	7	05.2	N	92	29.2	3	M4	000924	2125	102.9	6	866
48	2-094	8	02.2	N	88	46.5	3	M4	000926	2215	109.1	20	11
49	2-096	8	44.9	N	87	37.8	3	M4	000927	2157	108.1	11	29
50	3-098	8	32.1	N	84	25.4	3	M4	001005	2056	145.7	300	533
51	3-100	6	55.8	N	86	24.9	3	M4	001006	2049	174.1	21	149
52	3-102	5	41.3	N	89	22.0	3	M4	001007	2220	122.0	0	426
53	3-104	4	02.4	N	92	07.1	3	M4	001008	2123	113.0	10	135
54	3-106	1	23.1	N	94	29.2	3	M4	001009	2158	127.3	49	23
55	3-108	0	10.5	S	95	48.9	9	M4	001010	2153	152.7	1	7
56	3-110	2	19.8	S	97	46.0	9	M4	001011	2217	134.0	0	578
57	3-112	4	53.3	S	100	04.6	9	M4	001012	2111	120.4	7	609
58	3-114	7	21.5	S	102	18.7	9	M4	001013	2130	132.9	11	18

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Vol.(m^3) Water Strained	Total Larvae	Total Eggs
59	3-116	9	47.6	S	104	30.4	9	M4	001014	2143	134.7	4	2
60	3-118	10	01.0	S	102	40.2	9	M4	001015	2145	128.6	3	5
61	3-120	9	46.2	S	99	37.2	9	M4	001016	2139	137.5	29	11
62	3-122	9	35.0	S	96	18.7	9	M4	001017	2300	126.9	118	10
63	3-124	9	23.3	S	93	36.1	8	M4	001018	2157	137.0	169	101
64	3-126	9	18.3	S	90	57.6	8	M4	001019	2149	111.5	173	120
65	3-128	10	31.5	S	88	48.0	8	M4	001020	2148	129.1	27	61
66	3-130	12	03.9	S	86	18.5	8	M4	001021	2121	137.8	17	2653
67	3-132	12	24.1	S	83	40.7	8	M4	001022	2107	138.9	99	612
68	3-134	12	29.2	S	81	03.3	8	M4	001023	2108	132.9	139	31
69	3-136	12	41.5	S	78	20.2	8	M4	001024	2048	149.6	24	245
70	4-137	11	10.2	S	78	00.8	8	M4	001029	2028	126.3	2	3
71	4-139	8	43.3	S	79	02.4	8	M4	001030	2042	143.0	20	0
72	4-141	8	26.8	S	80	14.7	8	M4	001031	2055	164.9	6	0
73	4-143	8	08.4	S	82	53.5	8	M4	001101	2105	143.8	16	3
74	4-145	6	59.8	S	81	05.3	8	M4	001102	2110	149.6	0	787
75	4-146	6	21.6	S	81	23.1	8	M4	001103	2057	115.6	89	1
76	4-148	3	38.5	S	80	54.8	8	M4	001104	2055	122.4	331	193
77	4-150	1	58.2	S	82	52.1	8	M4	001105	2123	128.3	282	24075
78	4-152	0	24.9	S	82	52.0	8	M4	001106	2137	127.9	54	82
79	4-154	0	01.2	S	80	37.6	8	M4	001107	2117	128.2	67	56
80	4-156	2	24.8	N	81	28.8	3	M4	001108	2123	139.0	33	64
81	4-158	1	59.6	N	79	07.2	3	M4	001109	2102	140.3	30	155
82	4-160	3	12.3	N	77	55.6	3	M4	001110	2103	138.4	454	41
83	4-162	4	50.5	N	77	41.2	3	M4	001111	2102	23.4	12	39
84	4-164	6	33.2	N	77	56.1	3	M4	001112	2207	160.9	16	2
85	5-166	7	44.4	N	79	35.9	3	M4	001118	2058	146.0	138	67
86	5-168	5	04.3	N	79	10.0	3	M4	001119	2146	123.8	13	75
87	5-170	5	11.0	N	82	02.8	3	M4	001120	2121	122.9	13	81
88	5-172	5	23.8	N	85	26.9	3	M4	001121	2142	129.9	5	217
89	5-174	5	32.0	N	87	21.4	3	M4	001122	2144	200.8	16	79
90	5-176	5	41.5	N	90	38.1	3	M4	001123	2215	55.6	3	73
91	5-178	5	50.5	N	93	39.0	3	M4	001124	2115	132.6	1	13
92	5-180	6	48.9	N	96	25.4	4	M4	001125	2133	133.1	11	19
93	5-182	7	29.5	N	99	18.6	4	M4	001126	2135	133.4	8	37
94	5-184	8	18.0	N	102	05.7	4	M4	001127	2148	131.3	12	10
95	5-186	8	56.4	N	105	10.1	4	M4	001128	2150	126.5	8	12
96	5-188	9	24.4	N	108	20.7	4	M4	001129	2127	133.0	36	137
97	5-190	10	29.0	N	110	52.6	5	M4	001130	2118	121.2	57	494
98	5-192	12	23.0	N	122	44.3	5	M4	001201	2119	131.2	5	594
99	5-194	15	05.4	N	113	28.6	2	M4	001202	2125	126.4	4	159
100	5-198	21	01.4	N	114	11.3	2	M4	001204	2126	172.4	0	232
101	5-200	23	34.6	N	113	29.1	2	M4	001205	2117	154.8	4	215
102	5-202	26	07.8	N	115	22.9	2	M4	001206	2123	146.7	3	28
103	5-204	28	54.4	N	116	32.4	2	M4	001207	2147	168.0	2	7

Table 2. Pooled occurrences of fish larvae taken in Manta net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Rank	Taxon	Occurrences
1	*Vinciguerria lucetia*	77
2	*Oxyporhamphus micropterus*	69
3	*Auxis* spp.	53
4	*Coryphaena hippurus*	44
5	*Prognichthys* spp.	32
6	*Coryphaena equiselis*	30
7	*Cheilopogon xenopterus*	25
8	*Cubiceps pauciradiatus*	21
9	*Exocoetus* spp.	18
10	*Lampanyctus parvicauda*	14
11	*Hirundichthys marginatus*	13
11	*Elassichthys adocetus*	13
13	*Caranx caballus*	12
13	Gerreidae	12
15	Gobiidae	11
15	*Hirundichthys* spp.	11
17	*Diplophos proximus*	10
17	*Benthosema panamense*	10
17	*Mugil* spp.	10
20	*Cyclothone* spp.	9
20	*Polydactylus approximans*	9
22	*Diaphus* spp.	8
22	*Scomberesox saurus*	8
24	*Naucrates ductor*	7
24	*Ceratoscopelus warmingii*	7
26	*Symphurus* spp.	6
26	*Lestidium* spp.	6
26	*Mugil cephalus*	6
26	*Opisthonema* spp.	6
26	*Cetengraulis mysticetus*	6
31	Engraulidae	5
31	*Psenes sio*	5
31	*Engraulis ringens*	5
31	Haemulidae	5
31	*Bothus* spp.	5
31	*Hygophum proximum*	5
31	*Howella pammelas*	5
38	*Seriola* spp.	4
38	*Scorpaena* spp.	4
38	*Exocoetus volitans*	4
38	*Hemiramphus saltator*	4
38	*Myctophum aurolaternatum*	4
38	*Hygophum atratum*	4
38	*Lampanyctus* spp.	4
38	*Lampadena urophaos*	4
38	*Bolinichthys longipes*	4
38	*Cololabis saira*	4
38	*Thunnus* spp.	4
38	*Gempylus serpens*	4

Table 2. (cont.)

Rank	Taxon	Occurrences
50	Disintegrated fish larvae	3
50	Myctophidae	3
50	*Brama dussumieri*	3
50	*Etropus* spp.	3
50	*Chiasmodon niger*	3
50	*Trachipterus fukuzakii*	3
50	Eleotridae	3
50	*Symbolophorus evermanni*	3
50	*Bregmaceros bathymaster*	3
59	*Pteraclis aesticola*	2
59	*Katsuwonus pelamis*	2
59	*Trachinotus paitensis*	2
59	*Hypsoblennius* spp.	2
59	*Cyclopsetta* spp.	2
59	*Scomber japonicus*	2
59	*Diogenichthys laternatus*	2
59	*Nomeus gronovii*	2
59	Serraninae	2
59	*Apogon* spp.	2
59	*Triphoturus nigrescens*	2
59	*Euthynnus lineatus*	2
59	Scomberesocidae	2
59	*Trichiurus lepturus*	2
59	*Oneirodes* spp.	2
59	*Lutjanus* spp.	2
59	Ophichthidae	2
59	Epinephelinae	2
59	Pomacentridae	2
59	*Syacium* spp.	2
59	*Cheilopogon heterurus*	2
59	Anguilliformes	2
59	Sciaenidae	2
59	*Stegastes* spp.	2
59	*Microdesmus* spp.	2
59	Astronesthinae	2
59	*Synodus evermanni*	2
59	*Bregmaceros* spp.	2
87	*Gigantactis* spp.	1
87	*Sarda chiliensis*	1
87	*Hygophum reinhardtii*	1
87	*Trachipterus altivelis*	1
87	*Myctophum lychnobium*	1
87	Ophidiidae	1
87	Stomiinae	1
87	*Gymnothorax* spp.	1
87	*Ophichthus* spp.	1
87	*Ariosoma gilberti*	1
87	*Harengula thrissina*	1
87	*Mola mola*	1
87	*Anchoa* spp.	1
87	*Canthidermis maculatus*	1
87	Balistidae	1

Table 2. (cont.)

Rank	Taxon	Occurrences
87	*Ceratoscopelus townsendi*	1
87	*Etropus crossotus*	1
87	*Triphoturus* spp.	1
87	Melanostomiinae	1
87	*Synodus sechurae*	1
87	Paralepididae	1
87	*Stemonosudis macrura*	1
87	*Evermannella ahlstromi*	1
87	*Cyclopsetta panamensis*	1
87	*Citharichthys platophrys*	1
87	*Tetragonurus atlanticus*	1
87	*Cubiceps baxteri*	1
87	Bothidae	1
87	Mullidae	1
87	*Exocoetus monocirrhus*	1
87	*Entomacrodus chiostictus*	1
87	Blenniidae	1
87	Bramidae	1
87	Lutjanidae	1
87	*Lobotes surinamensis*	1
87	*Labrisomus multiporosus*	1
87	*Eucinostomus* spp.	1
87	*Labrisomus* spp.	1
87	*Menticirrhus* spp.	1
87	*Trachinotus kennedyi*	1
87	*Polydactylus opercularis*	1
87	*Seriola lalandi*	1
87	Kyphosidae	1
87	*Medialuna californiensis*	1
87	*Sectator ocyurus*	1
87	*Cheilodactylus* spp.	1
87	Mugilidae	1
87	Chiasmodontidae	1
87	*Mugil curema*	1
87	*Abudefduf* spp.	1
87	*Abudefduf declivifrons*	1
87	*Abudefduf troschelii*	1
87	*Pseudoscopelus* spp.	1
87	*Howella* spp.	1
87	*Istiophorus platypterus*	1
87	*Cheilopogon* spp.	1
87	*Nealotus tripes*	1
87	*Oligoplites* spp.	1
87	*Sphyraena ensis*	1
87	Labridae	1
87	Acanthuridae	1
87	*Scartichthys* spp.	1
87	*Myripristis* spp.	1
87	*Pontinus* spp.	1
87	*Coryphaena* spp.	1
87	Perciformes	1
87	*Acanthocybium solandri*	1

Table 2. (cont.)

Rank	Taxon	Occurrences
87	*Hypsoblennius gentilis*	1
87	*Pronotogrammus multifasciatus*	1
87	*Pristigenys serrula*	1
87	Carangidae	1
87	*Caranx* spp.	1
87	*Hypsoblennius brevipinnis*	1
87	*Caranx sexfasciatus*	1
87	*Decapterus* spp.	1
87	*Albula* spp.	1
87	Unidentified fish larvae	1
87	*Hypsoblennius jenkinsi*	1
	Total	807

Table 3. Pooled raw counts of fish larvae taken in Manta net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Rank	Taxon	Count
1	*Cetengraulis mysticetus*	945
2	*Vinciguerria lucetia*	821
3	Engraulidae	636
4	*Auxis* spp.	612
5	*Elassichthys adocetus*	489
6	*Oxyporhamphus micropterus*	376
7	*Benthosema panamense*	283
8	*Scomber japonicus*	250
9	*Scomberesox saurus*	234
10	*Prognichthys* spp.	222
11	*Coryphaena hippurus*	125
12	*Engraulis ringens*	116
13	Gobiidae	86
14	*Opisthonema* spp.	82
15	*Caranx caballus*	58
16	*Coryphaena equiselis*	57
17	*Mugil* spp.	56
18	Gerreidae	54
19	*Cubiceps pauciradiatus*	50
20	*Cheilopogon xenopterus*	40
21	*Hemiramphus saltator*	37
22	*Hirundichthys* spp.	36
23	*Symphurus* spp.	31
24	*Oligoplites* spp.	29
25	*Hirundichthys marginatus*	28
25	*Cyclothone* spp.	28
27	*Mugil cephalus*	27
28	*Polydactylus approximans*	24
28	*Lampanyctus parvicauda*	24
30	*Exocoetus* spp.	21
30	*Bothus* spp.	21
32	*Hygophum proximum*	20
33	*Scorpaena* spp.	17
33	*Ceratoscopelus warmingii*	17
35	*Syacium* spp.	15
36	*Mugil curema*	14
37	*Thunnus* spp.	12
38	*Diplophos proximus*	11
38	*Cheilopogon heterurus*	11
38	*Diaphus* spp.	11
41	*Howella pammelas*	10
41	*Bregmaceros bathymaster*	10
41	*Lestidium* spp.	10
44	*Naucrates ductor*	9
45	*Bolinichthys longipes*	8
45	Lutjanidae	8
47	*Hygophum atratum*	7
47	*Caranx sexfasciatus*	7
47	*Trachinotus paitensis*	7

Table 3. (cont.)

Rank	Taxon	Count
47	*Cololabis saira*	7
47	Serraninae	7
47	*Apogon* spp.	7
47	*Psenes sio*	7
47	*Etropus* spp.	7
47	*Cyclopsetta panamensis*	7
56	*Synodus evermanni*	6
56	*Eucinostomus* spp.	6
56	*Sectator ocyurus*	6
56	Haemulidae	6
56	*Microdesmus* spp.	6
56	*Polydactylus opercularis*	6
62	*Sphyraena ensis*	5
62	*Menticirrhus* spp.	5
62	*Lampadena urophaos*	5
62	*Lampanyctus* spp.	5
62	*Gempylus serpens*	5
62	*Myctophum aurolaternatum*	5
62	*Trachipterus fukuzakii*	5
62	Disintegrated fish larvae	5
70	Myctophidae	4
70	*Diogenichthys laternatus*	4
70	*Oneirodes* spp.	4
70	*Chiasmodon niger*	4
70	Mugilidae	4
70	*Exocoetus volitans*	4
70	*Seriola* spp.	4
77	*Cyclopsetta* spp.	3
77	*Trichiurus lepturus*	3
77	*Brama dussumieri*	3
77	*Caranx* spp.	3
77	*Labrisomus multiporosus*	3
77	*Symbolophorus evermanni*	3
77	*Bregmaceros* spp.	3
77	*Lobotes surinamensis*	3
77	Scomberesocidae	3
77	*Hypsoblennius jenkinsi*	3
77	Ophichthidae	3
77	*Albula* spp.	3
77	*Gymnothorax* spp.	3
77	Eleotridae	3
91	*Harengula thrissina*	2
91	*Stemonosudis macrura*	2
91	Anguilliformes	2
91	*Triphoturus nigrescens*	2
91	Bothidae	2
91	Astronesthinae	2
91	*Scartichthys* spp.	2
91	*Pseudoscopelus* spp.	2
91	*Myripristis* spp.	2
91	*Hypsoblennius* spp.	2

Table 3. (cont.)

Rank	Taxon	Count
91	*Pontinus* spp.	2
91	Epinephelinae	2
91	Labridae	2
91	Carangidae	2
91	*Stegastes* spp.	2
91	Pomacentridae	2
91	*Pteraclis aesticola*	2
91	*Decapterus* spp.	2
91	*Euthynnus lineatus*	2
91	*Nealotus tripes*	2
91	Sciaenidae	2
91	*Katsuwonus pelamis*	2
91	*Sarda chiliensis*	2
91	*Lutjanus* spp.	2
91	Mullidae	2
91	*Acanthocybium solandri*	2
91	*Nomeus gronovii*	2
118	Ophidiidae	1
118	*Hypsoblennius brevipinnis*	1
118	*Entomacrodus chiostictus*	1
118	*Cheilopogon* spp.	1
118	*Hypsoblennius gentilis*	1
118	*Seriola lalandi*	1
118	*Exocoetus monocirrhus*	1
118	*Cubiceps baxteri*	1
118	Blenniidae	1
118	Melanostomiinae	1
118	Stomiinae	1
118	Bramidae	1
118	*Coryphaena* spp.	1
118	*Citharichthys platophrys*	1
118	*Etropus crossotus*	1
118	*Anchoa* spp.	1
118	*Gigantactis* spp.	1
118	*Istiophorus platypterus*	1
118	*Tetragonurus atlanticus*	1
118	*Myctophum lychnobium*	1
118	*Mola mola*	1
118	*Canthidermis maculatus*	1
118	*Trachipterus altivelis*	1
118	*Ophichthus* spp.	1
118	Perciformes	1
118	Acanthuridae	1
118	*Trachinotus kennedyi*	1
118	*Evermannella ahlstromi*	1
118	*Pronotogrammus multifasciatus*	1
118	Kyphosidae	1
118	Paralepididae	1
118	*Synodus sechurae*	1
118	*Pristigenys serrula*	1
118	*Abudefduf declivifrons*	1

Table 3. (cont.)

Rank	Taxon	Count
118	*Howella* spp.	1
118	*Medialuna californiensis*	1
118	*Cheilodactylus* spp.	1
118	*Hygophum reinhardtii*	1
118	Unidentified fish larvae	1
118	*Ceratoscopelus townsendi*	1
118	Chiasmodontidae	1
118	*Abudefduf* spp.	1
118	Balistidae	1
118	*Abudefduf troschelii*	1
118	*Ariosoma gilberti*	1
118	*Labrisomus* spp.	1
118	*Triphoturus* spp.	1
	Total	6391

Table 4. Numbers (raw counts and number per 100 m^3 of water filtered) of fish larvae taken in Manta net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4 listed by taxon, tow number, and region.

Albula spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
11	JD	1-021	1	3	4.30

Anguilliformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
47	JD	3-102	3	1	2.07
85	M4	5-166	3	1	0.68

Gymnothorax spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
48	M4	2-094	3	3	2.75

Ophichthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
54	M4	3-106	3	1	0.79
85	M4	5-166	3	2	1.37

Ophichthus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
82	M4	4-160	3	1	0.72

Ariosoma gilberti

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
87	M4	5-170	3	1	0.81

Harengula thrissina

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
84	JD	5-175	1	2	2.75

Opisthonema spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
11	JD	1-021	1	3	4.30
47	JD	3-102	3	63	130.71
63	JD	4-135	4	2	2.92
66	JD	4-141	3	1	1.45
67	JD		3	10	13.81
83	JD	5-173	1	3	3.93

Engraulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
66	JD	4-141	3	2	2.90
77	M4	4-150	8	276	215.12
82	M4	4-160	3	356	257.23
84	JD	5-175	1	1	1.37
84	M4	4-164	3	1	0.62

Anchoa spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
85	M4	5-166	3	1	0.68

Cetengraulis mysticetus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
47	JD	3-102	3	12	24.90
49	JD	3-106	3	525	869.21
50	JD	4-107	3	133	170.73
51	JD	4-109	3	179	256.45
79	M4	4-154	8	24	18.72
85	M4	5-166	3	72	49.32

Engraulis ringens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
70	M4	4-137	8	1	0.79
71	M4	4-139	8	19	13.29
72	M4	4-141	8	4	2.43
75	M4	4-146	8	89	76.99
76	M4	4-148	8	3	2.45

Cyclothone spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
1	M4	1-002	2	1	0.74
19	M4	1-038	6	1	0.79
20	M4	1-040	7	1	0.71
25	M4	2-049	7	1	0.98
41	M4	2-081	4	3	2.50
61	M4	3-120	9	3	2.18
65	M4	3-128	8	3	2.32
66	M4	3-130	8	3	2.18
67	M4	3-132	8	12	8.64

Diplophos proximus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m^3
20	JD	2-039	5	1	1.48
26	M4	2-051	6	1	0.97
28	M4	2-055	6	1	1.47
30	JD	2-059	4	1	1.50
31	JD	2-061	4	1	1.47
32	JD	2-063	4	1	1.43
39	JD	3-076	4	1	1.52
87	JD	6-180	4	1	1.34
92	JD	6-190	2	2	2.62
99	M4	5-194	2	1	0.79

Vinciguerria lucetia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	M4	1-002	2	10	7.36
9	JD	1-017	2	1	1.60
13	JD	1-024	1	13	20.57
18	JD	2-035	2	1	1.19
20	JD	2-039	5	23	33.97
21	JD	2-041	5	19	30.74
22	JD	2-043	5	6	10.36
24	M4	1-048	7	1	0.91
24	JD	2-047	5	2	3.17
25	JD	2-049	5	11	17.60
26	M4	2-051	6	10	9.70
26	JD	2-051	5	7	10.40
27	JD	2-053	5	6	9.87
29	JD	2-057	5	3	4.42
30	JD	2-059	4	40	59.88
31	JD	2-061	4	50	73.31
32	JD	2-063	4	9	12.89
34	JD	2-067	4	8	13.03
35	M4	2-069	10	1	1.07
35	JD	2-069	1	1	1.36
37	M4	2-073	10	3	2.66
37	JD	3-072	1	3	4.78
38	JD	3-074	4	5	7.66
39	M4	2-077	5	19	17.12
39	JD	3-076	4	3	4.57
40	M4	2-079	5	3	2.38
40	JD	3-080	5	39	68.66
41	JD	3-082	5	1	1.54
41	M4	2-081	4	89	74.10
42	JD	3-084	5	8	12.72
42	M4	2-083	4	11	8.71
43	JD	3-086	4	7	11.55
43	M4	2-085	4	9	7.13
44	JD	3-088	4	12	17.91
45	M4	2-089	4	1	0.79
46	M4	2-091	3	4	3.89
48	M4	2-094	3	2	1.83
48	JD	3-104	3	2	3.36
53	JD	4-113	3	5	7.54
53	M4	3-104	3	7	6.19
54	M4	3-106	3	45	35.35
57	JD	4-121	3	8	11.53
58	M4	3-114	9	6	4.51
61	M4	3-120	9	2	1.45
61	JD	4-129	4	1	1.60

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
62	JD	4-131	4	3	4.34
62	M4	3-122	9	2	1.58
63	JD	4-135	4	1	1.46
63	M4	3-124	8	6	4.38
64	M4	3-126	8	27	24.22
65	M4	3-128	8	8	6.20
66	M4	3-130	8	11	7.98
67	M4	3-132	8	9	6.48
69	M4	3-136	8	12	8.02
77	JD	5-161	5	14	20.86
78	JD	5-163	5	25	38.64
78	M4	4-152	8	9	7.04
79	JD	5-165	4	2	2.82
80	M4	4-156	3	24	17.27
81	M4	4-158	3	1	0.71
85	JD	6-176	1	2	2.46
86	JD	6-178	1	2	2.75
87	JD	6-180	4	25	33.47
88	M4	5-172	3	2	1.54
88	JD	6-182	5	7	10.17
89	M4	5-174	3	4	1.99
89	JD	6-184	5	1	1.39
90	JD	6-186	5	4	5.38
91	JD	6-188	2	17	24.60
92	JD	6-190	2	5	6.56
93	M4	5-182	4	6	4.50
94	M4	5-184	4	5	3.81
95	M4	5-186	4	1	0.79
96	M4	5-188	4	16	12.03
97	M4	5-190	5	48	39.60
98	M4	5-192	5	4	3.05
101	M4	5-200	2	1	0.65

Stomiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
59	M4	3-116	9	1	0.74

Astronesthinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
26	JD	2-051	5	1	1.49
29	JD	2-057	5	1	1.47

Melanostomiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
63	M4	3-124	8	1	0.73

Synodus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
78	M4	4-152	8	1	0.78
85	M4	5-166	3	5	3.42

Synodus sechurae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	1	0.82

Paralepididae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
58	M4	3-114	9	1	0.75

Lestidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
26	JD	2-051	5	1	1.49
26	M4	2-051	6	1	0.97
29	JD	2-057	5	1	1.47
39	M4	2-077	5	1	0.90
40	M4	2-079	5	1	0.79
42	M4	2-083	4	5	3.96

Stemonosudis macrura

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	2	2.95

Evermannella ahlstromi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	1	1.47

Myctophidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
20	M4	1-040	7	1	0.71
41	M4	2-081	4	2	1.67
61	M4	3-120	9	1	0.73

Bolinichthys longipes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-011	2	1	1.81
20	JD	2-039	5	4	5.91
26	JD	2-051	5	1	1.49
91	JD	6-188	2	2	2.89

Ceratoscopelus townsendi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	M4	1-002	2	1	0.74

Ceratoscopelus warmingii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	2	2.95
60	M4	3-118	9	2	1.56
61	M4	3-120	9	2	1.45
65	M4	3-128	8	1	0.77
66	M4	3-130	8	1	0.73
67	M4	3-132	8	6	4.32
92	JD	6-190	2	3	3.94

Diaphus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	2	2.95
39	M4	2-077	5	1	0.90
41	M4	2-081	4	1	0.83
59	M4	3-116	9	1	0.74
69	M4	3-136	8	1	0.67
77	M4	4-150	8	1	0.78
87	JD	6-180	4	2	2.68
88	JD	6-182	5	2	2.91

Lampadena urophaos

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	M4	1-002	2	2	1.47
26	JD	2-051	5	1	1.49
28	M4	2-055	6	1	1.47
42	M4	2-083	4	1	0.79

Lampanyctus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
27	JD	2-053	5	1	1.64
28	M4	2-055	6	2	2.95
61	M4	3-120	9	1	0.73
75	JD	5-157	5	1	1.63

Lampanyctus parvicauda

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-041	5	1	1.62
28	M4	2-055	6	1	1.47
31	JD	2-061	4	3	4.40
37	M4	2-073	10	1	0.89
39	M4	2-077	5	1	0.90
42	M4	2-083	4	1	0.79
54	M4	3-106	3	1	0.79
62	JD	4-131	4	2	2.89
67	M4	3-132	8	2	1.44
69	M4	3-136	8	7	4.68
77	JD	5-161	5	1	1.49
79	JD	5-165	4	1	1.41
80	M4	4-156	3	1	0.72

Lampanyctus parvicauda (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
93	M4	5-182	4	1	0.75

Triphoturus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
61	M4	3-120	9	1	0.73

Triphoturus nigrescens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	1	1.47
69	M4	3-136	8	1	0.67

Benthosema panamense

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-017	2	2	3.19
43	JD	3-086	4	1	1.65
47	JD	3-102	3	2	4.15
50	M4	3-098	3	257	176.39
54	M4	3-106	3	1	0.79
77	M4	4-150	8	1	0.78
78	M4	4-152	8	14	10.95
82	M4	4-160	3	1	0.72
84	M4	4-164	3	2	1.24
86	M4	5-168	3	2	1.62

Diogenichthys laternatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	3	2.05
92	M4	5-180	4	1	0.75

Hygophum atratum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
61	M4	3-120	9	1	0.73
65	M4	3-128	8	2	1.55
99	M4	5-194	2	2	1.58
102	M4	5-202	2	2	1.36

Hygophum proximum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
10	M4	1-020	5	3	1.82
20	M4	1-040	7	1	0.71
28	M4	2-055	6	7	10.31
41	M4	2-081	4	8	6.66
54	M4	3-106	3	1	0.79

Hygophum reinhardtii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
36	M4	2-071	10	1	0.90

Myctophum aurolaternatum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
26	JD	2-051	5	1	1.49
41	M4	2-081	4	2	1.67
67	M4	3-132	8	1	0.72
85	M4	5-166	3	1	0.68

Myctophum lychnobium

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
20	M4	1-040	7	1	0.71

Symbolophorus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
41	M4	2-081	4	1	0.83
42	M4	2-083	4	1	0.79
66	M4	3-130	8	1	0.73

Trachipterus altivelis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
32	M4	2-063	11	1	0.89

Trachipterus fukuzakii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	JD	2-061	4	2	2.93
32	JD	2-063	4	1	1.43
53	M4	3-104	3	2	1.77

Bregmaceros spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	1	0.82
78	M4	4-152	8	2	1.56

Bregmaceros bathymaster

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
56	JD	4-119	3	5	7.28
81	M4	4-158	3	1	0.71
82	M4	4-160	3	4	2.89

Ophidiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	1	0.82

Oneirodes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
29	JD	2-057	5	1	1.47
80	M4	4-156	3	3	2.16

Gigantactis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
39	M4	2-077	5	1	0.90

Scomberesocidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	M4	1-006	2	2	1.56
77	M4	4-150	8	1	0.78

Cololabis saira

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	M4	1-002	2	2	1.47
2	M4	1-004	2	1	0.72
3	M4	1-006	2	3	2.34
103	M4	5-204	2	1	0.60

Elassichthys adocetus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	M4	1-006	2	3	2.34
4	M4	1-008	2	23	17.49
5	M4	1-010	2	3	1.98
6	M4	1-012	2	9	6.41
7	M4	1-014	2	7	5.48
8	M4	1-016	2	1	0.81
9	M4	1-018	2	2	1.46
10	M4	1-020	5	2	1.22
61	M4	3-120	9	16	11.64
62	M4	3-122	9	116	91.41
63	M4	3-124	8	161	117.52
64	M4	3-126	8	145	130.04
66	M4	3-130	8	1	0.73

Scomberesox saurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
57	M4	3-112	9	5	4.15
58	M4	3-114	9	3	2.26
60	M4	3-118	9	1	0.78
65	M4	3-128	8	13	10.07
67	M4	3-132	8	68	48.96
68	M4	3-134	8	131	98.57
70	M4	4-137	8	1	0.79
73	M4	4-143	8	12	8.34

Hemiramphus saltator

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
50	M4	3-098	3	24	16.47
51	JD	4-109	3	7	10.03
66	JD	4-141	3	1	1.45
84	M4	4-164	3	5	3.11

Cheilopogon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	M4	1-024	6	1	0.78

Cheilopogon heterurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	JD	1-007	2	4	4.72
50	M4	3-098	3	7	4.80

Cheilopogon xenopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-015	2	1	1.16
9	JD	1-017	2	1	1.60
9	M4	1-018	2	1	0.73
14	JD	1-026	1	1	1.41
15	M4	1-030	6	2	1.68
16	M4	1-032	6	2	1.47
16	JD	2-031	1	3	3.10
17	M4	1-034	6	2	1.44
17	JD	2-033	1	1	0.98
18	M4	1-036	6	2	1.38
18	JD	2-035	2	2	2.38
19	M4	1-038	6	1	0.79
22	JD	2-043	5	1	1.73
23	M4	1-046	7	1	0.77
24	JD	2-047	5	1	1.59
46	JD	3-100	3	8	11.90
52	JD	4-111	3	1	1.41
54	JD	4-115	3	1	1.38
55	JD	4-117	3	1	1.27
63	JD	4-135	4	1	1.46
64	JD	4-137	1	1	1.28
82	JD	5-171	1	1	1.26
83	M4	4-162	3	2	8.55
85	JD	6-176	1	1	1.23
88	M4	5-172	3	1	0.77

Exocoetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-013	2	1	1.49
28	JD	2-055	5	1	1.57
31	M4	2-061	11	1	0.90
48	M4	2-094	3	1	0.92
51	M4	3-100	3	1	0.57
59	JD	4-125	3	1	1.45
63	M4	3-124	8	1	0.73
63	JD	4-135	4	2	2.92
70	JD	5-147	4	1	1.19
71	JD	5-149	4	1	1.56
76	M4	4-148	8	1	0.82

Exocoetus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
81	JD	5-169	4	1	1.32
87	JD	6-180	4	1	1.34
89	M4	5-174	3	3	1.49
92	M4	5-180	4	1	0.75
94	M4	5-184	4	1	0.76
95	M4	5-186	4	1	0.79
96	M4	5-188	4	1	0.75

Exocoetus monocirrhus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
57	M4	3-112	9	1	0.83

Exocoetus volitans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
18	M4	1-036	6	1	0.69
19	M4	1-038	6	1	0.79
27	M4	2-053	6	1	0.91
38	JD	3-074	4	1	1.53

Hirundichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
17	M4	1-034	6	4	2.87
37	M4	2-073	10	1	0.89
48	M4	2-094	3	4	3.67
59	JD	4-125	3	6	8.68
60	JD	4-127	4	2	2.76
68	M4	3-134	8	8	6.02
69	M4	3-136	8	3	2.01
73	M4	4-143	8	2	1.39
94	M4	5-184	4	3	2.28
95	M4	5-186	4	2	1.58
98	M4	5-192	5	1	0.76

Hirundichthys marginatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	M4	1-024	6	1	0.78
17	JD	2-033	1	2	1.97
18	JD	2-035	2	3	3.56
44	M4	2-087	4	1	0.46
46	JD	3-100	3	5	7.44
49	M4	2-096	3	4	3.70
51	M4	3-100	3	2	1.15
57	M4	3-112	9	1	0.83
60	JD	4-127	4	1	1.38
65	JD	4-139	3	1	1.43
68	JD	5-143	3	5	7.32
73	M4	4-143	8	1	0.70
99	M4	5-194	2	1	0.79

Oxyporhamphus micropterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-013	2	1	1.49
8	JD	1-015	2	7	8.09
9	JD	1-017	2	6	9.58
10	JD	1-019	1	21	30.00
10	M4	1-020	5	1	0.61
11	JD	1-021	1	4	5.73
12	M4	1-024	6	1	0.78
12	JD	1-023	1	3	3.49
13	M4	1-026	6	1	0.78
13	JD	1-024	1	6	9.49
14	M4	1-028	6	1	0.79
15	M4	1-030	6	3	2.51
16	JD	2-031	1	19	19.61
17	JD	2-033	1	36	35.40
18	JD	2-035	2	28	33.25
26	M4	2-051	6	1	0.97
30	M4	2-059	6	1	0.86
32	JD	2-063	4	7	10.03
33	JD	2-065	4	1	1.47
34	JD	2-067	4	1	1.63
35	JD	2-069	1	2	2.72
37	JD	3-072	1	3	4.78
38	JD	3-074	4	6	9.19
40	M4	2-079	5	1	0.79
44	M4	2-087	4	2	0.92
45	JD	3-090	4	6	9.19
45	M4	2-089	4	1	0.79
46	JD	3-100	3	4	5.95
46	M4	2-091	3	1	0.97
48	M4	2-094	3	1	0.92
49	M4	2-096	3	2	1.85
51	M4	3-100	3	13	7.47
52	JD	4-111	3	35	49.37
53	JD	4-113	3	12	18.10
54	JD	4-115	3	5	6.92
55	JD	4-117	3	35	44.59
56	JD	4-119	3	1	1.46
57	JD	4-121	3	20	28.82
59	JD	4-125	3	2	2.89
61	JD	4-129	4	1	1.60
63	JD	4-135	4	2	2.92
64	JD	4-137	1	3	3.85
65	JD	4-139	3	2	2.87
67	JD		3	1	1.38
69	JD	5-145	4	1	1.77
70	JD	5-147	4	1	1.19
71	JD	5-149	4	1	1.56
72	JD	5-151	4	1	1.32

Oxyporhamphus micropterus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
73	JD	5-153	4	1	1.67
75	JD	5-157	5	1	1.63
78	JD	5-163	5	4	6.18
79	JD	5-165	4	1	1.41
80	M4	4-156	3	2	1.44
81	M4	4-158	3	1	0.71
82	M4	4-160	3	1	0.72
82	JD	5-171	1	13	16.33
85	JD	6-176	1	1	1.23
87	JD	6-180	4	3	4.02
87	M4	5-170	3	3	2.44
88	M4	5-172	3	2	1.54
88	JD	6-182	5	1	1.45
89	M4	5-174	3	8	3.98
90	M4	5-176	3	2	3.60
92	M4	5-180	4	6	4.51
93	M4	5-182	4	1	0.75
94	M4	5-184	4	1	0.76
95	M4	5-186	4	1	0.79
96	M4	5-188	4	7	5.26
97	M4	5-190	5	2	1.65

Prognichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-017	2	1	1.60
10	JD	1-019	1	3	4.29
11	JD	1-021	1	5	7.16
12	JD	1-023	1	36	41.91
13	JD	1-024	1	3	4.75
13	M4	1-026	6	1	0.78
14	JD	1-026	1	2	2.82
16	JD	2-031	1	38	39.22
22	JD	2-043	5	1	1.73
35	JD	2-069	1	8	10.88
46	JD	3-100	3	39	58.04
48	JD	3-104	3	1	1.68
48	M4	2-094	3	1	0.92
49	M4	2-096	3	1	0.93
50	M4	3-098	3	5	3.43
51	JD	4-109	3	2	2.87
54	JD	4-115	3	4	5.53
55	JD	4-117	3	15	19.11
56	JD	4-119	3	1	1.46
63	JD	4-135	4	1	1.46
64	JD	4-137	1	19	24.39
65	JD	4-139	3	7	10.03
66	JD	4-141	3	4	5.81

Prognichthys spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
67	JD		3	1	1.38
68	JD	5-143	3	3	4.39
82	M4	4-160	3	1	0.72
82	JD	5-171	1	1	1.26
83	JD	5-173	1	3	3.93
83	M4	4-162	3	5	21.37
86	JD	6-178	1	4	5.49
86	M4	5-168	3	4	3.23
87	M4	5-170	3	2	1.63

Myripristis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
67	JD		3	2	2.76

Pontinus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	2	1.63

Scorpaena spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	JD	1-007	2	1	1.18
11	JD	1-021	1	14	20.06
78	M4	4-152	8	1	0.78
86	M4	5-168	3	1	0.81

Perciformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	1	0.68

Howella spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
43	JD	3-086	4	1	1.65

Howella pammelas

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
26	JD	2-051	5	2	2.97
38	M4	2-075	10	2	1.71
39	M4	2-077	5	3	2.70
41	M4	2-081	4	2	1.67
42	JD	3-084	5	1	1.59

Serraninae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	2	1.63
82	M4	4-160	3	5	3.61

Pronotogrammus multifasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
55	M4	3-108	9	1	0.65

Epinephelinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
67	JD		3	1	1.38
76	M4	4-148	8	1	0.82

Pristigenys serrula

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
82	M4	4-160	3	1	0.72

Apogon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	2	3.36
82	M4	4-160	3	5	3.61

Carangidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
82	M4	4-160	3	2	1.45

Caranx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	3	2.05

Caranx caballus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	2	2.87
12	JD	1-023	1	10	11.64
47	JD	3-102	3	3	6.22
48	JD	3-104	3	1	1.68
50	JD	4-107	3	1	1.28
52	JD	4-111	3	1	1.41
53	JD	4-113	3	1	1.51
66	JD	4-141	3	1	1.45
67	JD		3	34	46.96
78	M4	4-152	8	2	1.56
79	M4	4-154	8	1	0.78
84	JD	5-175	1	1	1.37

Caranx sexfasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	7	11.76

Decapterus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
81	M4	4-158	3	2	1.43

Naucrates ductor

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-013	2	1	1.49
10	JD	1-019	1	1	1.43
19	M4	1-038	6	1	0.79
50	JD	4-107	3	1	1.28
51	JD	4-109	3	2	2.87
79	M4	4-154	8	1	0.78
101	M4	5-200	2	2	1.29

Oligoplites spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
51	JD	4-109	3	29	41.55

Seriola spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	JD	1-024	1	1	1.58
49	JD	3-106	3	1	1.66
64	M4	3-126	8	1	0.90
67	JD		3	1	1.38

Seriola lalandi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
103	M4	5-204	2	1	0.60

Trachinotus kennedyi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	1	0.68

Trachinotus paitensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	2	1.63
79	M4	4-154	8	5	3.90

Coryphaena spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
40	M4	2-079	5	1	0.79

Coryphaena equiselis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
5	JD	1-009	2	1	1.37
6	M4	1-012	2	1	0.71
9	M4	1-018	2	6	4.39
10	M4	1-020	5	2	1.22
11	M4	1-022	5	1	0.73
12	M4	1-024	6	2	1.56
13	M4	1-026	6	4	3.11
17	M4	1-034	6	3	2.16
18	M4	1-036	6	1	0.69

Coryphaena equiselis (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
18	JD	2-035	2	4	4.75
19	M4	1-038	6	1	0.79
19	JD	2-037	2	1	1.29
26	M4	2-051	6	3	2.91
27	M4	2-053	6	1	0.91
28	M4	2-055	6	1	1.47
30	M4	2-059	6	1	0.86
32	M4	2-063	11	1	0.89
38	JD	3-074	4	1	1.53
39	JD	3-076	4	2	3.05
51	M4	3-100	3	1	0.57
63	JD	4-135	4	1	1.46
78	M4	4-152	8	3	2.35
81	M4	4-158	3	2	1.43
82	M4	4-160	3	2	1.45
83	M4	4-162	3	3	12.82
87	JD	6-180	4	1	1.34
90	M4	5-176	3	1	1.80
92	M4	5-180	4	2	1.50
95	M4	5-186	4	2	1.58
97	M4	5-190	5	2	1.65

Coryphaena hippurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-013	2	1	1.49
8	JD	1-015	2	2	2.31
18	JD	2-035	2	1	1.19
23	JD	2-045	5	3	4.91
24	JD	2-047	5	1	1.59
30	JD	2-059	4	1	1.50
34	JD	2-067	4	1	1.63
35	JD	2-069	1	3	4.08
40	JD	3-080	5	1	1.76
46	JD	3-100	3	8	11.90
48	M4	2-094	3	1	0.92
49	M4	2-096	3	1	0.93
50	JD	4-107	3	1	1.28
50	M4	3-098	3	4	2.75
51	M4	3-100	3	4	2.30
51	JD	4-109	3	4	5.73
52	JD	4-111	3	10	14.10
53	JD	4-113	3	1	1.51
54	JD	4-115	3	25	34.58
64	JD	4-137	1	1	1.28
65	JD	4-139	3	2	2.87
67	JD		3	1	1.38
68	JD	5-143	3	1	1.46
71	JD	5-149	4	1	1.56

Coryphaena hippurus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
72	JD	5-151	4	1	1.32
74	JD	5-155	4	2	3.18
76	M4	4-148	8	1	0.82
79	JD	5-165	4	1	1.41
79	M4	4-154	8	2	1.56
81	M4	4-158	3	2	1.43
81	JD	5-169	4	2	2.64
82	M4	4-160	3	1	0.72
83	M4	4-162	3	2	8.55
84	M4	4-164	3	7	4.35
85	JD	6-176	1	1	1.23
86	M4	5-168	3	5	4.04
87	M4	5-170	3	7	5.70
89	M4	5-174	3	1	0.50
91	M4	5-178	3	1	0.75
92	M4	5-180	4	1	0.75
94	M4	5-184	4	2	1.52
95	M4	5-186	4	1	0.79
96	M4	5-188	4	3	2.26
97	M4	5-190	5	3	2.48

Bramidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	1	1.68

Brama dussumieri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
28	M4	2-055	6	1	1.47
61	M4	3-120	9	1	0.73
77	JD	5-161	5	1	1.49

Pteraclis aesticola

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	M4	1-004	2	1	0.72
6	M4	1-012	2	1	0.71

Lutjanidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
82	M4	4-160	3	8	5.78

Lutjanus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
47	JD	3-102	3	1	2.07
48	JD	3-104	3	1	1.68

Lobotes surinamensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
51	JD	4-109	3	3	4.30

Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	3	4.30
12	JD	1-023	1	1	1.16
35	JD	2-069	1	2	2.72
49	JD	3-106	3	2	3.31
51	JD	4-109	3	25	35.82
63	JD	4-135	4	1	1.46
66	JD	4-141	3	4	5.81
79	M4	4-154	8	5	3.90
81	M4	4-158	3	1	0.71
83	JD	5-173	1	1	1.31
85	M4	5-166	3	8	5.48
101	M4	5-200	2	1	0.65

Eucinostomus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	6	4.90

Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	2	2.87
47	JD	3-102	3	1	2.07
51	JD	4-109	3	1	1.43
76	M4	4-148	8	1	0.82
81	M4	4-158	3	1	0.71

Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	1	0.82
85	M4	5-166	3	1	0.68

Menticirrhus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	5	4.08

Polydactylus approximans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
14	JD	1-026	1	1	1.41
51	JD	4-109	3	1	1.43
66	JD	4-141	3	1	1.45
76	M4	4-148	8	2	1.63
78	M4	4-152	8	4	3.13
79	M4	4-154	8	7	5.46
81	M4	4-158	3	2	1.43
82	M4	4-160	3	1	0.72
85	M4	5-166	3	5	3.42

Polydactylus opercularis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	6	10.08

Mullidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
79	M4	4-154	8	2	1.56

Kyphosidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
50	M4	3-098	3	1	0.69

Medialuna californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	JD	1-007	2	1	1.18

Sectator ocyurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
51	JD	4-109	3	6	8.60

Cheilodactylus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
71	M4	4-139	8	1	0.70

Mugilidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	4	6.72

Mugil spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-017	2	1	1.60
12	JD	1-023	1	2	2.33
14	JD	1-026	1	1	1.41
49	JD	3-106	3	1	1.66
50	M4	3-098	3	2	1.37
50	JD	4-107	3	1	1.28
66	JD	4-141	3	1	1.45
73	M4	4-143	8	1	0.70
76	M4	4-148	8	45	36.76
83	JD	5-173	1	1	1.31

Mugil cephalus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-015	2	7	8.09
35	JD	2-069	1	5	6.80
78	M4	4-152	8	2	1.56
79	M4	4-154	8	11	8.58
81	M4	4-158	3	1	0.71
102	M4	5-202	2	1	0.68

Mugil curema

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	14	9.59

Pomacentridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	JD	1-023	1	1	1.16
85	M4	5-166	3	1	0.68

Abudefduf spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
84	JD	5-175	1	1	1.37

Abudefduf declivifrons

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
51	JD	4-109	3	1	1.43

Abudefduf troschelii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-017	2	1	1.60

Stegastes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	1	1.68
85	M4	5-166	3	1	0.68

Labridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	JD	1-007	2	2	2.36

Chiasmodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
58	M4	3-114	9	1	0.75

Chiasmodon niger

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
42	JD	3-084	5	1	1.59
91	JD	6-188	2	1	1.45
92	JD	6-190	2	2	2.62

Pseudoscopelus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	M4	1-012	2	2	1.42

Labrisomus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
49	JD	3-106	3	1	1.66

Labrisomus multiporosus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-005	2	3	4.02

Blenniidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
49	JD	3-106	3	1	1.66

Entomacrodus chiostictus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
84	JD	5-175	1	1	1.37

Hypsoblennius spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
49	JD	3-106	3	1	1.66
76	M4	4-148	8	1	0.82

Hypsoblennius brevipinnis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
49	M4	2-096	3	1	0.93

Hypsoblennius gentilis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-005	2	1	1.34

Hypsoblennius jenkinsi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-005	2	3	4.02

Scartichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
72	M4	4-141	8	2	1.21

Eleotridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
65	JD	4-139	3	1	1.43
78	M4	4-152	8	1	0.78
86	M4	5-168	3	1	0.81

Gobiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
47	JD	3-102	3	1	2.07
48	M4	2-094	3	1	0.92
48	JD	3-104	3	5	8.40
49	M4	2-096	3	1	0.93
49	JD	3-106	3	1	1.66
51	JD	4-109	3	3	4.30
76	M4	4-148	8	6	4.90
78	M4	4-152	8	2	1.56

Gobiidae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
79	M4	4-154	8	4	3.12
82	M4	4-160	3	61	44.08
85	M4	5-166	3	1	0.68

Microdesmus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-148	8	1	0.82
85	M4	5-166	3	5	3.42

Acanthuridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
85	M4	5-166	3	1	0.68

Sphyraena ensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
47	JD	3-102	3	5	10.37

Gempylus serpens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
30	JD	2-059	4	2	2.99
59	M4	3-116	9	1	0.74
77	JD	5-161	5	1	1.49
80	M4	4-156	3	1	0.72

Nealotus tripes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
78	M4	4-152	8	2	1.56

Trichiurus lepturus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
82	M4	4-160	3	2	1.45
84	M4	4-164	3	1	0.62

Istiophorus platypterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
63	JD	4-135	4	1	1.46

Acanthocybium solandri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
26	M4	2-051	6	2	1.94

Auxis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-013	2	3	4.48
8	JD	1-015	2	3	3.47
9	JD	1-017	2	3	4.79
10	JD	1-019	1	19	27.14

Auxis spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	18	25.79
12	JD	1-023	1	8	9.31
13	JD	1-024	1	137	216.77
14	JD	1-026	1	2	2.82
15	JD	1-030	1	1	1.38
16	JD	2-031	1	19	19.61
17	JD	2-033	1	30	29.50
18	JD	2-035	2	5	5.94
20	JD	2-039	5	2	2.95
34	JD	2-067	4	2	3.26
35	JD	2-069	1	5	6.80
37	JD	3-072	1	4	6.38
38	JD	3-074	4	6	9.19
39	JD	3-076	4	1	1.52
40	M4	2-079	5	1	0.79
45	JD	3-090	4	1	1.53
46	JD	3-100	3	17	25.30
47	JD	3-102	3	15	31.12
48	M4	2-094	3	3	2.75
48	JD	3-104	3	1	1.68
49	M4	2-096	3	1	0.93
50	JD	4-107	3	11	14.12
51	JD	4-109	3	3	4.30
52	JD	4-111	3	1	1.41
53	JD	4-113	3	2	3.02
54	JD	4-115	3	3	4.15
57	JD	4-121	3	2	2.88
60	JD	4-127	4	1	1.38
61	JD	4-129	4	2	3.20
64	JD	4-137	1	6	7.70
65	JD	4-139	3	14	20.06
67	JD		3	29	40.06
68	JD	5-143	3	1	1.46
70	JD	5-147	4	1	1.19
77	M4	4-150	8	3	2.34
77	JD	5-161	5	1	1.49
78	M4	4-152	8	8	6.25
79	M4	4-154	8	4	3.12
80	JD	5-167	4	4	5.65
81	M4	4-158	3	10	7.13
81	JD	5-169	4	9	11.89
82	JD	5-171	1	103	129.40
83	JD	5-173	1	42	54.97
84	JD	5-175	1	1	1.37
85	JD	6-176	1	28	34.48
86	JD	6-178	1	4	5.49
87	JD	6-180	4	1	1.34
96	M4	5-188	4	9	6.77

Auxis spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
97	M4	5-190	5	2	1.65

Euthynnus lineatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
66	JD	4-141	3	1	1.45
78	M4	4-152	8	1	0.78

Katsuwonus pelamis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
20	M4	1-040	7	1	0.71
87	JD	6-180	4	1	1.34

Sarda chiliensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	JD	1-001	2	2	2.38

Scomber japonicus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-003	2	9	11.14
76	M4	4-148	8	241	196.90

Thunnus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
10	M4	1-020	5	1	0.61
30	JD	2-059	4	1	1.50
53	JD	4-113	3	8	12.07
80	M4	4-156	3	2	1.44

Cubiceps baxteri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
59	M4	3-116	9	1	0.74

Cubiceps pauciradiatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-017	2	2	3.19
12	JD	1-023	1	1	1.16
13	JD	1-024	1	3	4.75
14	JD	1-026	1	1	1.41
17	JD	2-033	1	2	1.97
18	JD	2-035	2	3	3.56
19	JD	2-037	2	1	1.29
20	JD	2-039	5	2	2.95
31	JD	2-061	4	2	2.93
31	M4	2-061	11	1	0.90
35	JD	2-069	1	1	1.36
38	JD	3-074	4	1	1.53
39	JD	3-076	4	6	9.15

Cubiceps pauciradiatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
51	JD	4-109	3	1	1.43
53	JD	4-113	3	11	16.59
73	JD	5-153	4	2	3.34
77	JD	5-161	5	1	1.49
78	JD	5-163	5	3	4.64
79	JD	5-165	4	3	4.24
80	JD	5-167	4	2	2.82
81	JD	5-169	4	1	1.32

Nomeus gronovii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
29	M4	2-057	6	1	1.15
53	M4	3-104	3	1	0.88

Psenes sio

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
5	M4	1-010	2	1	0.66
6	M4	1-012	2	1	0.71
56	JD	4-119	3	2	2.91
67	M4	3-132	8	1	0.72
81	M4	4-158	3	2	1.43

Tetragonurus atlanticus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
61	M4	3-120	9	1	0.73

Citharichthys platophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
78	M4	4-152	8	1	0.78

Cyclopsetta spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
81	M4	4-158	3	2	1.43
82	M4	4-160	3	1	0.72

Cyclopsetta panamensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	7	10.03

Etropus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
47	JD	3-102	3	1	2.07
76	M4	4-148	8	4	3.27
85	M4	5-166	3	2	1.37

Etropus crossotus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
49	JD	3-106	3	1	1.66

Syacium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	JD	3-104	3	14	23.53
79	M4	4-154	8	1	0.78

Bothidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	2	2.87

Bothus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	13	18.62
42	JD	3-084	5	1	1.59
48	M4	2-094	3	3	2.75
65	JD	4-139	3	1	1.43
84	JD	5-175	1	3	4.12

Symphurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD	1-021	1	12	17.19
48	JD	3-104	3	8	13.45
76	M4	4-148	8	3	2.45
81	M4	4-158	3	1	0.71
82	M4	4-160	3	1	0.72
85	M4	5-166	3	6	4.11

Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
55	JD	4-117	3	1	1.27

Canthidermis maculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
33	JD	2-065	4	1	1.47

Mola mola

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
52	JD	4-111	3	1	1.41

Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
78	M4	4-152	8	1	0.78
81	M4	4-158	3	1	0.71
85	M4	5-166	3	3	2.05

Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
46	M4	2-091	3	1	0.97

Table 5. Average numbers of fish larvae (per 100 m³ of water filtered) for each taxon taken in Manta net tows in the regions (Figure 3) occupied on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. Number in parenthesis below region number is number of tows in that region.

	Region										
	1	2	3	4	5	6	7	8	9	10	11
	(17)	(27)	(37)	(34)	(26)	(13)	(6)	(17)	(8)	(6)	(2)
Taxon											
Albula spp.	0.3	-	-	-	-	-	-	-	-	-	-
Anguilliformes	-	-	0.1	-	-	-	-	-	-	-	-
Gymnothorax spp.	-	-	0.1	-	-	-	-	-	-	-	-
Ophichthidae	-	-	0.1	-	-	-	-	-	-	-	-
Ophichthus spp.	-	-	0.0	-	-	-	-	-	-	-	-
Ariosoma gilberti	-	-	0.0	-	-	-	-	-	-	-	-
Harengula thrissina	0.2	-	-	-	-	-	-	-	-	-	-
Opisthonema spp.	0.5	-	3.9	0.1	-	-	-	-	-	-	-
Engraulidae	0.1	-	7.0	-	-	-	-	12.7	-	-	-
Anchoa spp.	-	-	0.0	-	-	-	-	-	-	-	-
Cetengraulis mysticetus	-	-	37.0	-	-	-	-	1.1	-	-	-
Engraulis ringens	-	-	-	-	-	-	-	5.6	-	-	-
Cyclothone spp.	-	0.0	-	0.1	-	0.1	0.3	0.8	0.3	-	-
Diplophos proximus	-	0.1	-	0.2	0.1	0.2	-	-	-	-	-
Vinciguerria lucetia	1.9	1.6	2.5	10.5	13.2	0.7	0.2	3.8	0.9	0.6	-
Stomiinae	-	-	-	-	-	-	-	-	0.1	-	-
Astronesthinae	-	-	-	-	0.1	-	-	-	-	-	-
Melanostomiinae	-	-	-	-	-	-	-	0.0	-	-	-
Synodus evermanni	-	-	0.1	-	-	-	-	0.0	-	-	-
Synodus sechurae	-	-	-	-	-	-	-	0.0	-	-	-
Paralepididae	-	-	-	-	-	-	-	-	0.1	-	-
Lestidium spp.	-	-	-	0.1	0.2	0.1	-	-	-	-	-
Stemonosudis macrura	-	-	-	-	-	0.2	-	-	-	-	-
Evermannella ahlstromi	-	-	-	-	-	0.1	-	-	-	-	-
Myctophidae	-	-	-	0.0	-	-	0.1	-	0.1	-	-
Bolinichthys longipes	-	0.2	-	-	0.3	-	-	-	-	-	-
Ceratoscopelus townsendi	-	0.0	-	-	-	-	-	-	-	-	-
Ceratoscopelus warmingii	-	0.1	-	-	-	0.2	-	0.3	0.4	-	-
Diaphus spp.	-	-	-	0.1	0.1	0.2	-	0.1	0.1	-	-
Lampadena urophaos	-	0.1	-	0.0	0.1	0.1	-	-	-	-	-
Lampanyctus spp.	-	-	-	-	0.1	0.2	-	-	0.1	-	-
Lampanyctus parvicauda	-	-	0.0	0.3	0.2	0.1	-	0.4	-	0.1	-
Triphoturus spp.	-	-	-	-	-	-	-	-	0.1	-	-
Triphoturus nigrescens	-	-	-	-	-	0.1	-	0.0	-	-	-
Benthosema panamense	-	0.1	5.0	0.0	-	-	-	0.7	-	-	-
Diogenichthys laternatus	-	-	0.1	0.0	-	-	-	-	-	-	-
Hygophum atratum	-	0.1	-	-	-	-	-	0.1	0.1	-	-
Hygophum proximum	-	-	0.0	0.2	0.1	0.8	0.1	-	-	-	-
Hygophum reinhardtii	-	-	-	-	-	-	-	-	-	0.1	-
Myctophum aurolaternatum	-	-	0.0	0.0	0.1	-	-	0.0	-	-	-
Myctophum lychnobium	-	-	-	-	-	-	0.1	-	-	-	-
Symbolophorus evermanni	-	-	-	0.0	-	-	-	0.0	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Trachipterus altivelis	-	-	-	-	-	-	-	-	-	-	0.4
Trachipterus fukuzakii	-	-	0.0	0.1	-	-	-	-	-	-	-
Bregmaceros spp.	-	-	-	-	-	-	-	0.1	-	-	-
Bregmaceros bathymaster	-	-	0.3	-	-	-	-	-	-	-	-
Ophidiidae	-	-	-	-	-	-	-	0.0	-	-	-
Oneirodes spp.	-	-	0.1	-	0.1	-	-	-	-	-	-
Gigantactis spp.	-	-	-	-	0.0	-	-	-	-	-	-
Scomberesocidae	-	0.1	-	-	-	-	-	0.0	-	-	-
Cololabis saira	-	0.2	-	-	-	-	-	-	-	-	-
Elassichthys adocetus	-	1.3	-	-	0.0	-	-	14.6	12.9	-	-
Scomberesox saurus	-	-	-	-	-	-	-	9.8	0.9	-	-
Hemiramphus saltator	-	-	0.8	-	-	-	-	-	-	-	-
Cheilopogon spp.	-	-	-	-	-	0.1	-	-	-	-	-
Cheilopogon heterurus	-	0.2	0.1	-	-	-	-	-	-	-	-
Cheilopogon xenopterus	0.5	0.2	0.7	0.0	0.1	0.5	0.1	-	-	-	-
Exocoetus spp.	-	0.1	0.1	0.3	0.1	-	-	0.1	-	-	0.5
Exocoetus monocirrhus	-	-	-	-	-	-	-	-	0.1	-	-
Exocoetus volitans	-	-	-	0.0	-	0.2	-	-	-	-	-
Hirundichthys spp.	-	-	0.3	0.2	0.0	0.2	-	0.6	-	0.1	-
Hirundichthys marginatus	0.1	0.2	0.6	0.1	-	0.1	-	0.0	0.1	-	-
Oxyporhamphus micropterus	7.8	1.9	5.1	1.8	0.5	0.5	-	-	-	-	-
Prognichthys spp.	8.6	0.1	3.9	0.0	0.1	0.1	-	-	-	-	-
Myripristis spp.	-	-	0.1	-	-	-	-	-	-	-	-
Pontinus spp.	-	-	-	-	-	-	-	0.1	-	-	-
Scorpaena spp.	1.2	0.0	0.0	-	-	-	-	0.0	-	-	-
Perciformes	-	-	0.0	-	-	-	-	-	-	-	-
Howella spp.	-	-	-	0.0	-	-	-	-	-	-	-
Howella pammelas	-	-	-	0.0	0.3	-	-	-	-	0.3	-
Serraninae	-	-	0.1	-	-	-	-	0.1	-	-	-
Pronotogrammus multifasciatus	-	-	-	-	-	-	-	-	0.1	-	-
Epinephelinae	-	-	0.0	-	-	-	-	0.0	-	-	-
Pristigenys serrula	-	-	0.0	-	-	-	-	-	-	-	-
Apogon spp.	-	-	0.2	-	-	-	-	-	-	-	-
Carangidae	-	-	0.0	-	-	-	-	-	-	-	-
Caranx spp.	-	-	0.1	-	-	-	-	-	-	-	-
Caranx caballus	0.9	-	1.6	-	-	-	-	0.1	-	-	-
Caranx sexfasciatus	-	-	0.3	-	-	-	-	-	-	-	-
Decapterus spp.	-	-	0.0	-	-	-	-	-	-	-	-
Naucrates ductor	0.1	0.1	0.1	-	-	0.1	-	0.0	-	-	-
Oligoplites spp.	-	-	1.1	-	-	-	-	-	-	-	-
Seriola spp.	0.1	-	0.1	-	-	-	-	0.1	-	-	-
Seriola lalandi	-	0.0	-	-	-	-	-	-	-	-	-
Trachinotus kennedyi	-	-	0.0	-	-	-	-	-	-	-	-
Trachinotus paitensis	-	-	-	-	-	-	-	0.3	-	-	-
Coryphaena spp.	-	-	-	-	0.0	-	-	-	-	-	-
Coryphaena equiselis	-	0.5	0.5	0.3	0.1	1.1	-	0.1	-	-	0.4
Coryphaena hippurus	0.4	0.2	2.9	0.5	0.4	-	-	0.1	-	-	-
Bramidae	-	-	0.0	-	-	-	-	-	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Brama dussumieri	-	-	-	-	0.1	0.1	-	-	0.1	-	-
Pteraclis aesticola	-	0.1	-	-	-	-	-	-	-	-	-
Lutjanidae	-	-	0.2	-	-	-	-	-	-	-	-
Lutjanus spp.	-	-	0.1	-	-	-	-	-	-	-	-
Lobotes surinamensis	-	-	0.1	-	-	-	-	-	-	-	-
Gerreidae	0.6	0.0	1.4	0.0	-	-	-	0.2	-	-	-
Eucinostomus spp.	-	-	-	-	-	-	-	0.3	-	-	-
Haemulidae	0.2	-	0.1	-	-	-	-	0.0	-	-	-
Sciaenidae	-	-	0.0	-	-	-	-	0.0	-	-	-
Menticirrhus spp.	-	-	-	-	-	-	-	0.2	-	-	-
Mullidae	-	-	-	-	-	-	-	0.1	-	-	-
Kyphosidae	-	-	0.0	-	-	-	-	-	-	-	-
Medialuna californiensis	-	0.0	-	-	-	-	-	-	-	-	-
Sectator ocyurus	-	-	0.2	-	-	-	-	-	-	-	-
Cheilodactylus spp.	-	-	-	-	-	-	-	0.0	-	-	-
Mugilidae	-	-	0.2	-	-	-	-	-	-	-	-
Mugil spp.	0.3	0.1	0.2	-	-	-	-	2.2	-	-	-
Mugil cephalus	0.4	0.3	0.0	-	-	-	-	0.6	-	-	-
Mugil curema	-	-	0.3	-	-	-	-	-	-	-	-
Polydactylus approximans	0.1	-	0.2	-	-	-	-	0.6	-	-	-
Polydactylus opercularis	-	-	0.3	-	-	-	-	-	-	-	-
Pomacentridae	0.1	-	0.0	-	-	-	-	-	-	-	-
Abudefduf spp.	0.1	-	-	-	-	-	-	-	-	-	-
Abudefduf declivifrons	-	-	0.0	-	-	-	-	-	-	-	-
Abudefduf troschelii	-	0.1	-	-	-	-	-	-	-	-	-
Stegastes spp.	-	-	0.1	-	-	-	-	-	-	-	-
Labridae	-	0.1	-	-	-	-	-	-	-	-	-
Chiasmodontidae	-	-	-	-	-	-	-	-	0.1	-	-
Chiasmodon niger	-	0.2	-	-	0.1	-	-	-	-	-	-
Pseudoscopelus spp.	-	0.1	-	-	-	-	-	-	-	-	-
Labrisomus spp.	-	-	0.0	-	-	-	-	-	-	-	-
Labrisomus multiporosus	-	0.1	-	-	-	-	-	-	-	-	-
Blenniidae	-	-	0.0	-	-	-	-	-	-	-	-
Entomacrodus chiostictus	0.1	-	-	-	-	-	-	-	-	-	-
Hypsoblennius spp.	-	-	0.0	-	-	-	-	0.0	-	-	-
Hypsoblennius brevipinnis	-	-	0.0	-	-	-	-	-	-	-	-
Hypsoblennius gentilis	-	0.0	-	-	-	-	-	-	-	-	-
Hypsoblennius jenkinsi	-	0.1	-	-	-	-	-	-	-	-	-
Scartichthys spp.	-	-	-	-	-	-	-	0.1	-	-	-
Eleotridae	-	-	0.1	-	-	-	-	0.0	-	-	-
Gobiidae	-	-	1.7	-	-	-	-	0.6	-	-	-
Microdesmus spp.	-	-	0.1	-	-	-	-	0.0	-	-	-
Acanthuridae	-	-	0.0	-	-	-	-	-	-	-	-
Sphyraena ensis	-	-	0.3	-	-	-	-	-	-	-	-
Gempylus serpens	-	-	0.0	0.1	0.1	-	-	-	0.1	-	-
Nealotus tripes	-	-	-	-	-	-	-	0.1	-	-	-
Trichiurus lepturus	-	-	0.1	-	-	-	-	-	-	-	-
Istiophorus platypterus	-	-	-	0.0	-	-	-	-	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Acanthocybium solandri	-	-	-	-	-	0.1	-	-	-	-	-
Auxis spp.	34.1	0.7	4.3	1.4	0.3	-	-	0.7	-	-	-
Euthynnus lineatus	-	-	0.0	-	-	-	-	0.0	-	-	-
Katsuwonus pelamis	-	-	-	0.0	-	-	0.1	-	-	-	-
Sarda chiliensis	-	0.1	-	-	-	-	-	-	-	-	-
Scomber japonicus	-	0.4	-	-	-	-	-	11.6	-	-	-
Thunnus spp.	-	-	0.4	0.0	0.0	-	-	-	-	-	-
Cubiceps baxteri	-	-	-	-	-	-	-	-	0.1	-	-
Cubiceps pauciradiatus	0.6	0.3	0.5	0.7	0.3	-	-	-	-	-	0.5
Nomeus gronovii	-	-	0.0	-	-	0.1	-	-	-	-	-
Psenes sio	-	0.1	0.1	-	-	-	-	0.0	-	-	-
Tetragonurus atlanticus	-	-	-	-	-	-	-	-	0.1	-	-
Citharichthys platophrys	-	-	-	-	-	-	-	0.0	-	-	-
Cyclopsetta spp.	-	-	0.1	-	-	-	-	-	-	-	-
Cyclopsetta panamensis	0.6	-	-	-	-	-	-	-	-	-	-
Etropus spp.	-	-	0.1	-	-	-	-	0.2	-	-	-
Etropus crossotus	-	-	0.0	-	-	-	-	-	-	-	-
Syacium spp.	-	-	0.6	-	-	-	-	0.0	-	-	-
Bothidae	0.2	-	-	-	-	-	-	-	-	-	-
Bothus spp.	1.3	-	0.1	-	0.1	-	-	-	-	-	-
Symphurus spp.	1.0	-	0.5	-	-	-	-	0.1	-	-	-
Balistidae	-	-	0.0	-	-	-	-	-	-	-	-
Canthidermis maculatus	-	-	-	0.0	-	-	-	-	-	-	-
Mola mola	-	-	0.0	-	-	-	-	-	-	-	-
Disintegrated fish larvae	-	-	0.1	-	-	-	-	0.0	-	-	-
Unidentified fish larvae	-	-	0.0	-	-	-	-	-	-	-	-

Table 6. Numbers (raw counts) and size ranges of juvenile fishes taken in Manta tows on *Jordan* cruise 0010 and *McArthur* cruise 0010. Some larger specimens (e.g., myctophids) may be adults.

CLUPEIFORMES
Engraulidae

Engraulis ringens
M4 71 (5) 33-39mm.

STOMIIFORMES
Stomiidae
Astronesthinae

Astronesthes gibbsi
M4 22 (1) 29mm; **M4 89** (1) 40mm.

MYCTOPHIFORMES
Myctophidae
Lampanyctinae

Lampanyctus omostigma
M4 21 (5) 39-55mm; **M4 22** (7) 43-52mm; **M4 23** (3) 44-54mm; **M4 24** (2) 45-45mm; **M4 45** (1) 55mm; **M4 95** (2) 44-51mm; **M4 96** (2) 50-54mm.

Myctophinae

Centrobranchus nigrocellatus
M4 2 (4) 16-17mm; **M4 3** (1) 15mm; **M4 4** (1) 19mm.

Gonichthys tenuiculus
JD 27 (1) 42mm; **JD 41** (1) 39mm; **JD 61** (2) 24-25mm; **JD 71** (1)16mm; **JD 92** (5) 15-21mm.
M4 2 (1) 25mm; **M4 5** (1) 15mm; **M4 6** (1) 16mm; **M4 7** (9) 17-45mm; **M4 8** (5) 16-17mm; **M4 9** (1) 15mm; **M4 10** (6) 16-44mm; **M4 12** (1) 20mm; **M4 21** (2) 22-40mm; **M4 22** (1) 43mm; **M4 23** (2) 36-37mm; **M4 26** (4) 17-18mm; **M4 33** (1) 42mm; **M4 37** (2) 19-26mm; **M4 38** (1) 44mm; **M4 39** (5) 16-43mm; **M4 42** (5) 16-39mm; **M4 43** (8) 14-37mm; **M4 44** (1) 16mm; **M4 45** (22) 15-17mm; **M4 46** (8) 16-44mm; **M4 48** (4) 17-23mm; **M4 49** (9) 16-17mm; **M4 51** (15) 17-43mm; **M4 52** (3) 18-31mm; **M4 53** (3) 17-38mm; **M4 54** (12) 17-27mm; **M4 55** (22) 16-23mm; **M4 56** (4) 24-37mm; **M4 57** (5) 19-27mm; **M4 63** (6) 15-50mm; **M4 64** (1) 42mm; **M4 65** (16) 16-50mm; **M4 66** (35) 18-45mm; **M4 67** (6) 16-34mm; **M4 68** (52) 16-49mm; **M4 77** (1) 34mm; **M4 78** (3) 24-26mm; **M4 80** (2) 19-19mm; **M4 81** (2) 32-35mm; **M4 83** (3) 23-24mm; **M4 84** (4) 19-25mm; **M4 86** (11) 14-22mm; **M4 87** (17) 15-33mm; **M4 88** (14) 14-38mm; **M4 89** (24) 15-44mm; **M4 90** (5) 16-22mm; **M4 91** (5) 15-39mm; **M4 92** (5) 29-39mm; **M4 93** (7) 25-44mm; **M4 94** (6) 17-26mm; **M4 95** (45) 17-39mm; **M4 96** (13) 17-19mm; **M4 100** (2) 19-26mm; **M4 101** (9) 18-20mm; **M4 102** (4)17-24mm; **M4 103** (1) 49mm.

Hygophum atratum
JD 6 (1) 13mm; **JD 7** (3) 12-13mm.
M4 9 (1) 14mm; **M4 99** (3) 16-34mm; **M4 100** (5) 13-40mm; **M4 101** (4) 20-31mm; **M4 102** (6) 18-34mm.

Hygophum proximum
M4 1 (1) 47mm; **M4 8** (1) 48mm; **M4 9** (2) 21-29mm; **M4 10** (2) 13-39mm; **M4 18** (1)16mm; **M4 29** (1) 15mm; **M4 32** (1) 15mm; **M4 37** (1) 24mm; **M4 55** (4) 14-24mm; **M4 56** (3) 24-31mm.

Myctophum asperum
JD 42 (2) 19-19mm.

M4 22 (1) 19mm; **M4 30** (5) 16-17mm; **M4 59** (1) 20mm.

Myctophum aurolaternatum
JD 17 (1) 73mm; **JD 27** (1) 26mm; **JD 28** (1) 27mm; **JD 82** (1) 29mm; **JD 87** (1) 30mm.
M4 11 (1) 27mm; **M4 89** (2) 23-26mm; **M4 90** (1) 79mm; **M4 91** (4) 15-17mm; **M4 92** (2) 49-59mm; **M4 93** (1) 27mm; **M4 94** (1) 27mm; **M4 97** (2) 26-27mm; **M4 98** (1) 27mm; **M4 99** (1) 37mm.

Myctophum lychnobium
M4 20 (3) 20-40mm; **M4 23** (2) 51-53mm; **M4 87** (2) 15-15mm.

Myctophum nitidulum
JD 5 (1) 24mm.
M4 1 (12) 18-74mm; **M4 2** (16) 16-72mm; **M4 3** (4) 17-25mm; **M4 4** (2) 20-23mm; **M4 5** (2) 16-17mm; **M4 6** (1) 18mm; **M4 7** (1) 17mm; **M4 25** (1) 18mm; **M4 29** (2) 20-21mm; **M4 31** (12) 16-20mm; **M4 37** (1) 23mm; **M4 39** (3) 19-41mm; **M4 40** (1) 22mm; **M4 41** (2) 15-15mm; **M4 42** (5) 16-16mm; **M4 43** (2) 15-16mm; **M4 51** (1) 17mm; **M4 52** (1) 18mm; **M4 55** (3) 18-20mm; **M4 56** (7) 19-22mm; **M4 57** (3) 20-20mm; **M4 66** (3) 18-20mm; **M4 68** (2) 18-22mm; **M4 69** (1) 38mm; **M4 77** (5) 25-40mm; **M4 86** (4) 15-29mm; **M4 88** (2) 15-16mm; **M4 102** (1) 30mm; **M4 103** (6)18-41mm.

Symbolophorus californiensis
JD 1 (1) 25mm.
M4 1 (5) 29-35mm.

Symbolophorus evermanni
JD 25 (4) 21-23mm; **JD 43** (1) 20mm; **JD 44** (1) 21mm; **JD 72** (1) 52mm; **JD 91** (1) 22mm.
M4 21 (1) 27mm; **M4 22** (1) 60mm; **M4 23** (1) 26mm; **M4 24** (3) 18-22mm; **M4 44** (1) 20mm; **M4 61** (3) 29-30mm; **M4 66** (6) 23-23mm; **M4 67** (1) 24mm; **M4 86** (1) 67mm; **M4 87** (4) 18-40mm; **M4 88** (1) 20mm; **M4 89** (4) 18-38mm; **M4 96** (1) 43mm.

BELONIFORMES

Scombersocidae

Cololabis saira
JD 1 (4) 42-71mm; **JD 2** (1) 23mm; **JD 3** (2) 36-61mm.
M4 2 (1) 38mm.

Elassichthys adocetus
M4 3 (1) 23mm; **M4 5** (1) 40mm; **M4 6** (1) 30mm; **M4 15** (1) 22mm; **M4 61** (1) 34mm; **M4 62** (9) 28-48mm; **M4 64** (2) 23-28mm.

Scomberesox saurus
M4 55 (3)19-23mm; **M4 57** (3) 35-49mm; **M4 65** (3) 22-24mm; **M4 67** (4) 26-40mm; **M4 68** (1) 27mm; **M4 70** (1) 28mm; **M4 73** (1) 37mm.

Belonidae

Strongylura scapularis
JD 51 (1) 39mm.

Tylosurus acus pacificus
JD 51 (1) 37mm.

Hemiramphidae

Hemiramphus saltator
JD 66 (6) 32-49mm.

Exocoetidae

Cheilopogon heterurus
JD 66 (2) 20-29mm.
M4 5 (1) 24mm.

Cheilopogon xenopterus
JD 65 (2) 50-57mm.

Exocoetus monocirrhus
M4 88 (1) 41mm.

Exocoetus obtusirostre
M4 62 (1) 51mm.

Exocoetus volitans
JD 26 (1) 28mm.
M4 12 (1) 35mm; **M4 27** (1) 22mm; **M4 34** (2) 36-37mm.

Hirundichthys marginatus
JD 92 (1) 25mm.
M4 51 (1) 25mm.

Prognichthys spp.
JD 65 (1) 17mm; **JD 66** (4) 14-20mm.

Prognichthys sealei
M4 21 (1) 22mm.

Syngnathidae

Syngnathus spp.
JD 4 (1) 71mm.

PERCIFORMES
Carangidae

Caranx caballus
JD 35 (2) 28-29mm; **JD 48** (1) 37mm.

Trachinotus kennedyi
JD 66 (2) 17-24mm.

Trachurus symmetricus
JD 1 (1) 68mm.

Coryphaenidae

Coryphaena equiselis
M4 13 (1) 18mm; **M4 14** (1) 22mm; **M4 18** (1) 31mm; **M4 21** (1) 22mm; **M4 35** (1) 23mm; **M4 94** (1) 22mm.

Lobotidae

Lobotes surinamensis
JD 66 (1) 28mm.

Cheilodactylidae

Cheilodactylus variegatus
M4 72 (1) 25mm.

Polynemidae

Polydactylus approximans
JD 46 (6) 21-34mm; **JD 83** (7) 19-31mm.
M4 83 (1) 21mm.

Mugilidae

Mugil cephalus
JD 12 (1) 19mm; **JD 34** (1) 19mm.
M4 82 (2) 34-44mm.

Mugil curema
JD 46 (63) 12-20mm.
M4 49 (1) 28mm.

Nomeidae

Nomeus gronovii
M4 30 (1) 24mm; **M4 54** (1) 24mm; **M4 80** (1) 22mm; **M4 82** (1) 11mm.

TETRADONTIFORMES

Balistidae

Balistes polylepis
JD 35 (1) 30mm.

Canthidermis maculatus
JD 63 (1) 33mm; **JD 82** (2) 7-11; **M4 83** (1) 8mm.

Diodontidae

Diodon eydouxii
JD 16 (1) 10mm.
M4 24 (1) 9mm.

Diodon holocanthus
M4 27 (2) 5-8mm.

Table 7. Station and Bongo net tow data for *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth (m)	Vol.(m³) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
9	1-017	21	49.6	N	110	08.1	2	JD	000807	2131	212	424.5	5.00	111	51	78	522
12	1-023	23	25.4	N	107	11.5	1	JD	000810	2213	208	359.6	5.77	33	100	21	14
13	1-024	22	18.3	N	107	27.4	1	JD	000811	2219	210	421.3	4.98	121	49	65	50
14	1-026	20	43.5	N	105	58.8	1	JD	000812	2208	213	399.1	5.34	40	100	118	9
16	2-031	18	14.9	N	105	14.9	1	JD	000819	2228	211	409.4	5.15	95	49	80	9
17	2-033	16	57.2	N	107	50.9	1	JD	000820	2220	207	380.1	5.44	121	54	30	10
18	2-035	16	12.1	N	110	26.8	2	JD	000821	2241	207	408.0	5.06	86	48	82	21
19	2-037	15	36.5	N	112	52.4	2	JD	000822	2253	210	384.6	5.45	60	100	275	22
20	2-039	14	37.6	N	115	55.3	5	JD	000823	2228	215	401.2	5.36	40	100	203	8
21	2-041	13	39.5	N	119	17.6	5	JD	000824	2244	212	410.6	5.17	61	100	122	127
22	2-043	12	53.6	N	117	39.0	5	JD	000825	2223	207	411.8	5.02	61	100	108	140
23	2-045	12	14.7	N	114	54.4	5	JD	000826	2222	209	396.6	5.28	91	53	76	25
24	2-047	10	40.1	N	116	41.1	5	JD	000827	2236	216	390.3	5.52	79	52	67	21
25	2-049	9	05.0	N	119	01.4	5	JD	000828	2220	211	420.2	5.02	95	52	29	43
26	2-051	6	52.3	N	118	49.4	5	JD	000829	2225	210	406.2	5.18	62	100	75	55
27	2-053	8	13.7	N	115	48.0	5	JD	000830	2235	206	430.1	4.78	81	48	24	9
28	2-055	9	14.0	N	112	45.4	5	JD	000831	2203	175	486.6	3.60	99	52	179	41
36	3-070	17	05.5	N	101	11.0	1	JD	000912	2309	208	396.1	5.25	141	54	47	53
37	3-072	15	59.4	N	103	37.8	1	JD	000913	2250	209	417.4	5.01	86	53	67	65
38	3-074	14	28.0	N	105	36.4	4	JD	000914	2207	206	424.4	4.86	64	48	88	55
39	3-076	12	40.9	N	108	09.0	4	JD	000915	2205	211	402.6	5.24	77	52	136	653
40	3-080	8	56.6	N	111	36.6	5	JD	000917	2220	210	442.2	4.75	50	100	151	179
41	3-082	6	31.5	N	113	31.7	5	JD	000918	2219	213	404.4	5.26	74	47	62	10
42	3-084	5	16.5	N	110	54.7	5	JD	000919	2203	209	435.8	4.79	126	53	230	88
43	3-086	5	32.0	N	108	29.3	4	JD	000920	2204	211	440.8	4.80	95	50	193	127
50	4-107	9	11.8	N	84	23.8	3	JD	001005	2021	207	392.1	5.29	163	52	131	7
51	4-109	7	44.7	N	82	03.5	3	JD	001006	2057	126	246.5	5.12	211	48	519	32
52	4-111	6	08.6	N	82	06.7	3	JD	001007	2103	212	390.3	5.44	131	53	99	43
53	4-113	6	37.0	N	84	48.3	3	JD	001008	2118	210	399.9	5.25	133	49	272	53
54	4-115	9	06.1	N	86	42.9	3	JD	001009	2134	208	410.2	5.07	117	52	294	17
55	4-117	11	36.4	N	88	49.6	3	JD	001010	2221	209	401.0	5.20	232	48	17	48
56	4-119	9	29.5	N	90	22.1	3	JD	001011	2124	214	395.4	5.40	240	48	306	46
57	4-121	10	10.7	N	91	13.4	3	JD	001012	2128	209	397.4	5.26	184	52	33	49

Tow Number	CTD Station	Lat. deg. min.	Long.(W) deg. min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth (m)	Vol.(m^3) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
58	4-123	10 28.7 N	92 27.5	3	JD	001013	1808	213	406.5	5.25	172	51	8	11
59	4-125	8 44.1 N	94 22.8	3	JD	001014	2126	212	398.7	5.32	173	54	140	1
60	4-127	8 39.1 N	97 13.6	4	JD	001015	2139	212	417.6	5.08	170	52	9	22
61	4-129	8 48.2 N	100 26.8	4	JD	001016	2156	214	404.4	5.29	282	50	18	6
63	4-135	14 44.2 N	97 36.3	4	JD	001019	2141	212	394.6	5.36	96	53	83	76
64	4-137	15 31.0 N	96 32.6	1	JD	001020	2126	210	430.3	4.89	244	48	115	32
65	4-139	15 03.3 N	93 40.0	3	JD	001021	2126	190	368.6	5.15	198	52	42	0
66	4-141	13 37.1 N	91 46.0	3	JD	001022	2110	213	412.5	5.16	109	51	104	2
67		13 40.5 N	91 10.7	3	JD	001029	2024	27	73.0	3.75	644	47	58	7
68	5-143	11 29.3 N	93 33.1	3	JD	001030	2055	210	397.5	5.29	206	50	11	163
69	5-145	9 46.5 N	95 42.6	4	JD	001031	2058	206	415.2	4.97	511	51	4	19
70	5-147	7 56.6 N	97 33.8	4	JD	001101	2110	210	428.0	4.91	189	49	23	81
71	5-149	6 29.2 N	99 42.5	4	JD	001102	2100	211	433.1	4.88	85	49	235	13
72	5-151	6 20.9 N	102 25.2	4	JD	001103	2054	213	431.1	4.93	121	54	178	20
73	5-153	6 24.0 N	105 20.7	4	JD	001104	2120	212	447.8	4.74	83	49	92	513
74	5-155	6 15.8 N	108 22.5	4	JD	001105	2124	211	445.5	4.73	74	48	71	45
75	5-157	6 14.3 N	111 21.3	5	JD	001106	2145	209	450.1	4.64	62	50	202	26
76	5-159	6 13.2 N	114 30.6	5	JD	001107	2143	210	473.3	4.43	53	100	53	1
77	5-161	8 15.4 N	112 42.9	5	JD	001108	2142	207	459.9	4.49	63	48	63	32
78	5-163	9 31.4 N	110 27.4	5	JD	001109	2125	209	444.7	4.71	74	48	66	73
79	5-165	10 19.3 N	109 12.7	4	JD	001110	2128	212	443.9	4.78	88	51	58	178
80	5-167	12 22.2 N	106 30.4	4	JD	001111	2110	210	437.4	4.80	48	100	111	24
81	5-169	14 08.7 N	104 11.9	4	JD	001112	2056	210	447.0	4.69	110	53	35	79
82	5-171	15 48.6 N	101 54.9	1	JD	001113	2040	210	429.5	4.89	123	49	79	11
83	5-173	17 22.1 N	101 43.4	1	JD	001114	2040	210	410.6	5.12	112	52	40	8
84	5-175	18 10.2 N	103 47.7	1	JD	001115	2053	212	424.2	5.00	137	48	36	8
85	6-176	18 04.9 N	104 35.6	1	JD	001120	2057	209	420.3	4.97	69	48	65	43
86	6-178	16 03.0 N	106 36.8	1	JD	001121	2059	207	432.9	4.78	113	51	48	19
87	6-180	14 45.9 N	104 34.2	4	JD	001122	2024	215	459.3	4.68	50	100	72	5
88	6-182	13 41.0 N	111 29.2	5	JD	001123	2031	215	447.1	4.80	29	100	55	91
89	6-184	13 25.5 N	112 39.3	5	JD	001124	2032	204	481.5	4.24	31	100	48	107
90	6-186	14 13.8 N	115 17.4	5	JD	001125	2043	213	449.8	4.74	44	100	72	34
91	6-188	15 39.0 N	118 20.2	2	JD	001126	2101	214	448.7	4.76	47	100	185	17
92	6-190	16 42.7 N	118 40.7	2	JD	001127	2100	210	448.4	4.69	47	100	214	10
2	1-004	26 10.7 N	120 33.0	2	M4	000730	2307	211	454.8	4.64	35	100	111	21

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth (m)	Vol.(m^3) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
3	1-006	23	58.7	N	123	04.7	2	M4	000731	2250	212	476.4	4.45	38	100	86	19
4	1-008	21	45.9	N	125	42.9	2	M4	000801	2205	211	523.4	4.03	25	100	18	14
5	1-010	20	00.4	N	123	39.2	2	M4	000802	2247	213	461.4	4.61	24	100	43	83
7	1-014	21	46.1	N	119	14.3	2	M4	000804	2150	215	427.9	5.03	35	100	12	32
8	1-016	19	50.8	N	119	09.3	2	M4	000805	2155	212	559.9	3.78	34	100	59	9
9	1-018	16	56.5	N	120	15.2	2	M4	000806	2150	213	481.6	4.43	42	100	112	0
10	1-020	14	27.0	N	121	47.0	5	M4	000807	2150	212	515.2	4.11	35	100	105	954
11	1-022	11	26.4	N	123	25.4	5	M4	000808	2145	210	523.4	4.01	32	100	265	340
12	1-024	9	08.4	N	125	07.5	6	M4	000809	2050	209	492.5	4.23	69	47	37	3
13	1-026	10	42.6	N	127	35.5	6	M4	000810	2109	202	462.9	4.36	58	48	19	37
14	1-028	12	03.4	N	129	53.4	6	M4	000811	2110	211	477.9	4.42	44	100	176	11
15	1-030	13	25.1	N	132	09.5	6	M4	000812	2120	214	475.4	4.51	44	100	76	0
16	1-032	10	44.7	N	132	43.0	6	M4	000813	2125	210	462.9	4.53	50	100	52	41
17	1-034	7	51.1	N	133	51.2	6	M4	000814	2140	216	484.4	4.45	64	48	26	0
18	1-036	6	39.6	N	135	47.6	6	M4	000815	2130	213	500.2	4.26	74	51	93	8
19	1-038	5	04.6	N	138	15.8	6	M4	000816	2130	211	449.9	4.69	89	50	120	13
20	1-040	5	04.9	N	140	42.2	7	M4	000817	2135	206	463.6	4.45	95	52	83	14
21	1-042	8	14.9	N	141	44.7	7	M4	000818	2045	186	626.0	2.97	85	53	8	6
22	1-044	8	42.5	N	145	03.3	7	M4	000819	2107	214	567.4	3.76	100	49	23	7
23	1-046	8	50.5	N	148	08.6	7	M4	000820	2105	219	500.9	4.38	94	100	11	0
24	1-048	11	12.2	N	148	59.5	7	M4	000821	2140	212	472.2	4.50	70	52	7	2
25	2-049	12	48.9	N	141	59.1	7	M4	000903	2105	211	216.7	9.74	78	100	48	60
26	2-051	10	29.8	N	139	10.5	6	M4	000904	2105	208	480.5	4.34	52	100	65	252
27	2-053	8	01.4	N	136	20.9	6	M4	000905	2108	201	503.9	3.98	81	51	19	1
28	2-055	5	54.0	N	133	37.6	6	M4	000906	2013	211	371.6	5.68	62	100	32	14
29	2-057	3	44.7	N	131	02.7	6	M4	000907	2158	211	424.8	4.97	122	54	462	50
30	2-059	2	01.5	N	128	58.1	6	M4	000908	2105	204	380.7	5.36	144	53	63	106
31	2-061	0	00.1	S	126	32.4	11	M4	000909	2059	196	552.6	3.54	116	53	69	0
32	2-063	3	12.8	S	126	13.4	11	M4	000910	2055	212	457.9	4.62	76	48	48	18
33	2-065	4	44.2	S	124	33.4	10	M4	000911	2105	205	501.0	4.10	118	51	59	11
34	2-067	4	31.6	S	121	14.2	10	M4	000912	2101	210	473.5	4.44	87	49	34	61
35	2-069	4	21.3	S	118	26.4	10	M4	000913	2118	219	440.0	4.98	57	100	63	17
36	2-071	4	15.1	S	115	52.4	10	M4	000914	2103	206	536.4	3.84	73	54	27	34
37	2-073	4	03.2	S	112	37.9	10	M4	000915	2122	217	490.3	4.43	67	48	39	3625
38	2-075	1	38.5	S	111	30.0	10	M4	000916	2137	169	744.3	2.27	157	51	190	29

Tow Number	CTD Station	Lat. deg.	min.		Long.(W) deg.	min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth (m)	Vol.(m^3) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
39	2-077	1	12.3	N	110	49.4	5	M4	000917	2037	208	543.1	3.82	90	53	24	12
40	2-079	4	06.8	N	110	03.2	5	M4	000918	2030	213	517.1	4.11	149	49	56	11
41	2-081	3	12.2	N	107	15.8	4	M4	000919	2025	212	493.6	4.29	126	48	110	7
42	2-083	3	50.7	N	104	48.0	4	M4	000920	2006	214	501.5	4.26	94	53	158	67
43	2-085	3	44.8	N	101	30.3	4	M4	000921	2051	212	496.4	4.26	109	52	157	85
44	2-087	4	43.7	N	98	04.0	4	M4	000922	2035	211	517.3	4.09	77	52	166	82
45	2-089	5	40.9	N	95	09.2	4	M4	000923	2027	209	529.1	3.94	127	48	217	48
46	2-091	7	05.2	N	92	29.2	3	M4	000924	2015	212	546.4	3.89	179	51	44	55
47	2-092	6	57.4	N	91	19.4	3	M4	000925	2128	122	820.2	1.49	215	51	301	429
48	2-094	8	02.2	N	88	46.5	3	M4	000926	2109	215	559.4	3.85	147	52	253	73
49	2-096	8	44.9	N	87	37.8	3	M4	000927	2050	202	516.9	3.91	132	50	259	61
50	3-098	8	32.1	N	84	25.4	3	M4	001005	2016	207	526.4	3.93	133	50	607	24
51	3-100	6	55.8	N	86	24.9	3	M4	001006	2010	211	507.3	4.15	138	48	67	592
52	3-102	5	41.3	N	89	22.0	3	M4	001007	2241	213	495.6	4.30	119	49	110	43
53	3-104	4	02.4	N	92	07.1	3	M4	001008	2218	212	455.5	4.65	70	50	171	19
54	3-106	1	23.1	N	94	29.2	3	M4	001009	2219	216	403.0	5.37	186	52	90	369
55	3-108	0	10.5	S	95	48.9	9	M4	001010	2215	217	447.0	4.85	132	49	18	30
56	3-110	2	19.8	S	97	46.0	9	M4	001011	2238	206	538.8	3.82	163	52	155	495
57	3-112	4	53.3	S	100	04.6	9	M4	001012	2134	209	492.7	4.23	173	48	51	519
58	3-114	7	21.5	S	102	18.7	9	M4	001013	2056	206	543.4	3.79	61	52	61	26
59	3-116	9	47.6	S	104	30.4	9	M4	001014	2110	207	582.1	3.56	43	48	79	7
60	3-118	10	01.0	S	102	40.2	9	M4	001015	2110	212	567.7	3.73	51	48	63	10
61	3-120	9	46.2	S	99	37.2	9	M4	001016	2100	211	531.9	3.97	88	49	41	5
62	3-122	9	35.0	S	96	18.7	9	M4	001017	2119	210	544.8	3.86	105	51	70	12
63	3-124	9	23.3	S	93	36.1	8	M4	001018	2122	216	574.7	3.75	75	49	107	10
64	3-126	9	18.3	S	90	57.6	8	M4	001019	2113	205	546.5	3.75	88	50	95	364
65	3-128	10	31.5	S	88	48.0	8	M4	001020	2110	215	473.0	4.55	82	46	132	87
66	3-130	12	03.9	S	86	18.5	8	M4	001021	2050	212	491.0	4.31	90	50	236	641
67	3-132	12	24.1	S	83	40.7	8	M4	001022	2035	213	489.5	4.36	65	47	154	176
68	3-134	12	29.2	S	81	03.3	8	M4	001023	2036	207	504.3	4.11	87	52	213	92
69	3-136	12	41.5	S	78	20.2	8	M4	001024	2015	212	521.9	4.05	100	46	25	23
70	4-137	11	10.2	S	78	00.8	8	M4	001029	1956	207	500.9	4.14	90	49	18	0
71	4-139	8	43.3	S	79	02.4	8	M4	001030	2026	58	151.8	3.81	198	50	18	0
72	4-141	8	26.8	S	80	14.7	8	M4	001031	2021	209	496.2	4.20	1141	49	2	0
73	4-143	8	08.4	S	82	53.5	8	M4	001101	2032	219	475.7	4.60	103	49	17	16

Tow Number	CTD Station	Lat. deg.	Lat. min.		Long.(W) deg.	Long.(W) min.	Region	Ship Code	Tow Date yymmdd	Time (Loc.)	Tow Depth (m)	Vol.(m^3) Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
74	4-145	6	59.8	S	81	05.3	8	M4	001102	2036	212	521.3	4.07	721	50	2	97
75	4-146	6	21.6	S	81	23.1	8	M4	001103	2025	218	469.9	4.63	302	48	23	7
76	4-148	3	38.5	S	80	54.8	8	M4	001104	2019	86	210.6	4.09	114	100	249	132
77	4-150	1	58.2	S	82	52.1	8	M4	001105	2022	213	472.2	4.51	121	53	411	2148
78	4-152	0	24.9	S	82	52.0	8	M4	001106	2020	214	484.4	4.42	89	46	386	96
79	4-154	0	01.2	S	80	37.6	8	M4	001107	2019	191	459.6	4.16	41	100	706	70
80	4-156	2	24.8	N	81	28.8	3	M4	001108	2020	200	563.6	3.55	92	50	273	165
81	4-158	1	59.6	N	79	07.2	3	M4	001109	2001	209	510.8	4.09	59	47	99	19
82	4-160	3	12.3	N	77	55.6	3	M4	001110	2004	175	429.6	4.08	47	100	335	34
83	4-162	4	50.5	N	77	41.2	3	M4	001111	1948	205	546.8	3.75	80	50	133	55
84	4-164	6	33.2	N	77	56.1	3	M4	001112	2104	213	517.3	4.11	41	100	212	63
85	5-166	7	44.4	N	79	35.9	3	M4	001118	2008	111	417.1	2.66	65	100	832	256
86	5-168	5	04.3	N	79	10.0	3	M4	001119	2036	199	603.3	3.30	119	47	182	95
88	5-172	5	23.8	N	85	26.9	3	M4	001121	2034	212	534.0	3.98	94	54	226	60
89	5-174	5	32.0	N	87	21.4	3	M4	001122	2036	216	379.5	5.68	124	47	168	1123
90	5-176	5	41.5	N	90	38.1	3	M4	001123	2105	214	633.1	3.38	71	56	379	65
91	5-178	5	50.5	N	93	39.0	3	M4	001124	2007	213	533.6	3.99	56	100	1386	61
92	5-180	6	48.9	N	96	25.4	4	M4	001125	2022	213	557.2	3.82	101	50	282	42
93	5-182	7	29.5	N	99	18.6	4	M4	001126	2026	211	540.1	3.90	150	53	17	25
94	5-184	8	18.0	N	102	05.7	4	M4	001127	2039	212	586.4	3.61	152	49	32	21
95	5-186	8	56.4	N	105	10.1	4	M4	001128	2038	212	512.0	4.13	137	51	14	12
96	5-188	9	24.4	N	108	20.7	4	M4	001129	2015	173	680.2	2.55	88	50	80	49
97	5-190	10	29.0	N	110	52.6	5	M4	001130	2008	212	541.5	3.92	42	100	119	82
98	5-192	12	23.0	N	122	44.3	5	M4	001201	2011	211	582.3	3.62	22	100	77	42
99	5-194	15	05.4	N	113	28.6	2	M4	001202	2017	214	563.2	3.81	25	100	67	600
100	5-198	21	01.4	N	114	11.3	2	M4	001204	2014	214	510.6	4.19	63	100	102	16
101	5-200	23	34.6	N	113	29.1	2	M4	001205	2009	211	523.3	4.03	42	100	80	37
102	5-202	26	07.8	N	115	22.9	2	M4	001206	2014	211	517.1	4.09	52	100	69	8
103	5-204	28	54.4	N	116	32.4	2	M4	001207	2039	206	592.9	3.47	25	100	82	8

Table 8. Pooled occurrences of fish larvae taken in Bongo net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Rank	Taxon	Occurrences
1	*Vinciguerria lucetia*	156
2	*Diogenichthys laternatus*	142
3	*Lampanyctus* spp.	76
4	*Diaphus pacificus*	75
5	*Sternoptyx* spp.	72
5	*Lampanyctus parvicauda*	72
7	*Bathylagus nigrigenys*	71
8	*Bregmaceros* spp.	54
9	*Cubiceps pauciradiatus*	51
10	*Myctophum aurolaternatum*	49
11	*Idiacanthus* spp.	42
11	*Auxis* spp.	42
13	*Melamphaes* spp.	41
13	*Scopelarchoides nicholsi*	41
15	*Symbolophorus evermanni*	40
16	*Lestidiops neles*	39
17	*Diaphus* spp.	35
18	*Hygophum proximum*	32
18	*Cyclothone* spp.	32
20	*Argyropelecus sladeni*	31
20	*Myctophum nitidulum*	31
22	*Hygophum atratum*	29
22	*Bathophilus filifer*	29
24	Unidentified fish larvae	28
25	*Lestidium* spp.	27
25	*Scopelogadus bispinosus*	27
25	*Gonichthys tenuiculus*	27
28	*Chiasmodon niger*	25
29	*Ceratoscopelus warmingii*	24
30	Myctophidae	22
30	*Cyclothone acclinidens*	22
32	*Bregmaceros bathymaster*	21
32	*Notolychnus valdiviae*	21
34	Disintegrated fish larvae	20
34	Gobiidae	20
36	*Howella pammelas*	18
37	*Lestidiops* spp.	17
37	*Diplophos proximus*	17
37	*Notoscopelus resplendens*	17
40	*Cyclothone signata*	16
40	*Gempylus serpens*	16
40	*Chauliodus* spp.	16
43	*Benthosema panamense*	15
43	*Leuroglossus urotranus*	15
43	*Oxyporhamphus micropterus*	15
43	*Triphoturus nigrescens*	15
47	*Coryphaena hippurus*	14
47	*Symphurus* spp.	14
47	*Pontinus* spp.	14

Table 8. (cont.)

Rank	Taxon	Occurrences
50	Eleotridae	13
50	*Stemonosudis macrura*	13
50	*Evermannella ahlstromi*	13
50	*Myctophum* spp.	13
50	*Psenes sio*	13
55	*Bolinichthys longipes*	12
56	*Nannobrachium idostigma*	11
57	*Argyropelecus* spp.	10
58	*Triphoturus* spp.	9
58	*Rosenblattichthys volucris*	9
60	*Oneirodes* spp.	8
60	*Dormitator latifrons*	8
62	*Symphurus elongatus*	7
62	*Citharichthys platophrys*	7
62	*Zu cristatus*	7
62	*Synodus evermanni*	7
62	*Cubiceps baxteri*	7
62	*Brama dussumieri*	7
62	*Nealotus tripes*	7
62	*Syacium* spp.	7
62	Haemulidae	7
71	*Syacium ovale*	6
71	*Nannobrachium hawaiiensis*	6
71	*Scorpaenodes xyris*	6
71	*Maurolicus* spp.	6
71	*Lampadena* spp.	6
71	*Caranx* spp.	6
71	*Trichiurus lepturus*	6
71	*Loweina rara*	6
71	*Serranus* spp.	6
71	*Engraulis ringens*	6
71	Sciaenidae	6
71	*Stomias* spp.	6
71	Pomacentridae	6
71	*Myrophis vafer*	6
85	*Lobianchia gemellarii*	5
85	*Nannobrachium bristori*	5
85	*Nansenia crassa*	5
85	*Anchoa* spp.	5
85	*Psenes arafurensis*	5
85	*Bothus* spp.	5
85	*Mugil* spp.	5
85	*Myctophum asperum*	5
85	*Xyrichtys* spp.	5
85	*Cherublemma emmelas*	5
85	*Rhynchoconger nitens*	5
85	*Gigantactis* spp.	5
85	*Synodus sechurae*	5
85	Anguilliformes	5
99	*Diogenichthys atlanticus*	4
99	*Parvilux boschmai*	4
99	*Poromitra* spp.	4

Table 8. (cont.)

Rank	Taxon	Occurrences
99	*Serrivomer sector*	4
99	*Etropus* spp.	4
99	*Cetengraulis mysticetus*	4
99	Macrouridae	4
99	*Argentina* spp.	4
99	*Scopelosaurus* spp.	4
99	*Halichoeres* spp.	4
99	*Stomias atriventer*	4
99	*Astronesthes* spp.	4
99	*Eustomias* spp.	4
99	*Scopelarchus guentheri*	4
99	*Scopelengys tristis*	4
99	*Thunnus* spp.	4
99	*Katsuwonus pelamis*	4
99	*Ceratoscopelus townsendi*	4
117	*Kali* spp.	3
117	*Chloropthalmus* spp.	3
117	*Protomyctophum* spp.	3
117	Stomiinae	3
117	*Ophichthus zophochir*	3
117	Melanostomiinae	3
117	*Neoconger vermiformis*	3
117	Gerreidae	3
117	Chiasmodontidae	3
117	*Protomyctophum crockeri*	3
117	*Scopelarchus analis*	3
117	*Caristius maderensis*	3
117	*Caranx caballus*	3
117	*Diplospinus multistriatus*	3
117	*Synchiropus atrilabiatus*	3
117	*Psenes pellucidus*	3
117	Engraulidae	3
117	*Caranx sexfasciatus*	3
117	*Synodus* spp.	3
117	*Ceratias holboelli*	3
137	*Ophidion* spp.	2
137	*Lampadena luminosa*	2
137	*Triphoturus mexicanus*	2
137	*Nemichthys scolopaceus*	2
137	*Ariosoma gilberti*	2
137	*Yarella blackfordi*	2
137	*Argyropelecus lychnus*	2
137	Congridae	2
137	*Lampadena urophaos*	2
137	Bathylagidae	2
137	*Magnisudis atlantica*	2
137	*Maurolicus muelleri*	2
137	*Opisthonema* spp.	2
137	*Coryphaena equiselis*	2
137	*Poromitra crassiceps*	2
137	*Prognichthys* spp.	2
137	*Scomber japonicus*	2

Table 8. (cont.)

Rank	Taxon	Occurrences
137	*Kali normani*	2
137	*Diplectrum* spp.	2
137	*Prionotus stephanophrys*	2
137	*Selar crumenophthalmus*	2
137	*Thalassoma* spp.	2
137	*Poromitra megalops*	2
137	*Engyophrys sanctilaurentii*	2
137	*Dolopichthys* spp.	2
137	*Physiculus rastrelliger*	2
137	*Brama* spp.	2
137	*Lepophidium negropinna*	2
137	Balistidae	2
137	*Chromis atrilobata*	2
137	*Lophiodes spilurus*	2
137	Ephippidae	2
137	*Etropus crossotus*	2
170	*Sphyraena argentea*	1
170	*Argyropelecus hemigymnus*	1
170	Microdesmidae	1
170	*Diplophos* spp.	1
170	Sternoptychidae	1
170	*Diplophos taenia*	1
170	*Gonostoma ebelingi*	1
170	*Microdesmus* spp.	1
170	*Ophioblennius steindachneri*	1
170	*Malacoctenus hubbsi*	1
170	Blennioidei	1
170	*Valenciennellus tripunctulatus*	1
170	*Woodsia nonsuchae*	1
170	Labridae	1
170	*Abudefduf* spp.	1
170	*Polydactylus approximans*	1
170	*Kyphosus* spp.	1
170	Astronesthinae	1
170	*Xyrichtys mundiceps*	1
170	*Tetragonurus atlanticus*	1
170	*Chlopsis* spp.	1
170	Muraenidae	1
170	*Gymnothorax mordax*	1
170	Ophichthidae	1
170	Tetraodontidae	1
170	*Canthidermis maculatus*	1
170	Cynoglossidae	1
170	*Monolene* spp.	1
170	*Paraconger californiensis*	1
170	*Cyclopsetta* spp.	1
170	Clupeidae	1
170	*Bathylagus wesethi*	1
170	Paralichthyidae	1
170	*Lepidocybium flavobrunneum*	1
170	*Psenes cyanophrys*	1
170	*Nomeus gronovii*	1

Table 8. (cont.)

Rank	Taxon	Occurrences
170	Argentinidae	1
170	*Amarsipus carlsbergi*	1
170	*Nansenia* spp.	1
170	*Euthynnus lineatus*	1
170	*Benthalbella dentata*	1
170	*Acanthocybium solandri*	1
170	*Larimus* spp.	1
170	*Ruvettus pretiosus*	1
170	Stomiiformes	1
170	*Citharichthys gordae*	1
170	*Centrobranchus nigroocellatus*	1
170	*Aulopus* spp.	1
170	*Eutaeniophorus festivus*	1
170	*Lampanyctus steinbecki*	1
170	*Lampanyctus tenuiformes*	1
170	*Scopeloberyx robustus*	1
170	Melamphaidae	1
170	*Hirundichthys* spp.	1
170	*Exocoetus* spp.	1
170	*Cheilopogon xenopterus*	1
170	*Hyporhamphus* spp.	1
170	*Cryptopsaras couesii*	1
170	*Prionotus ruscarius*	1
170	*Benthosema suborbitale*	1
170	*Howella* spp.	1
170	*Melanocetus* spp.	1
170	Ogcocephalidae	1
170	*Hygophum* spp.	1
170	Bythitidae	1
170	*Hygophum reinhardtii*	1
170	*Brotula clarkae*	1
170	*Merluccius* spp.	1
170	Moridae	1
170	*Nezumia* spp.	1
170	*Myctophum obtusirostrum*	1
170	*Myctophum selenops*	1
170	Oneirodidae	1
170	Carangidae	1
170	*Xenistius californiensis*	1
170	*Eucinostomus* spp.	1
170	*Lutjanus peru*	1
170	*Lepophidium* spp.	1
170	*Lutjanus* spp.	1
170	*Trachipterus fukuzakii*	1
170	Lutjanidae	1
170	*Selene peruviana*	1
170	*Oligoplites* spp.	1
170	*Naucrates ductor*	1
170	*Decapterus* spp.	1
170	*Lampanyctus nobilis*	1
170	*Chloroscombrus orqueta*	1
170	Sparidae	1

Table 8. (cont.)

Rank	Taxon	Occurrences
170	*Apogon retrosella*	1
170	*Apogon atricaudus*	1
170	*Apogon* spp.	1
170	*Paranthias colonus*	1
170	Epinephelinae	1
170	*Pronotogrammus multifasciatus*	1
170	*Pronotogrammus* spp.	1
170	*Hemanthias* spp.	1
170	Anthiinae	1
170	Serraninae	1
170	*Diaphus theta*	1
170	Paralepididae	1
	Total	2432

Table 9. Pooled standardized numbers of fish larvae taken in Bongo net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4.

Rank	Taxon	Count
1	*Diogenichthys laternatus*	47576
2	*Vinciguerria lucetia*	37385
3	*Bregmaceros bathymaster*	7969
4	*Benthosema panamense*	7416
5	*Diaphus pacificus*	4727
6	*Leuroglossus urotranus*	3073
7	*Sternoptyx* spp.	2519
8	*Cetengraulis mysticetus*	2142
9	*Lampanyctus* spp.	2066
10	*Bathylagus nigrigenys*	1781
11	*Engraulis ringens*	1669
12	*Auxis* spp.	1327
13	*Lampanyctus parvicauda*	1285
14	Gobiidae	1265
15	*Cubiceps pauciradiatus*	1048
16	*Symbolophorus evermanni*	908
17	*Anchoa* spp.	902
18	*Lestidiops neles*	785
19	*Myctophum aurolaternatum*	782
20	*Hygophum proximum*	781
21	*Bregmaceros* spp.	780
22	*Ceratoscopelus warmingii*	769
23	*Hygophum atratum*	746
24	*Argyropelecus sladeni*	714
25	*Idiacanthus* spp.	642
26	*Lestidiops* spp.	618
27	Eleotridae	595
28	*Diaphus* spp.	572
29	*Dormitator latifrons*	556
30	*Cyclothone* spp.	537
31	*Scopelarchoides nicholsi*	487
32	*Myctophum nitidulum*	476
33	Bathylagidae	476
34	*Melamphaes* spp.	466
35	*Notolychnus valdiviae*	459
36	Unidentified fish larvae	450
37	*Lestidium* spp.	439
38	*Bathophilus filifer*	391
39	*Symphurus* spp.	387
40	*Psenes sio*	338
41	*Argyropelecus* spp.	321
42	*Cyclothone signata*	306
43	Disintegrated fish larvae	295
44	*Scopelogadus bispinosus*	282
45	*Pontinus* spp.	275
46	*Maurolicus* spp.	270
47	*Triphoturus* spp.	265
48	*Gonichthys tenuiculus*	258
49	*Cyclothone acclinidens*	255

Table 9. (cont.)

Rank	Taxon	Count
50	*Howella pammelas*	249
51	*Notoscopelus resplendens*	242
52	Myctophidae	236
53	*Chiasmodon niger*	225
54	*Thalassoma* spp.	201
55	*Triphoturus nigrescens*	196
56	*Serranus* spp.	178
57	*Myctophum asperum*	170
58	*Scorpaenodes xyris*	170
59	*Chauliodus* spp.	168
60	*Nealotus tripes*	166
61	*Myctophum* spp.	159
62	*Citharichthys platophrys*	155
63	*Ceratoscopelus townsendi*	150
64	*Oxyporhamphus micropterus*	145
65	*Gempylus serpens*	144
66	*Scomber japonicus*	143
67	*Synodus evermanni*	137
68	Haemulidae	134
69	*Diplophos proximus*	130
70	*Bolinichthys longipes*	125
71	*Evermannella ahlstromi*	121
72	*Syacium* spp.	117
73	*Nannobrachium idostigma*	112
74	*Stemonosudis macrura*	108
75	*Coryphaena hippurus*	95
76	*Etropus crossotus*	94
77	Sciaenidae	94
78	*Selar crumenophthalmus*	85
79	*Symphurus elongatus*	84
80	*Cherublemma emmelas*	83
81	*Syacium ovale*	82
82	*Xyrichtys* spp.	82
83	Pomacentridae	82
84	*Stomias* spp.	81
85	*Bothus* spp.	74
86	*Brama dussumieri*	72
87	*Oneirodes* spp.	70
88	*Argentina* spp.	70
89	*Trichiurus lepturus*	70
90	*Rosenblattichthys volucris*	69
91	*Nannobrachium bristori*	69
92	*Diogenichthys atlanticus*	63
93	*Chloroscombrus orqueta*	62
94	Anguilliformes	58
95	*Halichoeres* spp.	57
96	*Scopelosaurus* spp.	56
97	*Chloropthalmus* spp.	54
98	*Rhynchoconger nitens*	53
99	*Lobianchia gemellarii*	52
100	*Lampadena* spp.	52

Table 9. (cont.)

Rank	Taxon	Count
101	*Caranx* spp.	51
102	*Opisthonema* spp.	50
103	*Psenes arafurensis*	48
104	*Zu cristatus*	47
105	*Myrophis vafer*	47
106	*Cubiceps baxteri*	47
107	Argentinidae	45
108	*Nannobrachium hawaiiensis*	45
109	*Hygophum* spp.	43
110	*Loweina rara*	41
111	*Nansenia crassa*	39
112	*Parvilux boschmai*	39
113	*Psenes pellucidus*	39
114	Sternoptychidae	37
115	*Thunnus* spp.	36
116	*Gigantactis* spp.	35
117	Clupeidae	34
118	*Lepophidium negropinna*	34
119	*Etropus* spp.	33
120	*Synodus sechurae*	32
121	*Ophioblennius steindachneri*	32
121	Serraninae	32
121	*Kyphosus* spp.	32
124	*Synchiropus atrilabiatus*	31
125	*Maurolicus muelleri*	31
126	*Caranx sexfasciatus*	30
127	*Lampanyctus steinbecki*	30
128	*Serrivomer sector*	29
129	Chiasmodontidae	29
130	*Chromis atrilobata*	28
131	*Stomias atriventer*	28
132	*Xyrichtys mundiceps*	28
133	*Katsuwonus pelamis*	28
134	*Yarella blackfordi*	28
135	*Scopelengys tristis*	28
136	*Kali* spp.	27
137	Engraulidae	27
138	*Caranx caballus*	27
139	*Eustomias* spp.	26
140	*Scopelarchus analis*	26
141	*Ceratias holboelli*	26
142	*Mugil* spp.	26
143	*Poromitra* spp.	25
144	Macrouridae	25
145	*Protomyctophum* spp.	25
146	*Larimus* spp.	25
147	*Ophichthus zophochir*	24
148	*Brama* spp.	24
149	Melanostomiinae	23
150	*Caristius maderensis*	23
151	*Astronesthes* spp.	22

Table 9. (cont.)

Rank	Taxon	Count
152	*Scopelarchus guentheri*	21
153	*Engyophrys sanctilaurentii*	21
154	*Euthynnus lineatus*	21
155	Gerreidae	21
156	*Aulopus* spp.	21
157	Balistidae	20
158	*Poromitra crassiceps*	20
159	*Eucinostomus* spp.	20
160	*Lampanyctus nobilis*	19
161	*Nomeus gronovii*	19
162	*Ophidion* spp.	19
163	*Monolene* spp.	19
164	*Lophiodes spilurus*	19
165	*Dolopichthys* spp.	19
166	*Lepidocybium flavobrunneum*	18
167	*Lampadena urophaos*	18
168	*Diplospinus multistriatus*	18
169	*Coryphaena equiselis*	18
170	*Prognichthys* spp.	18
171	Stomiinae	17
172	*Diplectrum* spp.	17
173	*Ruvettus pretiosus*	17
173	*Psenes cyanophrys*	17
175	*Xenistius californiensis*	16
176	*Microdesmus* spp.	16
176	Blennioidei	16
178	*Neoconger vermiformis*	16
179	Congridae	16
180	*Benthosema suborbitale*	15
181	*Poromitra megalops*	15
182	*Triphoturus mexicanus*	15
183	*Ariosoma gilberti*	14
184	Ophichthidae	13
185	*Nemichthys scolopaceus*	13
186	*Argyropelecus lychnus*	13
187	*Merluccius* spp.	12
188	*Protomyctophum crockeri*	12
189	Ephippidae	12
190	*Synodus* spp.	11
191	*Prionotus stephanophrys*	11
192	Muraenidae	11
193	*Prionotus ruscarius*	11
193	*Apogon retrosella*	11
193	*Apogon atricaudus*	11
193	Moridae	11
197	*Apogon* spp.	11
198	*Paraconger californiensis*	10
199	Stomiiformes	10
200	Paralichthyidae	10
200	Bythitidae	10
202	*Malacoctenus hubbsi*	10

Table 9. (cont.)

Rank	Taxon	Count
202	*Lutjanus peru*	10
204	*Gymnothorax mordax*	10
205	Cynoglossidae	10
206	*Lampanyctus tenuiformes*	10
207	*Citharichthys gordae*	10
208	*Chlopsis* spp.	9
209	*Myctophum obtusirostrum*	9
209	*Centrobranchus nigroocellatus*	9
211	*Lampadena luminosa*	9
212	*Kali normani*	9
212	*Physiculus rastrelliger*	9
214	*Hygophum reinhardtii*	9
214	*Valenciennellus tripunctulatus*	9
216	*Melanocetus* spp.	9
216	*Hemanthias* spp.	9
218	*Naucrates ductor*	9
219	Astronesthinae	9
220	*Magnisudis atlantica*	9
221	*Nezumia* spp.	9
222	*Exocoetus* spp.	8
223	*Brotula clarkae*	8
223	*Pronotogrammus* spp.	8
225	*Amarsipus carlsbergi*	8
226	*Diaphus theta*	8
227	Lutjanidae	8
227	*Cyclopsetta* spp.	8
229	Anthiinae	8
229	*Lutjanus* spp.	8
231	*Gonostoma ebelingi*	8
232	*Oligoplites* spp.	8
232	*Decapterus* spp.	8
232	Sparidae	8
232	*Argyropelecus hemigymnus*	8
236	*Tetragonurus atlanticus*	7
236	Melamphaidae	7
236	*Nansenia* spp.	7
239	*Hyporhamphus* spp.	7
240	*Paranthias colonus*	7
240	Paralepididae	7
240	Oneirodidae	7
243	*Canthidermis maculatus*	7
244	*Selene peruviana*	6
245	Tetraodontidae	5
245	*Howella* spp.	5
247	*Abudefduf* spp.	5
248	*Scopeloberyx robustus*	5
248	*Cryptopsaras couesii*	5
248	*Benthalbella dentata*	5
248	*Woodsia nonsuchae*	5
252	*Acanthocybium solandri*	5
253	*Trachipterus fukuzakii*	5

Table 9. (cont.)

Rank	Taxon	Count
253	*Cheilopogon xenopterus*	5
255	*Hirundichthys* spp.	5
255	*Myctophum selenops*	5
257	*Sphyraena argentea*	5
258	*Eutaeniophorus festivus*	4
259	*Diplophos taenia*	4
260	Ogcocephalidae	4
261	Carangidae	4
261	Epinephelinae	4
263	*Pronotogrammus multifasciatus*	4
263	Labridae	4
265	Microdesmidae	4
266	*Diplophos* spp.	4
267	*Bathylagus wesethi*	3
268	*Lepophidium* spp.	3
268	*Polydactylus approximans*	3
	Total	149688

Table 10. Standaridized numbers (per 10 m² of sea surface) of fish larvae taken in Bongo net tows on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4 listed by taxon, tow number, and region.

Anguilliformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
48	M4	2-094	3	1	7.35
50	JD	4-107	3	1	10.27
51	JD	4-109	3	3	32.00
76	M4	4-148	8	1	4.09
84	M4	4-164	3	1	4.11

Chlopsis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	JD	5-165	4	1	9.34

Muraenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
24	JD	2-047	5	1	10.70

Gymnothorax mordax

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
59	JD	4-125	3	1	9.93

Ophichthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	5	13.30

Myrophis vafer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34
46	M4	2-091	3	1	7.63
48	M4	2-094	3	1	7.35
50	JD	4-107	3	1	10.27
81	M4	4-158	3	1	8.78
83	M4	4-162	3	1	7.50

Ophichthus zophochir

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	M4	5-168	3	1	6.99
86	JD	6-178	1	1	9.37
95	M4	5-186	4	1	8.04

Congridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	2	8.32
88	M4	5-172	3	1	7.37

Ariosoma gilberti

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	1	4.16
86	JD	6-178	1	1	9.37

Neoconger vermiformis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	1	4.16
82	M4	4-160	3	1	4.08
83	M4	4-162	3	1	7.50

Paraconger californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	JD	5-175	1	1	10.37

Rhynchoconger nitens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
47	M4	2-092	3	1	2.92
50	JD	4-107	3	1	10.27
57	JD	4-121	3	2	20.23
60	JD	4-127	4	1	9.75
78	M4	4-152	8	1	9.51

Nemichthys scolopaceus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-010	2	1	4.61
43	M4	2-085	4	1	8.22

Serrivomer sector

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
19	M4	1-038	6	1	9.38
26	JD	2-051	5	1	5.18
30	M4	2-059	6	1	10.17
76	JD	5-159	5	1	4.43

Clupeidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
77	M4	4-150	8	4	34.30

Opisthonema spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	JD	4-135	4	1	10.19
67	JD		3	5	40.06

Engraulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86
79	M4	4-154	8	3	12.48
86	M4	5-168	3	1	6.99

Anchoa spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
81	M4	4-158	3	2	17.55
82	M4	4-160	3	100	408.00
83	M4	4-162	3	30	225.00
84	M4	4-164	3	30	123.30
85	M4	5-166	3	48	127.68

Cetengraulis mysticetus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	3	23.58
50	JD	4-107	3	24	246.52
51	JD	4-109	3	174	1856.0
67	JD		3	2	16.03

Engraulis ringens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
70	M4	4-137	8	15	127.25
71	M4	4-139	8	18	137.16
73	M4	4-143	8	1	9.41
75	M4	4-146	8	19	184.04
76	M4	4-148	8	120	490.80
77	M4	4-150	8	84	720.23

Argentinidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	11	45.21

Argentina spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	2	21.33
82	M4	4-160	3	9	36.72
84	M4	4-164	3	1	4.11
85	M4	5-166	3	3	7.98

Nansenia spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
56	M4	3-110	9	1	7.32

Nansenia crassa

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
42	M4	2-083	4	1	8.02
56	M4	3-110	9	1	7.32

Nansenia crassa (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
101	M4	5-200	2	3	12.09
102	M4	5-202	2	2	8.18
103	M4	5-204	2	1	3.47

Bathylagidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
82	M4	4-160	3	116	473.28
85	M4	5-166	3	1	2.66

Bathylagus nigrigenys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
10	M4	1-020	5	4	16.44
11	M4	1-022	5	11	44.11
13	M4	1-026	6	1	9.06
14	M4	1-028	6	1	4.42
16	M4	1-032	6	4	18.12
16	JD	2-031	1	1	10.57
17	M4	1-034	6	1	9.21
20	JD	2-039	5	2	10.72
21	JD	2-041	5	5	25.85
22	JD	2-043	5	3	15.06
24	JD	2-047	5	2	21.40
26	M4	2-051	6	4	17.36
27	M4	2-053	6	2	15.55
28	JD	2-055	5	4	27.69
29	M4	2-057	6	1	9.24
31	M4	2-061	11	2	13.33
32	M4	2-063	11	1	9.53
35	M4	2-069	10	1	4.98
36	JD	3-070	1	1	9.81
38	M4	2-075	10	1	4.43
39	M4	2-077	5	1	7.21
40	JD	3-080	5	1	4.75
41	M4	2-081	4	1	8.88
42	M4	2-083	4	9	72.20
43	M4	2-085	4	2	16.45
44	M4	2-087	4	2	15.58
45	M4	2-089	4	2	16.52
47	M4	2-092	3	1	2.92
48	M4	2-094	3	2	14.69
49	M4	2-096	3	2	15.64
50	JD	4-107	3	2	20.54
52	JD	4-111	3	4	41.13
53	JD	4-113	3	2	21.43
54	M4	3-106	3	4	41.31
54	JD	4-115	3	5	48.75
55	M4	3-108	9	1	9.88

Bathylagus nigrigenys (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
56	M4	3-110	9	5	36.59
56	JD	4-119	3	2	22.31
57	M4	3-112	9	3	26.33
59	JD	4-125	3	2	19.85
65	M4	3-128	8	8	78.96
66	M4	3-130	8	14	120.68
67	M4	3-132	8	3	27.95
68	M4	3-134	8	7	55.11
69	M4	3-136	8	4	35.14
70	M4	4-137	8	1	8.48
71	JD	5-149	4	3	30.12
73	JD	5-153	4	2	19.51
73	M4	4-143	8	2	18.81
75	JD	5-157	5	1	9.28
77	M4	4-150	8	9	77.17
77	JD	5-161	5	2	18.63
78	M4	4-152	8	26	247.14
78	JD	5-163	5	1	9.73
79	M4	4-154	8	5	20.80
80	M4	4-156	3	6	42.60
80	JD	5-167	4	1	4.80
81	M4	4-158	3	2	17.55
84	M4	4-164	3	1	4.11
85	M4	5-166	3	2	5.32
85	JD	6-176	1	2	20.62
86	JD	6-178	1	1	9.37
86	M4	5-168	3	3	20.97
88	M4	5-172	3	3	22.11
89	M4	5-174	3	1	12.14
90	M4	5-176	3	2	12.18
91	M4	5-178	3	1	3.99
92	M4	5-180	4	3	22.92
96	M4	5-188	4	6	30.60
100	M4	5-198	2	1	4.19

Bathylagus wesethi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
103	M4	5-204	2	1	3.47

Leuroglossus urotranus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
72	M4	4-141	8	2	17.18
73	M4	4-143	8	1	9.41
74	M4	4-145	8	2	16.22
75	M4	4-146	8	1	9.69
76	M4	4-148	8	17	69.53
77	M4	4-150	8	234	2006.3
78	M4	4-152	8	74	703.40

Leuroglossus urotranus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	25	104.00
80	M4	4-156	3	4	28.40
81	M4	4-158	3	5	43.88
82	M4	4-160	3	10	40.80
83	M4	4-162	3	1	7.50
85	M4	5-166	3	1	2.66
86	M4	5-168	3	1	6.99
88	M4	5-172	3	1	7.37

Stomiiformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	1	10.33

Cyclothone spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	9	41.76
3	M4	1-006	2	8	35.60
4	M4	1-008	2	1	4.03
5	M4	1-010	2	2	9.22
9	M4	1-018	2	1	4.43
10	M4	1-020	5	1	4.11
11	M4	1-022	5	1	4.01
19	M4	1-038	6	4	37.52
20	M4	1-040	7	1	8.52
25	M4	2-049	7	2	19.48
29	M4	2-057	6	4	36.95
33	M4	2-065	10	2	16.14
35	M4	2-069	10	1	4.98
36	M4	2-071	10	1	7.14
40	M4	2-079	5	2	16.67
41	M4	2-081	4	1	8.88
42	M4	2-083	4	2	16.05
42	JD	3-084	5	1	9.09
43	JD	3-086	4	1	9.60
44	M4	2-087	4	1	7.79
52	M4	3-102	3	1	8.76
54	M4	3-106	3	2	20.65
59	M4	3-116	9	10	74.17
60	M4	3-118	9	4	30.95
63	M4	3-124	8	1	7.68
66	M4	3-130	8	1	8.62
67	M4	3-132	8	4	37.26
72	JD	5-151	4	1	9.16
74	JD	5-155	4	1	9.77
88	M4	5-172	3	1	7.37
91	M4	5-178	3	4	15.96
92	JD	6-190	2	1	4.69

Cyclothone acclinidens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	4	18.56
5	M4	1-010	2	5	23.05
7	M4	1-014	2	1	5.03
8	M4	1-016	2	2	7.56
9	M4	1-018	2	3	13.29
10	M4	1-020	5	1	4.11
11	M4	1-022	5	1	4.01
14	M4	1-028	6	1	4.42
21	JD	2-041	5	1	5.17
25	M4	2-049	7	2	19.48
47	M4	2-092	3	1	2.92
58	M4	3-114	9	1	7.36
59	M4	3-116	9	1	7.42
64	M4	3-126	8	1	7.50
65	M4	3-128	8	2	19.74
67	M4	3-132	8	5	46.58
71	JD	5-149	4	1	10.04
74	JD	5-155	4	1	9.77
86	M4	5-168	3	1	6.99
88	M4	5-172	3	2	14.74
91	JD	6-188	2	2	9.52
92	M4	5-180	4	1	7.64

Cyclothone signata

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	4	18.56
3	M4	1-006	2	4	17.80
5	M4	1-010	2	4	18.44
14	M4	1-028	6	3	13.26
22	M4	1-044	7	1	7.66
29	M4	2-057	6	7	64.67
31	M4	2-061	11	1	6.67
38	M4	2-075	10	3	13.30
40	M4	2-079	5	4	33.35
41	M4	2-081	4	2	17.76
53	M4	3-104	3	1	9.30
56	M4	3-110	9	3	21.95
57	M4	3-112	9	1	8.78
61	M4	3-120	9	3	24.36
72	JD	5-151	4	1	9.16
103	M4	5-204	2	6	20.82

Diplophos spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
99	M4	5-194	2	1	3.81

Diplophos proximus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	2	8.22
13	M4	1-026	6	1	9.06
14	M4	1-028	6	2	8.84
15	M4	1-030	6	1	4.51
18	M4	1-036	6	1	8.30
20	M4	1-040	7	1	8.52
39	JD	3-076	4	1	10.16
53	M4	3-104	3	3	27.90
77	M4	4-150	8	1	8.57
80	JD	5-167	4	1	4.80
88	JD	6-182	5	1	4.80
89	JD	6-184	5	1	4.24
90	JD	6-186	5	1	4.74
91	JD	6-188	2	1	4.76
92	JD	6-190	2	1	4.69
97	M4	5-190	5	1	3.92
98	M4	5-192	5	1	3.62

Diplophos taenia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
100	M4	5-198	2	1	4.19

Gonostoma ebelingi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
60	M4	3-118	9	1	7.74

Sternoptychidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	M4	3-114	9	5	36.80

Argyropelecus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	1-030	6	1	4.51
25	JD	2-049	5	5	47.81
26	JD	2-051	5	3	15.54
41	JD	3-082	5	1	11.29
44	M4	2-087	4	1	7.79
50	JD	4-107	3	2	20.54
60	M4	3-118	9	1	7.74
71	JD	5-149	4	7	70.29
72	JD	5-151	4	14	128.29
80	M4	4-156	3	1	7.10

Argyropelecus hemigymnus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	M4	4-162	3	1	7.50

Argyropelecus lychnus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-057	6	1	9.24
103	M4	5-204	2	1	3.47

Argyropelecus sladeni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
10	M4	1-020	5	1	4.11
14	M4	1-028	6	1	4.42
24	M4	1-048	7	1	8.74
27	JD	2-053	5	4	39.42
29	M4	2-057	6	6	55.43
31	M4	2-061	11	1	6.67
40	JD	3-080	5	6	28.50
43	JD	3-086	4	9	86.40
43	M4	2-085	4	1	8.22
46	M4	2-091	3	1	7.63
53	JD	4-113	3	2	21.43
53	M4	3-104	3	3	27.90
54	M4	3-106	3	2	20.65
54	JD	4-115	3	2	19.50
56	M4	3-110	9	4	29.27
57	JD	4-121	3	1	10.12
70	JD	5-147	4	6	59.76
73	JD	5-153	4	5	48.77
74	JD	5-155	4	1	9.77
75	JD	5-157	5	2	18.56
76	JD	5-159	5	3	13.29
77	JD	5-161	5	4	37.26
81	M4	4-158	3	2	17.55
88	M4	5-172	3	4	29.48
89	M4	5-174	3	1	12.14
90	M4	5-176	3	3	18.27
91	M4	5-178	3	5	19.95
92	M4	5-180	4	4	30.56
94	M4	5-184	4	1	7.31
102	M4	5-202	2	2	8.18

Maurolicus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
77	M4	4-150	8	6	51.44
78	M4	4-152	8	14	133.08
79	M4	4-154	8	15	62.40
80	M4	4-156	3	1	7.10
81	M4	4-158	3	1	8.78
83	M4	4-162	3	1	7.50

Maurolicus muelleri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	2	20.65
55	M4	3-108	9	1	9.88

Sternoptyx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
9	M4	1-018	2	1	4.43
10	M4	1-020	5	4	16.44
12	M4	1-024	6	2	18.00
15	M4	1-030	6	7	31.57
16	M4	1-032	6	3	13.59
18	M4	1-036	6	5	41.52
19	M4	1-038	6	1	9.38
21	JD	2-041	5	1	5.17
22	M4	1-044	7	2	15.32
24	M4	1-048	7	1	8.74
25	M4	2-049	7	8	77.92
28	M4	2-055	6	1	5.68
29	M4	2-057	6	6	55.43
32	M4	2-063	11	9	85.73
33	M4	2-065	10	3	24.21
34	M4	2-067	10	3	27.35
35	M4	2-069	10	7	34.86
36	M4	2-071	10	1	7.14
38	M4	2-075	10	2	8.87
39	M4	2-077	5	2	14.42
40	JD	3-080	5	2	9.50
40	M4	2-079	5	1	8.34
41	M4	2-081	4	3	26.65
41	JD	3-082	5	6	67.73
42	JD	3-084	5	18	163.61
42	M4	2-083	4	1	8.02
43	M4	2-085	4	5	41.12
43	JD	3-086	4	3	28.80
44	M4	2-087	4	12	93.49
45	M4	2-089	4	5	41.30
46	M4	2-091	3	1	7.63
48	M4	2-094	3	6	44.08
49	M4	2-096	3	1	7.82
51	JD	4-109	3	1	10.67
52	M4	3-102	3	3	26.27
53	JD	4-113	3	10	107.14
53	M4	3-104	3	10	93.00
54	M4	3-106	3	1	10.33
56	M4	3-110	9	19	139.04
57	JD	4-121	3	3	30.35
57	M4	3-112	9	3	26.33
59	M4	3-116	9	6	44.50

Sternoptyx spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
59	JD	4-125	3	1	9.93
60	M4	3-118	9	11	85.12
61	M4	3-120	9	2	16.24
61	JD	4-129	4	1	10.58
62	M4	3-122	9	2	15.20
63	M4	3-124	8	1	7.68
65	M4	3-128	8	1	9.87
68	JD	5-143	3	1	10.58
70	JD	5-147	4	2	19.92
71	JD	5-149	4	2	20.08
72	JD	5-151	4	12	109.96
73	JD	5-153	4	7	68.27
74	JD	5-155	4	3	29.32
75	JD	5-157	5	6	55.68
76	JD	5-159	5	5	22.15
77	M4	4-150	8	1	8.57
78	JD	5-163	5	1	9.73
79	M4	4-154	8	6	24.96
80	M4	4-156	3	2	14.20
82	M4	4-160	3	9	36.72
83	M4	4-162	3	2	15.00
84	M4	4-164	3	7	28.77
85	M4	5-166	3	3	7.98
86	M4	5-168	3	9	62.92
88	M4	5-172	3	3	22.11
89	M4	5-174	3	9	109.23
90	M4	5-176	3	4	24.36
91	M4	5-178	3	22	87.78
92	M4	5-180	4	4	30.56

Valenciennellus tripunctulatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-006	2	2	8.90

Vinciguerria lucetia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	58	269.12
3	M4	1-006	2	51	226.95
4	M4	1-008	2	3	12.09
5	M4	1-010	2	6	27.66
7	M4	1-014	2	5	25.15
8	M4	1-016	2	7	26.46
9	JD	1-017	2	26	254.90
9	M4	1-018	2	43	190.49
10	M4	1-020	5	57	234.27
11	M4	1-022	5	177	709.77
12	M4	1-024	6	10	90.00
12	JD	1-023	1	3	17.31

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
13	JD	1-024	1	44	447.18
13	M4	1-026	6	3	27.19
14	JD	1-026	1	12	64.08
14	M4	1-028	6	100	442.00
15	M4	1-030	6	16	72.16
16	M4	1-032	6	23	104.19
16	JD	2-031	1	43	454.72
17	JD	2-033	1	18	180.33
17	M4	1-034	6	2	18.43
18	M4	1-036	6	46	381.99
18	JD	2-035	2	48	500.78
19	M4	1-038	6	82	769.16
19	JD	2-037	2	209	1139.0
20	M4	1-040	7	43	366.57
20	JD	2-039	5	124	664.64
21	M4	1-042	7	3	16.88
21	JD	2-041	5	67	346.39
22	JD	2-043	5	56	281.12
22	M4	1-044	7	2	15.32
23	M4	1-046	7	1	4.38
23	JD	2-045	5	42	420.80
24	JD	2-047	5	34	363.72
25	JD	2-049	5	14	133.87
26	M4	2-051	6	52	225.68
26	JD	2-051	5	29	150.22
27	M4	2-053	6	2	15.55
27	JD	2-053	5	7	68.99
28	M4	2-055	6	4	22.72
28	JD	2-055	5	111	768.46
29	M4	2-057	6	389	3593.5
30	M4	2-059	6	39	396.66
31	M4	2-061	11	11	73.33
32	M4	2-063	11	7	66.68
33	M4	2-065	10	21	169.49
34	M4	2-067	10	13	118.52
35	M4	2-069	10	9	44.82
36	M4	2-071	10	6	42.83
36	JD	3-070	1	18	176.64
37	M4	2-073	10	34	311.20
37	JD	3-072	1	27	256.68
38	M4	2-075	10	39	172.91
38	JD	3-074	4	26	262.70
39	JD	3-076	4	55	558.53
39	M4	2-077	5	9	64.87
40	JD	3-080	5	49	232.75
40	M4	2-079	5	10	83.37
41	M4	2-081	4	40	355.28
41	JD	3-082	5	6	67.73

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
42	JD	3-084	5	39	354.48
42	M4	2-083	4	65	521.47
43	M4	2-085	4	25	205.60
43	JD	3-086	4	25	240.00
44	M4	2-087	4	26	202.55
45	M4	2-089	4	35	289.10
46	M4	2-091	3	6	45.76
47	M4	2-092	3	24	69.98
48	M4	2-094	3	3	22.04
49	M4	2-096	3	5	39.10
50	M4	3-098	3	3	23.58
50	JD	4-107	3	7	71.90
51	M4	3-100	3	7	59.90
51	JD	4-109	3	5	53.33
52	JD	4-111	3	14	143.97
52	M4	3-102	3	22	192.67
53	M4	3-104	3	40	372.00
53	JD	4-113	3	161	1725.0
54	JD	4-115	3	36	351.00
54	M4	3-106	3	23	237.52
55	M4	3-108	9	5	49.39
55	JD	4-117	3	3	32.30
56	M4	3-110	9	16	117.09
56	JD	4-119	3	10	111.57
57	JD	4-121	3	6	60.69
57	M4	3-112	9	16	140.41
58	M4	3-114	9	40	294.37
58	JD	4-123	3	4	40.86
59	M4	3-116	9	1	7.42
60	M4	3-118	9	12	92.86
60	JD	4-127	4	5	48.75
61	M4	3-120	9	6	48.71
61	JD	4-129	4	2	21.16
62	M4	3-122	9	22	167.17
63	M4	3-124	8	56	430.33
63	JD	4-135	4	17	173.23
64	M4	3-126	8	84	630.00
64	JD	4-137	1	15	154.10
65	JD	4-139	3	9	89.13
65	M4	3-128	8	72	710.63
66	M4	3-130	8	141	1215.4
67	M4	3-132	8	77	717.35
68	M4	3-134	8	162	1275.5
68	JD	5-143	3	3	31.74
69	JD	5-145	4	3	29.29
69	M4	3-136	8	6	52.71
70	JD	5-147	4	1	9.96
70	M4	4-137	8	2	16.97

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
71	JD	5-149	4	12	120.49
72	JD	5-151	4	12	109.96
73	M4	4-143	8	6	56.44
73	JD	5-153	4	11	107.28
74	JD	5-155	4	2	19.55
75	JD	5-157	5	10	92.80
76	JD	5-159	5	4	17.72
77	M4	4-150	8	6	51.44
77	JD	5-161	5	23	214.25
78	M4	4-152	8	12	114.06
78	JD	5-163	5	25	243.29
79	JD	5-165	4	9	84.02
80	JD	5-167	4	68	326.40
80	M4	4-156	3	92	653.20
81	M4	4-158	3	16	140.43
81	JD	5-169	4	13	115.04
82	M4	4-160	3	12	48.96
82	JD	5-171	1	21	209.57
83	JD	5-173	1	2	19.65
83	M4	4-162	3	10	75.00
84	JD	5-175	1	4	41.49
84	M4	4-164	3	5	20.55
85	JD	6-176	1	21	216.54
85	M4	5-166	3	2	5.32
86	JD	6-178	1	7	65.61
86	M4	5-168	3	17	118.86
87	JD	6-180	4	40	187.20
88	M4	5-172	3	28	206.37
88	JD	6-182	5	40	192.00
89	M4	5-174	3	28	339.83
89	JD	6-184	5	30	127.20
90	JD	6-186	5	27	127.98
90	M4	5-176	3	25	152.25
91	JD	6-188	2	117	556.92
91	M4	5-178	3	28	111.72
92	JD	6-190	2	156	731.64
92	M4	5-180	4	13	99.32
93	M4	5-182	4	3	22.08
94	M4	5-184	4	15	109.62
95	M4	5-186	4	5	40.18
96	M4	5-188	4	17	86.70
97	M4	5-190	5	67	262.64
98	M4	5-192	5	38	137.56
99	M4	5-194	2	53	201.93
100	M4	5-198	2	57	238.83
101	M4	5-200	2	63	253.89
102	M4	5-202	2	32	130.88
103	M4	5-204	2	55	190.85

Woodsia nonsuchae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	1	5.18

Yarella blackfordi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
78	M4	4-152	8	2	19.01
81	M4	4-158	3	1	8.78

Chauliodus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	1	8.30
28	M4	2-055	6	1	5.68
29	M4	2-057	6	1	9.24
41	JD	3-082	5	1	11.29
42	JD	3-084	5	2	18.18
43	JD	3-086	4	1	9.60
43	M4	2-085	4	2	16.45
56	M4	3-110	9	1	7.32
59	M4	3-116	9	1	7.42
60	M4	3-118	9	2	15.48
63	M4	3-124	8	1	7.68
65	M4	3-128	8	1	9.87
66	M4	3-130	8	1	8.62
67	M4	3-132	8	1	9.32
73	JD	5-153	4	2	19.51
91	M4	5-178	3	1	3.99

Stomiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	JD	2-055	5	1	6.92
90	M4	5-176	3	1	6.09
91	M4	5-178	3	1	3.99

Stomias spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
35	M4	2-069	10	1	4.98
40	M4	2-079	5	2	16.67
41	M4	2-081	4	1	8.88
90	M4	5-176	3	3	18.27
91	M4	5-178	3	7	27.93
100	M4	5-198	2	1	4.19

Stomias atriventer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
38	M4	2-075	10	1	4.43
92	JD	6-190	2	2	9.38
102	M4	5-202	2	1	4.09
103	M4	5-204	2	3	10.41

Astronesthinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
52	M4	3-102	3	1	8.76

Astronesthes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
10	M4	1-020	5	1	4.11
28	M4	2-055	6	1	5.68
76	JD	5-159	5	2	8.86

Melanostomiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	1-040	7	1	8.52
38	M4	2-075	10	1	4.43
52	JD	4-111	3	1	10.28

Bathophilus filifer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	1	4.11
16	JD	2-031	1	1	10.57
26	M4	2-051	6	1	4.34
27	M4	2-053	6	1	7.77
28	JD	2-055	5	1	6.92
30	M4	2-059	6	6	61.02
31	M4	2-061	11	1	6.67
44	M4	2-087	4	1	7.79
51	M4	3-100	3	1	8.56
52	JD	4-111	3	2	20.57
52	M4	3-102	3	1	8.76
53	M4	3-104	3	2	18.60
53	JD	4-113	3	2	21.43
54	JD	4-115	3	2	19.50
57	M4	3-112	9	1	8.78
58	M4	3-114	9	2	14.72
63	M4	3-124	8	4	30.74
67	M4	3-132	8	2	18.63
70	JD	5-147	4	1	9.96
72	JD	5-151	4	2	18.33
74	JD	5-155	4	1	9.77
75	JD	5-157	5	1	9.28
76	JD	5-159	5	1	4.43
78	M4	4-152	8	1	9.51
80	M4	4-156	3	3	21.30
90	M4	5-176	3	2	12.18
91	JD	6-188	2	1	4.76
95	M4	5-186	4	1	8.04
98	M4	5-192	5	1	3.62

Eustomias spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	2	7.56
28	M4	2-055	6	1	5.68
42	JD	3-084	5	1	9.09
102	M4	5-202	2	1	4.09

Idiacanthus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-010	2	1	4.61
8	M4	1-016	2	1	3.78
9	M4	1-018	2	2	8.86
10	M4	1-020	5	2	8.22
11	M4	1-022	5	5	20.05
15	M4	1-030	6	1	4.51
20	JD	2-039	5	1	5.36
20	M4	1-040	7	1	8.52
21	JD	2-041	5	3	15.51
22	JD	2-043	5	5	25.10
23	JD	2-045	5	7	70.13
24	JD	2-047	5	2	21.40
25	M4	2-049	7	1	9.74
25	JD	2-049	5	2	19.12
28	JD	2-055	5	8	55.38
30	M4	2-059	6	1	10.17
33	M4	2-065	10	1	8.07
36	JD	3-070	1	1	9.81
39	JD	3-076	4	5	50.78
40	JD	3-080	5	5	23.75
43	JD	3-086	4	1	9.60
44	M4	2-087	4	1	7.79
53	M4	3-104	3	2	18.60
54	JD	4-115	3	1	9.75
56	M4	3-110	9	1	7.32
59	M4	3-116	9	1	7.42
74	JD	5-155	4	1	9.77
75	JD	5-157	5	1	9.28
78	JD	5-163	5	2	19.46
79	JD	5-165	4	1	9.34
80	JD	5-167	4	1	4.80
81	JD	5-169	4	1	8.85
82	M4	4-160	3	4	16.32
83	M4	4-162	3	1	7.50
84	M4	4-164	3	1	4.11
89	M4	5-174	3	2	24.27
90	M4	5-176	3	2	12.18
91	M4	5-178	3	1	3.99
92	JD	6-190	2	2	9.38
95	M4	5-186	4	2	16.07
96	M4	5-188	4	7	35.70
97	M4	5-190	5	2	7.84

Aulopus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	2	20.65

Chloropthalmus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	3	30.98
75	JD	5-157	5	1	9.28
80	M4	4-156	3	2	14.20

Benthalbella dentata

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	1	5.18

Rosenblattichthys volucris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	1-040	7	1	8.52
25	M4	2-049	7	1	9.74
26	JD	2-051	5	1	5.18
27	M4	2-053	6	1	7.77
29	M4	2-057	6	1	9.24
31	M4	2-061	11	1	6.67
38	M4	2-075	10	1	4.43
45	M4	2-089	4	1	8.26
52	M4	3-102	3	1	8.76

Scopelarchoides nicholsi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
10	M4	1-020	5	1	4.11
11	M4	1-022	5	3	12.03
13	M4	1-026	6	1	9.06
14	M4	1-028	6	4	17.68
15	M4	1-030	6	2	9.02
16	M4	1-032	6	1	4.53
18	JD	2-035	2	1	10.43
20	JD	2-039	5	1	5.36
21	JD	2-041	5	5	25.85
22	JD	2-043	5	5	25.10
24	JD	2-047	5	1	10.70
25	M4	2-049	7	1	9.74
25	JD	2-049	5	1	9.56
26	M4	2-051	6	1	4.34
27	JD	2-053	5	1	9.86
28	JD	2-055	5	2	13.85
37	JD	3-072	1	1	9.51
39	JD	3-076	4	2	20.31
45	M4	2-089	4	1	8.26
48	M4	2-094	3	1	7.35
51	JD	4-109	3	1	10.67

Scopelarchoides nicholsi (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
52	JD	4-111	3	1	10.28
54	JD	4-115	3	1	9.75
56	JD	4-119	3	2	22.31
62	M4	3-122	9	1	7.60
66	M4	3-130	8	4	34.48
67	M4	3-132	8	1	9.32
68	M4	3-134	8	1	7.87
77	JD	5-161	5	3	27.95
78	JD	5-163	5	1	9.73
79	JD	5-165	4	1	9.34
80	JD	5-167	4	2	9.60
86	JD	6-178	1	1	9.37
89	M4	5-174	3	1	12.14
90	JD	6-186	5	1	4.74
91	JD	6-188	2	1	4.76
94	M4	5-184	4	1	7.31
96	M4	5-188	4	7	35.70
98	M4	5-192	5	1	3.62
99	M4	5-194	2	1	3.81

Scopelarchus analis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-010	2	2	9.22
29	M4	2-057	6	1	9.24
44	M4	2-087	4	1	7.79

Scopelarchus guentheri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
7	M4	1-014	2	1	5.03
8	M4	1-016	2	1	3.78
38	M4	2-075	10	1	4.43
43	M4	2-085	4	1	8.22

Scopelosaurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	1	10.33
77	M4	4-150	8	1	8.57
78	M4	4-152	8	3	28.52
81	M4	4-158	3	1	8.78

Synodus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	1	4.09
79	M4	4-154	8	1	4.16
85	M4	5-166	3	1	2.66

Synodus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
14	JD	1-026	1	1	5.34
50	JD	4-107	3	4	41.09
51	JD	4-109	3	3	32.00
84	M4	4-164	3	5	20.55
85	M4	5-166	3	8	21.28
86	M4	5-168	3	1	6.99

Synodus sechurae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	1	4.09
78	M4	4-152	8	1	9.51
79	M4	4-154	8	1	4.16
82	M4	4-160	3	1	4.08
85	M4	5-166	3	4	10.64

Paralepididae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	M4	4-156	3	1	7.10

Lestidiops spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
27	M4	2-053	6	1	7.77
30	M4	2-059	6	1	10.17
31	M4	2-061	11	11	73.33
38	M4	2-075	10	22	97.54
39	M4	2-077	5	1	7.21
40	M4	2-079	5	3	25.01
41	M4	2-081	4	2	17.76
53	M4	3-104	3	5	46.50
54	M4	3-106	3	8	82.62
55	M4	3-108	9	2	19.76
56	M4	3-110	9	15	109.77
61	M4	3-120	9	1	8.12
77	M4	4-150	8	4	34.30
78	M4	4-152	8	3	28.52
79	M4	4-154	8	1	4.16
80	M4	4-156	3	4	28.40
81	M4	4-158	3	2	17.55

Lestidiops neles

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	2	8.22
16	JD	2-031	1	4	42.30
17	JD	2-033	1	1	10.02
19	JD	2-037	2	1	5.45
20	JD	2-039	5	1	5.36
21	JD	2-041	5	2	10.34

Lestidiops neles (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	JD	2-043	5	1	5.02
23	JD	2-045	5	1	10.02
24	JD	2-047	5	3	32.09
35	M4	2-069	10	1	4.98
36	JD	3-070	1	2	19.63
37	JD	3-072	1	1	9.51
38	JD	3-074	4	5	50.52
39	JD	3-076	4	9	91.40
43	JD	3-086	4	1	9.60
52	JD	4-111	3	1	10.28
53	JD	4-113	3	9	96.43
54	JD	4-115	3	1	9.75
63	JD	4-135	4	6	61.14
64	JD	4-137	1	1	10.27
73	JD	5-153	4	1	9.75
77	JD	5-161	5	1	9.32
78	JD	5-163	5	2	19.46
79	JD	5-165	4	1	9.34
80	JD	5-167	4	5	24.00
81	JD	5-169	4	5	44.25
82	JD	5-171	1	5	49.90
83	JD	5-173	1	1	9.83
83	M4	4-162	3	2	15.00
85	JD	6-176	1	2	20.62
86	M4	5-168	3	1	6.99
86	JD	6-178	1	1	9.37
87	JD	6-180	4	1	4.68
89	JD	6-184	5	1	4.24
90	JD	6-186	5	3	14.22
96	M4	5-188	4	4	20.40
97	M4	5-190	5	1	3.92
98	M4	5-192	5	1	3.62
99	M4	5-194	2	1	3.81

Lestidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
12	M4	1-024	6	1	9.00
14	M4	1-028	6	1	4.42
15	M4	1-030	6	7	31.57
16	M4	1-032	6	2	9.06
17	M4	1-034	6	1	9.21
19	M4	1-038	6	5	46.90
20	M4	1-040	7	1	8.52
22	M4	1-044	7	2	15.32
24	M4	1-048	7	1	8.74
25	JD	2-049	5	1	9.56
26	JD	2-051	5	3	15.54

Lestidium spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
27	M4	2-053	6	1	7.77
28	JD	2-055	5	5	34.62
28	M4	2-055	6	1	5.68
33	M4	2-065	10	1	8.07
40	M4	2-079	5	2	16.67
42	M4	2-083	4	6	48.14
42	JD	3-084	5	2	18.18
43	JD	3-086	4	1	9.60
44	M4	2-087	4	2	15.58
53	M4	3-104	3	2	18.60
71	JD	5-149	4	1	10.04
72	JD	5-151	4	3	27.49
76	JD	5-159	5	1	4.43
88	M4	5-172	3	4	29.48
89	M4	5-174	3	1	12.14

Magnisudis atlantica

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	1	4.64
4	M4	1-008	2	1	4.03

Stemonosudis macrura

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
10	M4	1-020	5	3	12.33
11	M4	1-022	5	1	4.01
14	M4	1-028	6	1	4.42
15	M4	1-030	6	1	4.51
18	M4	1-036	6	1	8.30
20	M4	1-040	7	3	25.57
30	M4	2-059	6	1	10.17
42	JD	3-084	5	1	9.09
58	M4	3-114	9	1	7.36
67	M4	3-132	8	1	9.32
76	JD	5-159	5	1	4.43
92	JD	6-190	2	1	4.69

Evermannella ahlstromi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	3	11.34
14	M4	1-028	6	1	4.42
18	M4	1-036	6	1	8.30
19	M4	1-038	6	1	9.38
26	JD	2-051	5	3	15.54
34	M4	2-067	10	1	9.12
36	M4	2-071	10	1	7.14
40	M4	2-079	5	1	8.34
42	JD	3-084	5	2	18.18

Evermannella ahlstromi (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
44	M4	2-087	4	1	7.79
53	M4	3-104	3	1	9.30
60	M4	3-118	9	1	7.74
76	JD	5-159	5	1	4.43

Scopelengys tristis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	1	4.11
14	M4	1-028	6	2	8.84
15	M4	1-030	6	2	9.02
28	M4	2-055	6	1	5.68

Myctophidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	2	7.56
9	M4	1-018	2	1	4.43
12	M4	1-024	6	1	9.00
18	M4	1-036	6	1	8.30
21	M4	1-042	7	1	5.63
33	M4	2-065	10	3	24.21
43	JD	3-086	4	3	28.80
50	M4	3-098	3	2	15.72
51	M4	3-100	3	1	8.56
52	M4	3-102	3	1	8.76
54	M4	3-106	3	1	10.33
56	M4	3-110	9	1	7.32
65	M4	3-128	8	1	9.87
66	M4	3-130	8	1	8.62
73	JD	5-153	4	1	9.75
78	M4	4-152	8	1	9.51
80	M4	4-156	3	2	14.20
86	M4	5-168	3	1	6.99
88	M4	5-172	3	1	7.37
91	M4	5-178	3	6	23.94
98	M4	5-192	5	1	3.62
103	M4	5-204	2	1	3.47

Bolinichthys longipes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-008	2	1	4.03
17	M4	1-034	6	1	9.21
18	M4	1-036	6	3	24.91
28	M4	2-055	6	3	17.04
32	M4	2-063	11	1	9.53
42	M4	2-083	4	1	8.02
43	M4	2-085	4	2	16.45
45	M4	2-089	4	1	8.26
60	M4	3-118	9	1	7.74

Bolinichthys longipes (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
61	M4	3-120	9	1	8.12
91	M4	5-178	3	2	7.98
101	M4	5-200	2	1	4.03

Ceratoscopelus townsendi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	18	83.52
3	M4	1-006	2	10	44.50
4	M4	1-008	2	2	8.06
5	M4	1-010	2	3	13.83

Ceratoscopelus warmingii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
12	M4	1-024	6	1	9.00
17	M4	1-034	6	1	9.21
18	M4	1-036	6	3	24.91
19	M4	1-038	6	10	93.80
20	M4	1-040	7	12	102.30
20	JD	2-039	5	3	16.08
28	M4	2-055	6	1	5.68
30	M4	2-059	6	1	10.17
31	M4	2-061	11	2	13.33
32	M4	2-063	11	3	28.58
33	M4	2-065	10	4	32.28
34	M4	2-067	10	3	27.35
36	M4	2-071	10	1	7.14
39	M4	2-077	5	1	7.21
52	M4	3-102	3	1	8.76
59	M4	3-116	9	24	178.00
60	M4	3-118	9	12	92.86
61	M4	3-120	9	2	16.24
66	M4	3-130	8	2	17.24
67	M4	3-132	8	2	18.63
92	JD	6-190	2	8	37.52
98	M4	5-192	5	1	3.62
100	M4	5-198	2	1	4.19

Diaphus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	1-030	6	1	4.51
18	M4	1-036	6	5	41.52
19	M4	1-038	6	2	18.76
20	M4	1-040	7	2	17.05
22	JD	2-043	5	2	10.04
24	JD	2-047	5	1	10.70
26	JD	2-051	5	3	15.54
28	M4	2-055	6	1	5.68

Diaphus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	JD	2-055	5	6	41.54
29	M4	2-057	6	3	27.71
35	M4	2-069	10	2	9.96
36	JD	3-070	1	1	9.81
37	JD	3-072	1	2	19.01
38	M4	2-075	10	1	4.43
39	JD	3-076	4	2	20.31
42	JD	3-084	5	1	9.09
43	JD	3-086	4	6	57.60
44	M4	2-087	4	2	15.58
50	JD	4-107	3	2	20.54
52	JD	4-111	3	3	30.85
54	M4	3-106	3	2	20.65
55	M4	3-108	9	1	9.88
56	M4	3-110	9	2	14.64
59	M4	3-116	9	3	22.25
60	M4	3-118	9	2	15.48
64	JD	4-137	1	2	20.55
73	JD	5-153	4	1	9.75
76	JD	5-159	5	1	4.43
77	JD	5-161	5	2	18.63
80	M4	4-156	3	1	7.10
84	JD	5-175	1	1	10.37
89	JD	6-184	5	1	4.24
89	M4	5-174	3	1	12.14
92	JD	6-190	2	1	4.69
93	M4	5-182	4	1	7.36

Diaphus pacificus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	1	4.11
11	M4	1-022	5	3	12.03
14	M4	1-028	6	11	48.62
14	JD	1-026	1	2	10.68
15	M4	1-030	6	1	4.51
16	JD	2-031	1	8	84.60
16	M4	1-032	6	1	4.53
17	JD	2-033	1	2	20.04
18	JD	2-035	2	9	93.90
19	JD	2-037	2	7	38.15
20	JD	2-039	5	10	53.60
21	JD	2-041	5	4	20.68
22	JD	2-043	5	6	30.12
23	JD	2-045	5	7	70.13
24	JD	2-047	5	19	203.26
25	M4	2-049	7	1	9.74
26	JD	2-051	5	2	10.36
27	JD	2-053	5	3	29.57

Diaphus pacificus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	JD	2-055	5	2	13.85
34	M4	2-067	10	1	9.12
36	JD	3-070	1	15	147.20
37	JD	3-072	1	27	256.68
38	JD	3-074	4	30	303.12
39	JD	3-076	4	17	172.64
40	JD	3-080	5	46	218.50
41	JD	3-082	5	2	22.58
42	M4	2-083	4	3	24.07
43	JD	3-086	4	3	28.80
45	M4	2-089	4	12	99.12
46	M4	2-091	3	2	15.25
47	M4	2-092	3	2	5.83
51	M4	3-100	3	2	17.11
51	JD	4-109	3	1	10.67
52	JD	4-111	3	3	30.85
52	M4	3-102	3	6	52.55
53	M4	3-104	3	11	102.30
53	JD	4-113	3	1	10.71
61	M4	3-120	9	2	16.24
63	JD	4-135	4	39	397.41
64	JD	4-137	1	20	205.46
65	M4	3-128	8	3	29.61
66	M4	3-130	8	1	8.62
72	JD	5-151	4	6	54.98
73	JD	5-153	4	4	39.01
76	JD	5-159	5	3	13.29
77	JD	5-161	5	11	102.47
78	JD	5-163	5	13	126.51
79	JD	5-165	4	5	46.68
80	JD	5-167	4	11	52.80
80	M4	4-156	3	10	71.00
81	M4	4-158	3	2	17.55
81	JD	5-169	4	9	79.64
82	M4	4-160	3	1	4.08
82	JD	5-171	1	2	19.96
83	JD	5-173	1	24	235.85
83	M4	4-162	3	5	37.50
84	M4	4-164	3	6	24.66
84	JD	5-175	1	5	51.87
85	M4	5-166	3	1	2.66
85	JD	6-176	1	18	185.60
86	JD	6-178	1	6	56.24
86	M4	5-168	3	4	27.97
87	JD	6-180	4	13	60.84
88	M4	5-172	3	8	58.96
88	JD	6-182	5	6	28.80
89	M4	5-174	3	4	48.55

Diaphus pacificus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
89	JD	6-184	5	12	50.88
90	JD	6-186	5	16	75.84
90	M4	5-176	3	4	24.36
91	JD	6-188	2	5	23.80
91	M4	5-178	3	3	11.97
96	M4	5-188	4	4	20.40
97	M4	5-190	5	15	58.80
98	M4	5-192	5	11	39.82
99	M4	5-194	2	7	26.67

Diaphus theta

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-008	2	2	8.06

Lampadena spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	1	8.30
28	M4	2-055	6	1	5.68
42	JD	3-084	5	1	9.09
43	JD	3-086	4	1	9.60
67	M4	3-132	8	1	9.32
78	JD	5-163	5	1	9.73

Lampadena luminosa

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	1	4.64
3	M4	1-006	2	1	4.45

Lampadena urophaos

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	2	9.28
3	M4	1-006	2	2	8.90

Lampanyctus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	1	4.64
5	M4	1-010	2	3	13.83
8	M4	1-016	2	5	18.90
9	M4	1-018	2	2	8.86
12	M4	1-024	6	2	18.00
14	M4	1-028	6	2	8.84
15	M4	1-030	6	1	4.51
16	M4	1-032	6	2	9.06
18	M4	1-036	6	1	8.30
21	M4	1-042	7	1	5.63
21	JD	2-041	5	2	10.34
22	JD	2-043	5	1	5.02

Lampanyctus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	M4	1-044	7	1	7.66
26	M4	2-051	6	1	4.34
27	JD	2-053	5	3	29.57
28	JD	2-055	5	11	76.15
28	M4	2-055	6	2	11.36
29	M4	2-057	6	1	9.24
30	M4	2-059	6	1	10.17
31	M4	2-061	11	4	26.67
32	M4	2-063	11	3	28.58
33	M4	2-065	10	4	32.28
34	M4	2-067	10	3	27.35
35	M4	2-069	10	11	54.78
36	M4	2-071	10	1	7.14
37	M4	2-073	10	2	18.31
38	M4	2-075	10	22	97.54
39	M4	2-077	5	1	7.21
40	M4	2-079	5	3	25.01
41	M4	2-081	4	8	71.06
42	M4	2-083	4	2	16.05
42	JD	3-084	5	4	36.36
43	M4	2-085	4	1	8.22
44	M4	2-087	4	1	7.79
45	M4	2-089	4	1	8.26
46	M4	2-091	3	4	30.51
47	M4	2-092	3	5	14.58
49	M4	2-096	3	1	7.82
50	M4	3-098	3	1	7.86
51	M4	3-100	3	5	42.78
52	M4	3-102	3	4	35.03
53	M4	3-104	3	6	55.80
53	JD	4-113	3	7	75.00
54	JD	4-115	3	9	87.75
54	M4	3-106	3	3	30.98
55	M4	3-108	9	1	9.88
56	M4	3-110	9	10	73.18
57	M4	3-112	9	7	61.43
58	M4	3-114	9	4	29.44
59	M4	3-116	9	2	14.83
59	JD	4-125	3	1	9.93
60	M4	3-118	9	2	15.48
61	M4	3-120	9	1	8.12
62	M4	3-122	9	3	22.80
69	M4	3-136	8	1	8.79
70	JD	5-147	4	3	29.88
71	JD	5-149	4	6	60.25
72	JD	5-151	4	6	54.98
73	JD	5-153	4	2	19.51
74	JD	5-155	4	3	29.32

Lampanyctus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
75	JD	5-157	5	7	64.96
76	JD	5-159	5	3	13.29
77	JD	5-161	5	3	27.95
78	JD	5-163	5	8	77.85
78	M4	4-152	8	4	38.02
80	JD	5-167	4	1	4.80
81	M4	4-158	3	2	17.55
83	JD	5-173	1	1	9.83
83	M4	4-162	3	1	7.50
86	M4	5-168	3	8	55.93
88	M4	5-172	3	5	36.85
89	M4	5-174	3	1	12.14
90	M4	5-176	3	3	18.27
91	M4	5-178	3	17	67.83
95	M4	5-186	4	2	16.07
103	M4	5-204	2	7	24.29

Lampanyctus nobilis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
25	M4	2-049	7	2	19.48

Lampanyctus parvicauda

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
13	JD	1-024	1	1	10.16
16	JD	2-031	1	1	10.57
16	M4	1-032	6	1	4.53
23	JD	2-045	5	1	10.02
24	JD	2-047	5	1	10.70
28	JD	2-055	5	1	6.92
34	M4	2-067	10	2	18.23
36	M4	2-071	10	2	14.28
36	JD	3-070	1	1	9.81
38	M4	2-075	10	1	4.43
40	JD	3-080	5	2	9.50
43	JD	3-086	4	1	9.60
43	M4	2-085	4	2	16.45
47	M4	2-092	3	1	2.92
48	M4	2-094	3	1	7.35
49	M4	2-096	3	1	7.82
50	M4	3-098	3	3	23.58
51	M4	3-100	3	1	8.56
53	JD	4-113	3	6	64.29
54	M4	3-106	3	1	10.33
54	JD	4-115	3	5	48.75
55	JD	4-117	3	2	21.53
56	M4	3-110	9	5	36.59
56	JD	4-119	3	1	11.16

Lampanyctus parvicauda (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
57	JD	4-121	3	1	10.12
58	JD	4-123	3	2	20.43
59	JD	4-125	3	2	19.85
61	JD	4-129	4	7	74.06
62	M4	3-122	9	2	15.20
63	JD	4-135	4	1	10.19
63	M4	3-124	8	2	15.37
64	JD	4-137	1	1	10.27
65	M4	3-128	8	3	29.61
65	JD	4-139	3	1	9.90
66	M4	3-130	8	3	25.86
67	M4	3-132	8	1	9.32
68	JD	5-143	3	1	10.58
68	M4	3-134	8	2	15.75
69	M4	3-136	8	1	8.79
71	JD	5-149	4	4	40.16
73	M4	4-143	8	3	28.22
74	JD	5-155	4	1	9.77
78	JD	5-163	5	1	9.73
80	M4	4-156	3	7	49.70
80	JD	5-167	4	4	19.20
81	JD	5-169	4	1	8.85
82	JD	5-171	1	2	19.96
83	JD	5-173	1	2	19.65
84	JD	5-175	1	1	10.37
84	M4	4-164	3	3	12.33
85	JD	6-176	1	1	10.31
86	JD	6-178	1	3	28.12
86	M4	5-168	3	5	34.96
87	JD	6-180	4	1	4.68
88	M4	5-172	3	7	51.59
88	JD	6-182	5	1	4.80
89	M4	5-174	3	2	24.27
90	M4	5-176	3	1	6.09
90	JD	6-186	5	1	4.74
91	JD	6-188	2	4	19.04
91	M4	5-178	3	10	39.90
92	M4	5-180	4	4	30.56
92	JD	6-190	2	1	4.69
93	M4	5-182	4	2	14.72
94	M4	5-184	4	5	36.54
96	M4	5-188	4	2	10.20
97	M4	5-190	5	4	15.68
98	M4	5-192	5	5	18.10
99	M4	5-194	2	1	3.81
100	M4	5-198	2	4	16.76
101	M4	5-200	2	1	4.03

Lampanyctus steinbecki

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
59	M4	3-116	9	4	29.67

Lampanyctus tenuiformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
25	M4	2-049	7	1	9.74

Lobianchia gemellarii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
18	M4	1-036	6	2	16.61
20	M4	1-040	7	1	8.52
29	M4	2-057	6	1	9.24
31	M4	2-061	11	2	13.33

Nannobrachium bristori

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	M4	2-071	10	1	7.14
60	M4	3-118	9	1	7.74
61	M4	3-120	9	3	24.36
73	JD	5-153	4	2	19.51
74	JD	5-155	4	1	9.77

Nannobrachium hawaiiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-008	2	1	4.03
5	M4	1-010	2	1	4.61
18	M4	1-036	6	1	8.30
36	M4	2-071	10	2	14.28
78	JD	5-163	5	1	9.73
91	M4	5-178	3	1	3.99

Nannobrachium idostigma

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	JD	2-055	5	3	20.77
37	M4	2-073	10	1	9.15
40	M4	2-079	5	1	8.34
47	M4	2-092	3	3	8.75
50	M4	3-098	3	1	7.86
52	M4	3-102	3	2	17.52
55	M4	3-108	9	1	9.88
73	JD	5-153	4	1	9.75
90	M4	5-176	3	2	12.18
91	M4	5-178	3	1	3.99
102	M4	5-202	2	1	4.09

Notolychnus valdiviae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-008	2	3	12.09
33	M4	2-065	10	5	40.35
39	M4	2-077	5	1	7.21
41	M4	2-081	4	3	26.65
41	JD	3-082	5	10	112.88
42	M4	2-083	4	1	8.02
42	JD	3-084	5	2	18.18
43	M4	2-085	4	1	8.22
43	JD	3-086	4	2	19.20
44	M4	2-087	4	2	15.58
46	M4	2-091	3	1	7.63
52	M4	3-102	3	1	8.76
53	M4	3-104	3	2	18.60
59	M4	3-116	9	7	51.92
60	M4	3-118	9	1	7.74
61	M4	3-120	9	1	8.12
71	JD	5-149	4	3	30.12
73	JD	5-153	4	1	9.75
74	JD	5-155	4	2	19.55
76	JD	5-159	5	1	4.43
91	M4	5-178	3	6	23.94

Notoscopelus resplendens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	1	4.64
3	M4	1-006	2	1	4.45
4	M4	1-008	2	1	4.03
9	M4	1-018	2	1	4.43
18	M4	1-036	6	2	16.61
35	M4	2-069	10	1	4.98
38	M4	2-075	10	9	39.90
40	M4	2-079	5	2	16.67
41	M4	2-081	4	1	8.88
42	JD	3-084	5	2	18.18
47	M4	2-092	3	1	2.92
53	M4	3-104	3	2	18.60
54	M4	3-106	3	4	41.31
56	M4	3-110	9	3	21.95
77	M4	4-150	8	1	8.57
78	M4	4-152	8	2	19.01
80	M4	4-156	3	1	7.10

Parvilux boschmai

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
24	M4	1-048	7	1	8.74
43	M4	2-085	4	1	8.22
52	M4	3-102	3	2	17.52

Triphoturus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	1	10.33
56	M4	3-110	9	4	29.27
69	M4	3-136	8	2	17.57
73	M4	4-143	8	2	18.81
76	M4	4-148	8	2	8.18
77	M4	4-150	8	5	42.87
78	M4	4-152	8	13	123.57
80	M4	4-156	3	1	7.10
83	M4	4-162	3	1	7.50

Triphoturus mexicanus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
53	JD	4-113	3	1	10.71
102	M4	5-202	2	1	4.09

Triphoturus nigrescens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
38	M4	2-075	10	1	4.43
41	M4	2-081	4	1	8.88
42	JD	3-084	5	1	9.09
43	JD	3-086	4	1	9.60
54	JD	4-115	3	1	9.75
61	M4	3-120	9	1	8.12
62	M4	3-122	9	2	15.20
64	M4	3-126	8	1	7.50
65	M4	3-128	8	5	49.35
66	M4	3-130	8	1	8.62
67	M4	3-132	8	1	9.32
68	M4	3-134	8	4	31.49
69	M4	3-136	8	1	8.79
89	M4	5-174	3	1	12.14
91	M4	5-178	3	1	3.99

Benthosema panamense

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4	2-061	11	1	6.67
50	M4	3-098	3	534	4197.2
50	JD	4-107	3	8	82.17
63	JD	4-135	4	1	10.19
64	JD	4-137	1	1	10.27
66	JD	4-141	3	7	70.68
67	JD		3	11	88.14
68	JD	5-143	3	1	10.58
78	M4	4-152	8	25	237.63
79	M4	4-154	8	415	1726.4
81	M4	4-158	3	4	35.11
82	M4	4-160	3	2	8.16
84	M4	4-164	3	41	168.51

Benthosema panamense (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	269	715.54
86	M4	5-168	3	7	48.94

Benthosema suborbitale

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
60	M4	3-118	9	2	15.48

Centrobranchus nigroocellatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-057	6	1	9.24

Diogenichthys atlanticus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	3	13.92
3	M4	1-006	2	2	8.90
4	M4	1-008	2	2	8.06
5	M4	1-010	2	7	32.27

Diogenichthys laternatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
7	M4	1-014	2	3	15.09
8	M4	1-016	2	9	34.02
9	M4	1-018	2	30	132.90
9	JD	1-017	2	35	343.14
10	M4	1-020	5	8	32.88
11	M4	1-022	5	47	188.47
12	M4	1-024	6	12	108.00
13	M4	1-026	6	12	108.77
13	JD	1-024	1	8	81.31
14	M4	1-028	6	30	132.60
15	M4	1-030	6	17	76.67
16	M4	1-032	6	7	31.71
16	JD	2-031	1	11	116.32
17	M4	1-034	6	11	101.35
17	JD	2-033	1	7	70.13
18	M4	1-036	6	7	58.13
18	JD	2-035	2	16	166.93
19	JD	2-037	2	47	256.15
20	JD	2-039	5	12	64.32
21	JD	2-041	5	17	87.89
22	M4	1-044	7	8	61.26
22	JD	2-043	5	14	70.28
23	JD	2-045	5	10	100.19
23	M4	1-046	7	9	39.42
24	JD	2-047	5	2	21.40
24	M4	1-048	7	1	8.74
25	M4	2-049	7	2	19.48
25	JD	2-049	5	6	57.37

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	M4	2-051	6	2	8.68
26	JD	2-051	5	5	25.90
27	M4	2-053	6	7	54.41
27	JD	2-053	5	5	49.28
28	JD	2-055	5	15	103.85
29	M4	2-057	6	15	138.57
30	M4	2-059	6	3	30.51
31	M4	2-061	11	6	40.00
32	M4	2-063	11	21	200.04
34	M4	2-067	10	4	36.47
35	M4	2-069	10	14	69.72
36	M4	2-071	10	7	49.96
37	M4	2-073	10	2	18.31
38	JD	3-074	4	12	121.25
38	M4	2-075	10	50	221.68
39	M4	2-077	5	3	21.62
39	JD	3-076	4	15	152.33
40	JD	3-080	5	33	156.75
40	M4	2-079	5	14	116.71
41	M4	2-081	4	36	319.75
41	JD	3-082	5	27	304.76
42	M4	2-083	4	56	449.27
42	JD	3-084	5	138	1254.3
43	JD	3-086	4	103	988.80
43	M4	2-085	4	105	863.51
44	M4	2-087	4	102	794.63
45	M4	2-089	4	153	1263.7
46	M4	2-091	3	26	198.31
47	M4	2-092	3	248	723.13
48	M4	2-094	3	230	1689.8
49	M4	2-096	3	246	1923.7
50	M4	3-098	3	43	337.98
50	JD	4-107	3	17	174.62
51	JD	4-109	3	7	74.67
51	M4	3-100	3	41	350.82
52	JD	4-111	3	59	606.73
52	M4	3-102	3	52	455.40
53	JD	4-113	3	54	578.57
53	M4	3-104	3	70	651.00
54	M4	3-106	3	19	196.21
54	JD	4-115	3	226	2203.5
55	JD	4-117	3	11	118.43
55	M4	3-108	9	4	39.51
56	JD	4-119	3	8	89.26
56	M4	3-110	9	58	424.44
57	JD	4-121	3	15	151.73
57	M4	3-112	9	16	140.41
58	JD	4-123	3	1	10.21

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	M4	3-114	9	5	36.80
59	JD	4-125	3	132	1310.1
60	JD	4-127	4	3	29.25
61	JD	4-129	4	6	63.48
61	M4	3-120	9	5	40.59
62	M4	3-122	9	30	227.95
63	M4	3-124	8	39	299.69
63	JD	4-135	4	1	10.19
64	JD	4-137	1	1	10.27
64	M4	3-126	8	7	52.50
65	M4	3-128	8	25	246.75
65	JD	4-139	3	4	39.62
66	M4	3-130	8	53	456.86
67	M4	3-132	8	49	456.50
68	M4	3-134	8	33	259.83
69	M4	3-136	8	7	61.50
70	JD	5-147	4	10	99.59
71	JD	5-149	4	191	1917.8
72	JD	5-151	4	107	980.50
73	JD	5-153	4	44	429.14
73	M4	4-143	8	1	9.41
74	JD	5-155	4	46	449.55
75	M4	4-146	8	3	29.06
75	JD	5-157	5	163	1512.6
76	M4	4-148	8	9	36.81
76	JD	5-159	5	19	84.17
77	M4	4-150	8	26	222.93
77	JD	5-161	5	10	93.15
78	JD	5-163	5	1	9.73
78	M4	4-152	8	137	1302.2
79	JD	5-165	4	2	18.67
79	M4	4-154	8	16	66.56
80	M4	4-156	3	99	702.90
80	JD	5-167	4	9	43.20
81	M4	4-158	3	38	333.52
82	JD	5-171	1	10	99.80
82	M4	4-160	3	12	48.96
83	JD	5-173	1	1	9.83
83	M4	4-162	3	43	322.50
84	JD	5-175	1	3	31.12
84	M4	4-164	3	41	168.51
85	JD	6-176	1	4	41.24
85	M4	5-166	3	207	550.62
86	JD	6-178	1	13	121.84
86	M4	5-168	3	97	678.18
87	JD	6-180	4	11	51.48
88	JD	6-182	5	1	4.80
88	M4	5-172	3	138	1017.1

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
89	M4	5-174	3	105	1274.3
90	M4	5-176	3	315	1918.3
90	JD	6-186	5	16	75.84
91	JD	6-188	2	44	209.44
91	M4	5-178	3	1219	4863.8
92	JD	6-190	2	12	56.28
92	M4	5-180	4	250	1910.0
93	M4	5-182	4	9	66.23
94	M4	5-184	4	5	36.54
95	M4	5-186	4	1	8.04
96	M4	5-188	4	26	132.60
97	M4	5-190	5	19	74.48
98	M4	5-192	5	12	43.44
99	M4	5-194	2	2	7.62
100	M4	5-198	2	30	125.70
101	M4	5-200	2	5	20.15
102	M4	5-202	2	20	81.80
103	M4	5-204	2	1	3.47

Gonichthys tenuiculus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	2	7.56
9	M4	1-018	2	1	4.43
14	M4	1-028	6	1	4.42
27	JD	2-053	5	1	9.86
29	M4	2-057	6	1	9.24
33	M4	2-065	10	1	8.07
35	M4	2-069	10	1	4.98
38	M4	2-075	10	1	4.43
45	M4	2-089	4	1	8.26
47	M4	2-092	3	3	8.75
51	M4	3-100	3	1	8.56
52	M4	3-102	3	1	8.76
55	JD	4-117	3	1	10.77
60	M4	3-118	9	2	15.48
65	M4	3-128	8	2	19.74
66	M4	3-130	8	1	8.62
68	M4	3-134	8	1	7.87
71	JD	5-149	4	1	10.04
72	JD	5-151	4	1	9.16
73	JD	5-153	4	1	9.75
74	JD	5-155	4	1	9.77
75	JD	5-157	5	1	9.28
80	M4	4-156	3	3	21.30
91	M4	5-178	3	6	23.94
94	M4	5-184	4	1	7.31
101	M4	5-200	2	1	4.03
102	M4	5-202	2	1	4.09

Hygophum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	1-040	7	5	42.62

Hygophum atratum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	4	18.56
7	M4	1-014	2	1	5.03
8	M4	1-016	2	7	26.46
9	M4	1-018	2	10	44.30
10	M4	1-020	5	1	4.11
19	JD	2-037	2	9	49.05
20	JD	2-039	5	26	139.36
21	JD	2-041	5	5	25.85
28	JD	2-055	5	1	6.92
31	M4	2-061	11	3	20.00
33	M4	2-065	10	2	16.14
34	M4	2-067	10	1	9.12
36	M4	2-071	10	1	7.14
38	M4	2-075	10	5	22.17
40	M4	2-079	5	1	8.34
56	M4	3-110	9	2	14.64
61	M4	3-120	9	2	16.24
62	M4	3-122	9	1	7.60
65	M4	3-128	8	5	49.35
66	M4	3-130	8	8	68.96
67	M4	3-132	8	1	9.32
69	M4	3-136	8	1	8.79
90	JD	6-186	5	1	4.74
91	JD	6-188	2	3	14.28
92	JD	6-190	2	17	79.73
98	M4	5-192	5	1	3.62
100	M4	5-198	2	6	25.14
101	M4	5-200	2	5	20.15
102	M4	5-202	2	5	20.45

Hygophum proximum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-010	2	7	32.27
8	M4	1-016	2	2	7.56
9	M4	1-018	2	4	17.72
12	M4	1-024	6	1	9.00
15	M4	1-030	6	1	4.51
17	M4	1-034	6	1	9.21
19	M4	1-038	6	2	18.76
20	M4	1-040	7	2	17.05
21	JD	2-041	5	1	5.17
22	M4	1-044	7	1	7.66
24	M4	1-048	7	1	8.74
25	M4	2-049	7	7	68.18

Hygophum proximum (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	M4	2-055	6	2	11.36
29	M4	2-057	6	3	27.71
31	M4	2-061	11	10	66.67
33	M4	2-065	10	3	24.21
35	M4	2-069	10	6	29.88
36	M4	2-071	10	1	7.14
38	M4	2-075	10	17	75.37
41	JD	3-082	5	1	11.29
41	M4	2-081	4	4	35.53
42	M4	2-083	4	1	8.02
42	JD	3-084	5	7	63.62
43	M4	2-085	4	2	16.45
43	JD	3-086	4	4	38.40
44	M4	2-087	4	1	7.79
53	M4	3-104	3	1	9.30
59	M4	3-116	9	10	74.17
60	M4	3-118	9	6	46.43
61	M4	3-120	9	1	8.12
76	JD	5-159	5	1	4.43
78	JD	5-163	5	1	9.73

Hygophum reinhardtii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-006	2	2	8.90

Loweina rara

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
33	M4	2-065	10	1	8.07
34	M4	2-067	10	1	9.12
35	M4	2-069	10	2	9.96
90	M4	5-176	3	1	6.09
102	M4	5-202	2	1	4.09

Myctophum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	1-040	7	3	25.57
22	M4	1-044	7	1	7.66
26	JD	2-051	5	3	15.54
33	M4	2-065	10	1	8.07
35	M4	2-069	10	1	4.98
38	M4	2-075	10	1	4.43
42	M4	2-083	4	3	24.07
42	JD	3-084	5	1	9.09
51	M4	3-100	3	1	8.56
78	M4	4-152	8	2	19.01
80	M4	4-156	3	1	7.10
86	M4	5-168	3	1	6.99

Myctophum spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
90	M4	5-176	3	3	18.27

Myctophum asperum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	M4	2-055	6	1	5.68
29	M4	2-057	6	11	101.62
31	M4	2-061	11	1	6.67
42	M4	2-083	4	1	8.02
43	JD	3-086	4	5	48.00

Myctophum aurolaternatum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
10	M4	1-020	5	1	4.11
11	M4	1-022	5	1	4.01
16	JD	2-031	1	3	31.72
16	M4	1-032	6	2	9.06
18	JD	2-035	2	3	31.30
19	M4	1-038	6	1	9.38
21	JD	2-041	5	2	10.34
22	JD	2-043	5	3	15.06
22	M4	1-044	7	1	7.66
25	M4	2-049	7	1	9.74
26	JD	2-051	5	1	5.18
27	M4	2-053	6	1	7.77
31	M4	2-061	11	3	20.00
36	JD	3-070	1	1	9.81
38	JD	3-074	4	5	50.52
39	M4	2-077	5	1	7.21
39	JD	3-076	4	6	60.93
40	M4	2-079	5	2	16.67
41	JD	3-082	5	1	11.29
41	M4	2-081	4	1	8.88
42	M4	2-083	4	3	24.07
43	JD	3-086	4	2	19.20
51	JD	4-109	3	1	10.67
52	M4	3-102	3	2	17.52
52	JD	4-111	3	1	10.28
53	M4	3-104	3	1	9.30
53	JD	4-113	3	10	107.14
54	M4	3-106	3	3	30.98
63	JD	4-135	4	4	40.76
73	JD	5-153	4	1	9.75
78	M4	4-152	8	1	9.51
79	M4	4-154	8	1	4.16
80	JD	5-167	4	4	19.20
80	M4	4-156	3	2	14.20
83	M4	4-162	3	5	37.50

Myctophum aurolaternatum (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	1	4.11
86	M4	5-168	3	1	6.99
86	JD	6-178	1	1	9.37
87	JD	6-180	4	1	4.68
88	JD	6-182	5	1	4.80
88	M4	5-172	3	1	7.37
90	M4	5-176	3	1	6.09
90	JD	6-186	5	2	9.48
91	M4	5-178	3	1	3.99
96	M4	5-188	4	1	5.10
97	M4	5-190	5	2	7.84
98	M4	5-192	5	1	3.62
101	M4	5-200	2	1	4.03

Myctophum nitidulum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	4	18.56
3	M4	1-006	2	1	4.45
19	M4	1-038	6	1	9.38
28	M4	2-055	6	4	22.72
30	M4	2-059	6	3	30.51
31	M4	2-061	11	4	26.67
32	M4	2-063	11	1	9.53
34	M4	2-067	10	1	9.12
38	M4	2-075	10	5	22.17
39	M4	2-077	5	1	7.21
40	M4	2-079	5	2	16.67
41	M4	2-081	4	1	8.88
42	M4	2-083	4	1	8.02
44	M4	2-087	4	1	7.79
47	M4	2-092	3	3	8.75
52	M4	3-102	3	1	8.76
54	M4	3-106	3	2	20.65
60	M4	3-118	9	2	15.48
61	M4	3-120	9	1	8.12
67	M4	3-132	8	1	9.32
68	M4	3-134	8	1	7.87
69	M4	3-136	8	1	8.79
76	JD	5-159	5	1	4.43
77	M4	4-150	8	9	77.17
78	M4	4-152	8	3	28.52
80	M4	4-156	3	5	35.50
85	M4	5-166	3	2	5.32
89	M4	5-174	3	1	12.14
90	M4	5-176	3	1	6.09
91	M4	5-178	3	1	3.99
103	M4	5-204	2	4	13.88

Myctophum obtusirostrum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-057	6	1	9.24

Myctophum selenops

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
35	M4	2-069	10	1	4.98

Protomyctophum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
38	M4	2-075	10	1	4.43
45	M4	2-089	4	1	8.26
91	M4	5-178	3	3	11.97

Protomyctophum crockeri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-004	2	1	4.64
4	M4	1-008	2	1	4.03
103	M4	5-204	2	1	3.47

Symbolophorus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
11	M4	1-022	5	7	28.07
12	M4	1-024	6	1	9.00
14	M4	1-028	6	6	26.52
15	M4	1-030	6	7	31.57
16	M4	1-032	6	1	4.53
17	M4	1-034	6	1	9.21
18	M4	1-036	6	1	8.30
19	M4	1-038	6	2	18.76
21	M4	1-042	7	1	5.63
22	M4	1-044	7	3	22.97
25	M4	2-049	7	17	165.58
26	JD	2-051	5	9	46.62
33	M4	2-065	10	1	8.07
34	M4	2-067	10	1	9.12
35	M4	2-069	10	1	4.98
40	JD	3-080	5	2	9.50
41	JD	3-082	5	2	22.58
42	M4	2-083	4	1	8.02
42	JD	3-084	5	1	9.09
43	JD	3-086	4	7	67.20
44	M4	2-087	4	4	31.16
47	M4	2-092	3	2	5.83
51	M4	3-100	3	1	8.56
52	JD	4-111	3	2	20.57
52	M4	3-102	3	6	52.55
53	M4	3-104	3	2	18.60
54	M4	3-106	3	2	20.65
58	M4	3-114	9	3	22.08

Symbolophorus evermanni (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
61	M4	3-120	9	6	48.71
62	M4	3-122	9	2	15.20
63	M4	3-124	8	2	15.37
65	M4	3-128	8	3	29.61
66	M4	3-130	8	4	34.48
67	M4	3-132	8	1	9.32
74	JD	5-155	4	1	9.77
76	JD	5-159	5	1	4.43
80	M4	4-156	3	1	7.10
82	M4	4-160	3	1	4.08
83	M4	4-162	3	3	22.50
91	M4	5-178	3	3	11.97

Trachipterus fukuzakii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
96	M4	5-188	4	1	5.10

Zu cristatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-006	2	1	4.45
14	M4	1-028	6	1	4.42
44	M4	2-087	4	1	7.79
49	M4	2-096	3	1	7.82
53	JD	4-113	3	1	10.71
63	M4	3-124	8	1	7.68
91	M4	5-178	3	1	3.99

Bregmaceros spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-010	2	1	4.61
8	M4	1-016	2	7	26.46
9	M4	1-018	2	1	4.43
10	M4	1-020	5	1	4.11
11	M4	1-022	5	1	4.01
12	M4	1-024	6	4	36.00
13	M4	1-026	6	1	9.06
14	M4	1-028	6	2	8.84
15	M4	1-030	6	5	22.55
16	M4	1-032	6	3	13.59
16	JD	2-031	1	4	42.30
17	M4	1-034	6	1	9.21
18	JD	2-035	2	1	10.43
18	M4	1-036	6	3	24.91
20	M4	1-040	7	2	17.05
20	JD	2-039	5	4	21.44
22	JD	2-043	5	1	5.02
22	M4	1-044	7	1	7.66
23	JD	2-045	5	2	20.04

Bregmaceros spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	5	25.90
26	M4	2-051	6	1	4.34
27	M4	2-053	6	1	7.77
28	JD	2-055	5	2	13.85
28	M4	2-055	6	2	11.36
29	M4	2-057	6	2	18.48
30	M4	2-059	6	1	10.17
33	M4	2-065	10	1	8.07
36	M4	2-071	10	1	7.14
36	JD	3-070	1	1	9.81
38	JD	3-074	4	4	40.42
39	JD	3-076	4	2	20.31
40	JD	3-080	5	1	4.75
41	JD	3-082	5	1	11.29
42	JD	3-084	5	1	9.09
44	M4	2-087	4	1	7.79
46	M4	2-091	3	1	7.63
50	M4	3-098	3	1	7.86
59	M4	3-116	9	4	29.67
63	JD	4-135	4	3	30.57
64	JD	4-137	1	1	10.27
67	JD		3	1	8.01
74	JD	5-155	4	1	9.77
75	JD	5-157	5	3	27.84
76	JD	5-159	5	1	4.43
78	JD	5-163	5	3	29.19
79	JD	5-165	4	1	9.34
80	JD	5-167	4	2	9.60
82	M4	4-160	3	2	8.16
87	JD	6-180	4	4	18.72
88	JD	6-182	5	4	19.20
90	M4	5-176	3	1	6.09
91	M4	5-178	3	5	19.95
92	JD	6-190	2	3	14.07
97	M4	5-190	5	2	7.84

Bregmaceros bathymaster

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
12	JD	1-023	1	10	57.70
13	JD	1-024	1	4	40.65
14	JD	1-026	1	64	341.76
36	JD	3-070	1	1	9.81
50	JD	4-107	3	40	410.87
50	M4	3-098	3	1	7.86
51	JD	4-109	3	190	2026.6
56	JD	4-119	3	271	3023.5
64	JD	4-137	1	16	164.37

Bregmaceros bathymaster (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
65	JD	4-139	3	18	178.27
66	JD	4-141	3	58	585.68
71	JD	5-149	4	1	10.04
76	M4	4-148	8	3	12.27
79	M4	4-154	8	159	661.44
80	M4	4-156	3	1	7.10
81	M4	4-158	3	6	52.66
84	M4	4-164	3	19	78.09
84	JD	5-175	1	2	20.75
85	M4	5-166	3	96	255.36
86	M4	5-168	3	2	13.98

Macrouridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	1	4.16
80	M4	4-156	3	1	7.10
83	M4	4-162	3	1	7.50
90	M4	5-176	3	1	6.09

Nezumia spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
77	M4	4-150	8	1	8.57

Moridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	1	10.67

Physiculus rastrelliger

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	M4	1-028	6	1	4.42
15	M4	1-030	6	1	4.51

Merluccius spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	3	12.27

Brotula clarkae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	2	8.22

Cherublemma emmelas

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	M4	1-028	6	1	4.42
29	M4	2-057	6	2	18.48
51	JD	4-109	3	3	32.00
72	JD	5-151	4	2	18.33
83	JD	5-173	1	1	9.83

Lepophidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	1	2.66

Lepophidium negropinna

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	2	21.33
79	M4	4-154	8	3	12.48

Ophidion spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	4	16.36
85	M4	5-166	3	1	2.66

Bythitidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	JD	4-107	3	1	10.27

Lophiodes spilurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86
51	JD	4-109	3	1	10.67

Ogcocephalidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	M4	4-154	8	1	4.16

Melanocetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
81	M4	4-158	3	1	8.78

Oneirodidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	M4	4-156	3	1	7.10

Dolopichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	1-034	6	1	9.21
53	M4	3-104	3	1	9.30

Oneirodes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
27	M4	2-053	6	1	7.77
33	M4	2-065	10	1	8.07
41	M4	2-081	4	1	8.88
51	M4	3-100	3	1	8.56
59	JD	4-125	3	1	9.93
68	JD	5-143	3	1	10.58
77	JD	5-161	5	1	9.32

Oneirodes spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	M4	4-156	3	1	7.10

Ceratias holboelli

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	1	8.30
25	M4	2-049	7	1	9.74
61	M4	3-120	9	1	8.12

Cryptopsaras couesii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	1	5.18

Gigantactis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
18	M4	1-036	6	1	8.30
28	M4	2-055	6	1	5.68
30	M4	2-059	6	1	10.17
64	M4	3-126	8	1	7.50

Hyporhamphus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
94	M4	5-184	4	1	7.31

Cheilopogon xenopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
96	M4	5-188	4	1	5.10

Exocoetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
43	M4	2-085	4	1	8.22

Hirundichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
35	M4	2-069	10	1	4.98

Oxyporhamphus micropterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
11	M4	1-022	5	1	4.01
21	JD	2-041	5	1	5.17
22	JD	2-043	5	1	5.02
26	JD	2-051	5	1	5.18
26	M4	2-051	6	2	8.68
30	M4	2-059	6	1	10.17
40	JD	3-080	5	1	4.75
43	M4	2-085	4	3	24.67
43	JD	3-086	4	1	9.60

Oxyporhamphus micropterus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
47	M4	2-092	3	1	2.92
51	M4	3-100	3	2	17.11
57	JD	4-121	3	1	10.12
77	JD	5-161	5	1	9.32
82	JD	5-171	1	2	19.96
95	M4	5-186	4	1	8.04

Prognichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86
65	JD	4-139	3	1	9.90

Melamphaidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
56	M4	3-110	9	1	7.32

Melamphaes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
10	M4	1-020	5	2	8.22
20	M4	1-040	7	1	8.52
25	M4	2-049	7	1	9.74
31	M4	2-061	11	1	6.67
35	M4	2-069	10	2	9.96
36	M4	2-071	10	1	7.14
41	M4	2-081	4	1	8.88
41	JD	3-082	5	1	11.29
42	JD	3-084	5	4	36.36
43	JD	3-086	4	1	9.60
43	M4	2-085	4	1	8.22
48	M4	2-094	3	1	7.35
52	M4	3-102	3	1	8.76
54	M4	3-106	3	1	10.33
54	JD	4-115	3	1	9.75
59	M4	3-116	9	2	14.83
61	JD	4-129	4	1	10.58
67	M4	3-132	8	1	9.32
68	M4	3-134	8	1	7.87
72	JD	5-151	4	2	18.33
73	JD	5-153	4	2	19.51
74	JD	5-155	4	2	19.55
76	JD	5-159	5	2	8.86
77	JD	5-161	5	1	9.32
78	M4	4-152	8	2	19.01
78	JD	5-163	5	1	9.73
80	M4	4-156	3	5	35.50
81	M4	4-158	3	1	8.78
83	M4	4-162	3	1	7.50

Melamphaes spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
88	M4	5-172	3	4	29.48
89	M4	5-174	3	1	12.14
90	M4	5-176	3	1	6.09
91	JD	6-188	2	1	4.76
91	M4	5-178	3	2	7.98
92	JD	6-190	2	1	4.69
93	M4	5-182	4	1	7.36
94	M4	5-184	4	1	7.31
95	M4	5-186	4	1	8.04
96	M4	5-188	4	1	5.10
97	M4	5-190	5	1	3.92

Poromitra spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
73	JD	5-153	4	1	9.75
79	M4	4-154	8	1	4.16
80	M4	4-156	3	1	7.10
91	M4	5-178	3	1	3.99

Poromitra crassiceps

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	3-106	3	1	10.33
55	M4	3-108	9	1	9.88

Poromitra megalops

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4	2-061	11	1	6.67
81	M4	4-158	3	1	8.78

Scopeloberyx robustus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	1	5.18

Scopelogadus bispinosus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-006	2	1	4.45
9	M4	1-018	2	1	4.43
10	M4	1-020	5	1	4.11
11	M4	1-022	5	3	12.03
17	JD	2-033	1	1	10.02
18	JD	2-035	2	1	10.43
20	JD	2-039	5	2	10.72
22	JD	2-043	5	2	10.04
39	JD	3-076	4	1	10.16
40	JD	3-080	5	1	4.75
43	M4	2-085	4	1	8.22
45	M4	2-089	4	2	16.52

Scopelogadus bispinosus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
49	M4	2-096	3	1	7.82
52	JD	4-111	3	1	10.28
61	M4	3-120	9	1	8.12
62	M4	3-122	9	1	7.60
63	JD	4-135	4	1	10.19
64	JD	4-137	1	1	10.27
67	M4	3-132	8	1	9.32
75	JD	5-157	5	2	18.56
77	M4	4-150	8	2	17.15
78	M4	4-152	8	4	38.02
83	M4	4-162	3	1	7.50
89	JD	6-184	5	1	4.24
91	JD	6-188	2	3	14.28
93	M4	5-182	4	1	7.36
96	M4	5-188	4	1	5.10

Eutaeniophorus festivus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	JD	5-159	5	1	4.43

Pontinus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	7	37.38
29	M4	2-057	6	1	9.24
40	M4	2-079	5	2	16.67
50	M4	3-098	3	2	15.72
51	JD	4-109	3	4	42.67
65	JD	4-139	3	2	19.81
66	JD	4-141	3	1	10.10
68	JD	5-143	3	1	10.58
76	M4	4-148	8	1	4.09
78	M4	4-152	8	7	66.54
79	M4	4-154	8	2	8.32
84	M4	4-164	3	3	12.33
85	M4	5-166	3	3	7.98
86	M4	5-168	3	2	13.98

Scorpaenodes xyris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
16	JD	2-031	1	1	10.57
57	JD	4-121	3	1	10.12
79	JD	5-165	4	14	130.70
84	JD	5-175	1	1	10.37
85	M4	5-166	3	1	2.66
96	M4	5-188	4	1	5.10

Prionotus ruscarius

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	1	10.67

Prionotus stephanophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	2	8.18
85	M4	5-166	3	1	2.66

Howella spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34

Howella pammelas

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	1-034	6	2	18.43
19	M4	1-038	6	2	18.76
23	M4	1-046	7	1	4.38
27	M4	2-053	6	1	7.77
30	M4	2-059	6	1	10.17
33	M4	2-065	10	1	8.07
39	M4	2-077	5	2	14.42
40	M4	2-079	5	2	16.67
43	JD	3-086	4	2	19.20
44	M4	2-087	4	1	7.79
45	M4	2-089	4	1	8.26
53	M4	3-104	3	1	9.30
56	JD	4-119	3	1	11.16
62	M4	3-122	9	2	15.20
72	JD	5-151	4	5	45.82
73	JD	5-153	4	1	9.75
74	JD	5-155	4	2	19.55
91	M4	5-178	3	1	3.99

Serraninae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	3	32.00

Diplectrum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
55	M4	3-108	9	1	9.88
80	M4	4-156	3	1	7.10

Serranus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	JD	4-107	3	5	51.36
51	JD	4-109	3	4	42.67
76	M4	4-148	8	10	40.90
82	M4	4-160	3	1	4.08

Serranus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	3	12.33
85	M4	5-166	3	10	26.60

Anthiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86

Hemanthias spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
81	M4	4-158	3	1	8.78

Pronotogrammus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	2	8.22

Pronotogrammus multifasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	1	4.09

Epinephelinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	1	4.11

Paranthias colonus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	M4	4-156	3	1	7.10

Apogon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	4	10.64

Apogon atricaudus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	1	10.67

Apogon retrosella

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	1	10.67

Carangidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
84	M4	4-164	3	1	4.11

Caranx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	JD	1-023	1	1	5.77
14	JD	1-026	1	1	5.34

Caranx spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
23	JD	2-045	5	2	20.04
67	JD		3	1	8.01
82	M4	4-160	3	1	4.08
83	M4	4-162	3	1	7.50

Caranx caballus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
39	JD	3-076	4	1	10.16
79	M4	4-154	8	3	12.48
82	M4	4-160	3	1	4.08

Caranx sexfasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
64	JD	4-137	1	1	10.27
67	JD		3	2	16.03
82	M4	4-160	3	1	4.08

Chloroscombrus orqueta

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
64	JD	4-137	1	6	61.64

Decapterus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	M4	4-162	3	1	7.50

Naucrates ductor

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
57	M4	3-112	9	1	8.78

Oligoplites spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	M4	4-162	3	1	7.50

Selar crumenophthalmus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	M4	4-162	3	1	7.50
85	M4	5-166	3	29	77.14

Selene peruviana

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	JD	1-023	1	1	5.77

Coryphaena equiselis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
23	JD	2-045	5	1	10.02
44	M4	2-087	4	1	7.79

Coryphaena hippurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
9	JD	1-017	2	1	9.80
9	M4	1-018	2	1	4.43
10	M4	1-020	5	1	4.11
14	M4	1-028	6	1	4.42
22	JD	2-043	5	1	5.02
32	M4	2-063	11	1	9.53
39	JD	3-076	4	1	10.16
71	JD	5-149	4	1	10.04
83	JD	5-173	1	1	9.83
85	M4	5-166	3	1	2.66
89	M4	5-174	3	1	12.14
90	JD	6-186	5	1	4.74
97	M4	5-190	5	1	3.92

Brama spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
19	M4	1-038	6	1	9.38
59	M4	3-116	9	2	14.83

Brama dussumieri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	1-034	6	1	9.21
29	M4	2-057	6	1	9.24
38	M4	2-075	10	1	4.43
41	JD	3-082	5	1	11.29
41	M4	2-081	4	1	8.88
53	M4	3-104	3	1	9.30
91	M4	5-178	3	5	19.95

Caristius maderensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
40	M4	2-079	5	1	8.34
56	M4	3-110	9	1	7.32
86	M4	5-168	3	1	6.99

Lutjanidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
67	JD		3	1	8.01

Lutjanus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86

Lutjanus peru

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	JD	4-135	4	1	10.19

Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	1	4.09
81	M4	4-158	3	1	8.78
85	M4	5-166	3	3	7.98

Eucinostomus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
66	JD	4-141	3	2	20.20

Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	JD	4-107	3	1	10.27
51	JD	4-109	3	2	21.33
67	JD		3	10	80.13
79	M4	4-154	8	1	4.16
82	M4	4-160	3	1	4.08
84	M4	4-164	3	2	8.22
85	M4	5-166	3	2	5.32

Xenistius californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
82	M4	4-160	3	4	16.32

Sparidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	M4	4-162	3	1	7.50

Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34
51	JD	4-109	3	2	21.33
67	JD		3	4	32.05
76	M4	4-148	8	3	12.27
82	M4	4-160	3	5	20.40
85	M4	5-166	3	1	2.66

Larimus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	6	24.54

Polydactylus approximans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	1	2.66

Kyphosus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	3	32.00

Mugil spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	JD	2-039	5	1	5.36
73	M4	4-143	8	1	9.41
76	M4	4-148	8	1	4.09
79	M4	4-154	8	1	4.16
85	M4	5-166	3	1	2.66

Pomacentridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	JD	1-023	1	3	17.31
50	M4	3-098	3	1	7.86
51	JD	4-109	3	2	21.33
81	M4	4-158	3	1	8.78
84	JD	5-175	1	1	10.37
85	M4	5-166	3	6	15.96

Abudefduf spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	2	5.32

Chromis atrilobata

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	2	21.33
86	M4	5-168	3	1	6.99

Labridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	1	4.09

Halichoeres spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	4	21.36
51	JD	4-109	3	2	21.33
82	M4	4-160	3	1	4.08
84	JD	5-175	1	1	10.37

Thalassoma spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34
79	JD	5-165	4	21	196.05

Xyrichtys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	4	21.36
78	M4	4-152	8	2	19.01
80	M4	4-156	3	1	7.10

Xyrichtys spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
81	M4	4-158	3	3	26.33
85	M4	5-166	3	3	7.98

Xyrichtys mundiceps

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	JD	6-178	1	3	28.12

Chiasmodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	JD	3-070	1	1	9.81
71	JD	5-149	4	1	10.04
72	JD	5-151	4	1	9.16

Chiasmodon niger

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
9	M4	1-018	2	3	13.29
10	M4	1-020	5	3	12.33
14	M4	1-028	6	1	4.42
15	M4	1-030	6	1	4.51
21	JD	2-041	5	1	5.17
26	JD	2-051	5	1	5.18
28	M4	2-055	6	1	5.68
29	M4	2-057	6	2	18.48
38	M4	2-075	10	4	17.73
44	M4	2-087	4	1	7.79
56	M4	3-110	9	1	7.32
57	M4	3-112	9	1	8.78
61	M4	3-120	9	1	8.12
62	M4	3-122	9	1	7.60
64	M4	3-126	8	1	7.50
75	JD	5-157	5	1	9.28
77	M4	4-150	8	2	17.15
90	JD	6-186	5	1	4.74
91	JD	6-188	2	1	4.76
91	M4	5-178	3	2	7.98
92	JD	6-190	2	6	28.14
99	M4	5-194	2	1	3.81
102	M4	5-202	2	2	8.18
103	M4	5-204	2	1	3.47

Kali spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	JD	2-055	5	1	6.92
41	JD	3-082	5	1	11.29
75	JD	5-157	5	1	9.28

Kali normani

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	M4	1-028	6	1	4.42
15	M4	1-030	6	1	4.51

Blennioidei

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	6	15.96

Malacoctenus hubbsi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	JD	4-135	4	1	10.19

Ophioblennius steindachneri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	3	32.00

Synchiropus atrilabiatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	M4	2-081	4	1	8.88
71	JD	5-149	4	1	10.04
89	M4	5-174	3	1	12.14

Eleotridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	JD	1-023	1	1	5.77
36	JD	3-070	1	2	19.63
48	M4	2-094	3	1	7.35
51	M4	3-100	3	1	8.56
51	JD	4-109	3	3	32.00
52	JD	4-111	3	4	41.13
63	JD	4-135	4	3	30.57
64	JD	4-137	1	40	410.92
65	JD	4-139	3	1	9.90
82	M4	4-160	3	1	4.08
84	M4	4-164	3	1	4.11
88	M4	5-172	3	2	14.74
90	M4	5-176	3	1	6.09

Dormitator latifrons

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
66	JD	4-141	3	36	363.52
67	JD		3	4	32.05
68	JD	5-143	3	3	31.74
81	JD	5-169	4	1	8.85
82	JD	5-171	1	3	29.94
83	JD	5-173	1	2	19.65
85	JD	6-176	1	5	51.56
86	JD	6-178	1	2	18.75

Gobiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	4	21.36
16	JD	2-031	1	1	10.57
37	JD	3-072	1	1	9.51
47	M4	2-092	3	1	2.92
50	JD	4-107	3	9	92.45
50	M4	3-098	3	3	23.58
51	JD	4-109	3	50	533.33
67	JD		3	1	8.01
76	M4	4-148	8	3	12.27
79	M4	4-154	8	15	62.40
81	M4	4-158	3	2	17.55
82	M4	4-160	3	31	126.48
82	JD	5-171	1	2	19.96
83	M4	4-162	3	5	37.50
84	M4	4-164	3	10	41.10
84	JD	5-175	1	1	10.37
85	M4	5-166	3	69	183.54
86	JD	6-178	1	1	9.37
86	M4	5-168	3	5	34.96
92	M4	5-180	4	1	7.64

Microdesmidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
82	M4	4-160	3	1	4.08

Microdesmus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	6	15.96

Ephippidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
82	M4	4-160	3	1	4.08
83	M4	4-162	3	1	7.50

Sphyraena argentea

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	1-030	6	1	4.51

Diplospinus multistriatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
9	M4	1-018	2	1	4.43
65	M4	3-128	8	1	9.87

Gempylus serpens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
11	M4	1-022	5	1	4.01

Gempylus serpens (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	M4	1-024	6	1	9.00
15	M4	1-030	6	1	4.51
16	M4	1-032	6	1	4.53
19	M4	1-038	6	1	9.38
39	JD	3-076	4	1	10.16
41	JD	3-082	5	1	11.29
43	JD	3-086	4	1	9.60
53	M4	3-104	3	3	27.90
54	M4	3-106	3	1	10.33
59	M4	3-116	9	1	7.42
74	JD	5-155	4	1	9.77
78	JD	5-163	5	1	9.73
82	M4	4-160	3	1	4.08
91	M4	5-178	3	2	7.98
92	JD	6-190	2	1	4.69

Lepidocybium flavobrunneum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	1-034	6	2	18.43

Nealotus tripes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
11	M4	1-022	5	2	8.02
12	M4	1-024	6	1	9.00
20	M4	1-040	7	3	25.57
32	M4	2-063	11	1	9.53
72	JD	5-151	4	1	9.16
78	M4	4-152	8	5	47.53
80	M4	4-156	3	8	56.80

Ruvettus pretiosus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	2	16.61

Trichiurus lepturus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	JD	4-107	3	1	10.27
51	JD	4-109	3	2	21.33
82	M4	4-160	3	2	8.16
84	M4	4-164	3	5	20.55
85	M4	5-166	3	1	2.66
86	M4	5-168	3	1	6.99

Acanthocybium solandri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
21	JD	2-041	5	1	5.17

Auxis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	5	49.02
10	M4	1-020	5	1	4.11
13	JD	1-024	1	8	81.31
14	JD	1-026	1	2	10.68
16	JD	2-031	1	1	10.57
19	JD	2-037	2	1	5.45
20	JD	2-039	5	4	21.44
21	JD	2-041	5	1	5.17
23	JD	2-045	5	1	10.02
24	JD	2-047	5	1	10.70
28	M4	2-055	6	1	5.68
37	JD	3-072	1	5	47.53
38	JD	3-074	4	1	10.10
39	JD	3-076	4	6	60.93
48	M4	2-094	3	1	7.35
49	M4	2-096	3	1	7.82
50	JD	4-107	3	2	20.54
50	M4	3-098	3	2	15.72
51	JD	4-109	3	17	181.33
52	JD	4-111	3	1	10.28
64	JD	4-137	1	3	30.82
65	JD	4-139	3	1	9.90
67	JD		3	15	120.19
77	M4	4-150	8	10	85.74
78	M4	4-152	8	4	38.02
78	JD	5-163	5	1	9.73
79	M4	4-154	8	4	16.64
80	M4	4-156	3	1	7.10
80	JD	5-167	4	1	4.80
81	M4	4-158	3	1	8.78
82	JD	5-171	1	26	259.47
82	M4	4-160	3	1	4.08
84	M4	4-164	3	1	4.11
84	JD	5-175	1	4	41.49
85	M4	5-166	3	4	10.64
85	JD	6-176	1	4	41.24
86	JD	6-178	1	2	18.75
88	JD	6-182	5	1	4.80
89	M4	5-174	3	1	12.14
94	M4	5-184	4	1	7.31
97	M4	5-190	5	2	7.84
98	M4	5-192	5	2	7.24

Euthynnus lineatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	8	21.28

Katsuwonus pelamis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	JD	2-051	5	1	5.18
40	M4	2-079	5	1	8.34
43	JD	3-086	4	1	9.60
92	JD	6-190	2	1	4.69

Scomber japonicus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
68	M4	3-134	8	1	7.87
76	M4	4-148	8	33	134.97

Thunnus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	M4	1-018	2	1	4.43
14	M4	1-028	6	1	4.42
18	M4	1-036	6	1	8.30
19	M4	1-038	6	2	18.76

Amarsipus carlsbergi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
33	M4	2-065	10	1	8.07

Cubiceps baxteri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	M4	1-016	2	1	3.78
10	M4	1-020	5	1	4.11
31	M4	2-061	11	1	6.67
33	M4	2-065	10	1	8.07
39	M4	2-077	5	1	7.21
53	M4	3-104	3	1	9.30
62	M4	3-122	9	1	7.60

Cubiceps pauciradiatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	1	9.80
10	M4	1-020	5	2	8.22
14	JD	1-026	1	4	21.36
16	JD	2-031	1	1	10.57
17	JD	2-033	1	1	10.02
18	JD	2-035	2	3	31.30
19	JD	2-037	2	1	5.45
19	M4	1-038	6	1	9.38
20	JD	2-039	5	12	64.32
21	M4	1-042	7	2	11.25
21	JD	2-041	5	1	5.17
22	JD	2-043	5	7	35.14
23	JD	2-045	5	2	20.04
24	M4	1-048	7	1	8.74

Cubiceps pauciradiatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	M4	2-051	6	1	4.34
31	M4	2-061	11	2	13.33
33	M4	2-065	10	1	8.07
36	JD	3-070	1	2	19.63
37	JD	3-072	1	2	19.01
38	JD	3-074	4	5	50.52
39	JD	3-076	4	12	121.86
40	JD	3-080	5	2	9.50
46	M4	2-091	3	1	7.63
51	M4	3-100	3	1	8.56
53	JD	4-113	3	2	21.43
54	JD	4-115	3	1	9.75
57	JD	4-121	3	1	10.12
61	JD	4-129	4	1	10.58
63	JD	4-135	4	4	40.76
64	JD	4-137	1	2	20.55
78	M4	4-152	8	1	9.51
78	JD	5-163	5	2	19.46
79	JD	5-165	4	2	18.67
80	JD	5-167	4	1	4.80
81	JD	5-169	4	1	8.85
82	JD	5-171	1	3	29.94
85	JD	6-176	1	4	41.24
86	JD	6-178	1	3	28.12
87	JD	6-180	4	1	4.68
88	M4	5-172	3	13	95.81
89	JD	6-184	5	2	8.48
89	M4	5-174	3	5	60.68
90	JD	6-186	5	2	9.48
90	M4	5-176	3	2	12.18
91	JD	6-188	2	2	9.52
91	M4	5-178	3	9	35.91
94	M4	5-184	4	1	7.31
96	M4	5-188	4	1	5.10
97	M4	5-190	5	1	3.92
98	M4	5-192	5	1	3.62
100	M4	5-198	2	1	4.19

Nomeus gronovii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
43	JD	3-086	4	2	19.20

Psenes arafurensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	1	8.30
19	M4	1-038	6	1	9.38
28	M4	2-055	6	2	11.36
30	M4	2-059	6	1	10.17

Psenes arafurensis (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
75	JD	5-157	5	1	9.28

Psenes cyanophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	1-036	6	2	16.61

Psenes pellucidus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
67	M4	3-132	8	1	9.32
77	M4	4-150	8	1	8.57
86	M4	5-168	3	3	20.97

Psenes sio

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
37	JD	3-072	1	1	9.51
52	JD	4-111	3	1	10.28
53	JD	4-113	3	2	21.43
54	JD	4-115	3	2	19.50
56	JD	4-119	3	2	22.31
57	M4	3-112	9	2	17.55
64	JD	4-137	1	3	30.82
65	JD	4-139	3	4	39.62
78	M4	4-152	8	1	9.51
81	JD	5-169	4	4	35.40
82	JD	5-171	1	3	29.94
84	JD	5-175	1	8	82.99
86	JD	6-178	1	1	9.37

Tetragonurus atlanticus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
56	M4	3-110	9	1	7.32

Paralichthyidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	JD	4-107	3	1	10.27

Citharichthys gordae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
78	M4	4-152	8	1	9.51

Citharichthys platophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86
51	JD	4-109	3	7	74.67
78	M4	4-152	8	2	19.01
83	M4	4-162	3	2	15.00
84	M4	4-164	3	4	16.44

Citharichthys platophrys (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-166	3	3	7.98
86	M4	5-168	3	2	13.98

Cyclopsetta spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
67	JD		3	1	8.01

Etropus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
50	M4	3-098	3	1	7.86
51	JD	4-109	3	1	10.67
64	JD	4-137	1	1	10.27
84	M4	4-164	3	1	4.11

Etropus crossotus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-148	8	21	85.89
77	M4	4-150	8	1	8.57

Syacium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	JD	1-023	1	1	5.77
14	JD	1-026	1	3	16.02
52	M4	3-102	3	1	8.76
53	JD	4-113	3	1	10.71
54	JD	4-115	3	1	9.75
56	JD	4-119	3	5	55.79
58	JD	4-123	3	1	10.21

Syacium ovale

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
47	M4	2-092	3	4	11.66
48	M4	2-094	3	2	14.69
57	JD	4-121	3	1	10.12
83	JD	5-173	1	1	9.83
83	M4	4-162	3	2	15.00
84	JD	5-175	1	2	20.75

Bothus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34
69	JD	5-145	4	1	9.76
78	M4	4-152	8	4	38.02
84	JD	5-175	1	1	10.37
85	JD	6-176	1	1	10.31

Engyophrys sanctilaurentii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
48	M4	2-094	3	1	7.35
86	M4	5-168	3	2	13.98

Monolene spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
78	M4	4-152	8	2	19.01

Cynoglossidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
73	JD	5-153	4	1	9.75

Symphurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-109	3	5	53.33
56	JD	4-119	3	4	44.63
57	JD	4-121	3	1	10.12
65	JD	4-139	3	1	9.90
78	M4	4-152	8	18	171.10
79	M4	4-154	8	4	16.64
81	M4	4-158	3	1	8.78
82	M4	4-160	3	1	4.08
83	JD	5-173	1	1	9.83
84	M4	4-164	3	1	4.11
85	JD	6-176	1	2	20.62
85	M4	5-166	3	4	10.64
86	M4	5-168	3	2	13.98
86	JD	6-178	1	1	9.37

Symphurus elongatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	JD	1-017	2	3	29.41
12	JD	1-023	1	1	5.77
14	JD	1-026	1	2	10.68
48	M4	2-094	3	2	14.69
76	M4	4-148	8	1	4.09
83	M4	4-162	3	2	15.00
84	M4	4-164	3	1	4.11

Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34
83	M4	4-162	3	2	15.00

Canthidermis maculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	M4	5-168	3	1	6.99

Tetraodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
14	JD	1-026	1	1	5.34

Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-020	5	1	4.11
14	JD	1-026	1	1	5.34
21	JD	2-041	5	2	10.34
43	JD	3-086	4	4	38.40
51	JD	4-109	3	2	21.33
53	JD	4-113	3	1	10.71
66	M4	3-130	8	1	8.62
69	M4	3-136	8	1	8.79
77	JD	5-161	5	1	9.32
77	M4	4-150	8	3	25.72
78	M4	4-152	8	5	47.53
79	M4	4-154	8	6	24.96
81	M4	4-158	3	1	8.78
82	M4	4-160	3	1	4.08
83	M4	4-162	3	1	7.50
84	M4	4-164	3	1	4.11
85	M4	5-166	3	5	13.30
85	JD	6-176	1	1	10.31
91	M4	5-178	3	6	23.94
92	M4	5-180	4	1	7.64

Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
7	M4	1-014	2	1	5.03
16	M4	1-032	6	1	4.53
28	JD	2-055	5	5	34.62
30	M4	2-059	6	1	10.17
41	M4	2-081	4	1	8.88
42	M4	2-083	4	1	8.02
42	JD	3-084	5	1	9.09
43	JD	3-086	4	1	9.60
45	M4	2-089	4	1	8.26
50	JD	4-107	3	2	20.54
51	M4	3-100	3	1	8.56
51	JD	4-109	3	7	74.67
52	JD	4-111	3	1	10.28
72	JD	5-151	4	2	18.33
73	JD	5-153	4	1	9.75
75	JD	5-157	5	1	9.28
76	M4	4-148	8	4	16.36
78	M4	4-152	8	3	28.52
79	M4	4-154	8	12	49.92
80	M4	4-156	3	2	14.20
83	M4	4-162	3	2	15.00

Unidentified fish larvae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
83	JD	5-173	1	3	29.48
85	M4	5-166	3	3	7.98
86	M4	5-168	3	1	6.99
89	M4	5-174	3	1	12.14
91	M4	5-178	3	2	7.98
92	M4	5-180	4	1	7.64
97	M4	5-190	5	1	3.92

Table 11. Average standardized numbers of fish larvae (per 10 m^2 of sea surface) for each taxon taken in Bongo net tows in the regions (Figure 3) occupied on *Jordan* cruise 0010JD and *McArthur* cruise 0010M4. Number in parenthesis below region number are number of tows in that region.

	Region										
	1	2	3	4	5	6	7	8	9	10	11
	(13)	(17)	(34)	(26)	(25)	(13)	(6)	(17)	(8)	(6)	(2)
Taxon											
Anguilliformes	-	-	1.6	-	-	-	-	0.2	-	-	-
Chlopsis spp.	-	-	-	0.4	-	-	-	-	-	-	-
Muraenidae	-	-	-	-	0.4	-	-	-	-	-	-
Gymnothorax mordax	-	-	0.3	-	-	-	-	-	-	-	-
Ophichthidae	-	-	0.4	-	-	-	-	-	-	-	-
Myrophis vafer	0.4	-	1.2	-	-	-	-	-	-	-	-
Ophichthus zophochir	0.7	-	0.2	0.3	-	-	-	-	-	-	-
Congridae	-	-	0.2	-	-	-	-	0.5	-	-	-
Ariosoma gilberti	0.7	-	-	-	-	-	-	0.2	-	-	-
Neoconger vermiformis	-	-	0.3	-	-	-	-	0.2	-	-	-
Paraconger californiensis	0.8	-	-	-	-	-	-	-	-	-	-
Rhynchoconger nitens	-	-	1.0	0.4	-	-	-	0.6	-	-	-
Nemichthys scolopaceus	-	0.3	-	0.3	-	-	-	-	-	-	-
Serrivomer sector	-	-	-	-	0.4	1.5	-	-	-	-	-
Clupeidae	-	-	-	-	-	-	-	2.0	-	-	-
Opisthonema spp.	-	-	1.2	0.4	-	-	-	-	-	-	-
Engraulidae	-	-	0.4	-	-	-	-	0.7	-	-	-
Anchoa spp.	-	-	26.5	-	-	-	-	-	-	-	-
Cetengraulis mysticetus	-	-	63.0	-	-	-	-	-	-	-	-
Engraulis ringens	-	-	-	-	-	-	-	98.2	-	-	-
Argentinidae	-	-	1.3	-	-	-	-	-	-	-	-
Argentina spp.	-	-	2.1	-	-	-	-	-	-	-	-
Nansenia spp.	-	-	-	-	-	-	-	-	0.9	-	-
Nansenia crassa	-	1.4	-	0.3	-	-	-	-	0.9	-	-
Bathylagidae	-	-	14.0	-	-	-	-	-	-	-	-
Bathylagus nigrigenys	3.9	0.8	11.5	9.1	8.4	6.4	-	40.6	9.1	1.6	11.4
Bathylagus wesethi	-	0.2	-	-	-	-	-	-	-	-	-
Leuroglossus urotranus	-	-	4.0	-	-	-	-	172.7	-	-	-
Stomiiformes	-	-	0.3	-	-	-	-	-	-	-	-
Cyclothone spp.	-	5.9	1.6	2.4	1.4	5.7	4.7	3.2	13.1	4.7	-
Cyclothone acclinidens	-	4.5	0.7	1.1	0.5	0.3	3.2	4.3	1.8	-	-
Cyclothone signata	-	4.4	0.3	1.0	1.3	6.0	1.3	-	6.9	2.2	3.3
Diplophos spp.	-	0.2	-	-	-	-	-	-	-	-	-
Diplophos proximus	-	0.6	0.8	0.6	1.2	2.4	1.4	0.5	-	-	-
Diplophos taenia	-	0.2	-	-	-	-	-	-	-	-	-
Gonostoma ebelingi	-	-	-	-	-	-	-	-	1.0	-	-
Sternoptychidae	-	-	-	-	-	-	-	-	4.6	-	-
Argyropelecus spp.	-	-	0.8	7.9	3.0	0.3	-	-	1.0	-	-
Argyropelecus hemigymnus	-	-	0.2	-	-	-	-	-	-	-	-
Argyropelecus lychnus	-	0.2	-	-	-	0.7	-	-	-	-	-
Argyropelecus sladeni	-	0.7	6.0	9.6	5.6	4.6	1.5	-	3.7	-	3.3
Maurolicus spp.	-	-	0.7	-	-	-	-	14.5	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Maurolicus muelleri	-	-	0.6	-	-	-	-	-	1.2	-	-
Sternoptyx spp.	-	0.5	22.6	20.3	14.9	13.5	17.0	3.0	40.8	17.1	42.9
Valenciennellus tripunctulatus	-	0.5	-	-	-	-	-	-	-	-	-
Vinciguerria lucetia	177.2	292.8	166.1	167.1	254.4	473.8	67.2	310.1	114.7	143.3	70.0
Woodsia nonsuchae	-	-	-	-	0.2	-	-	-	-	-	-
Yarella blackfordi	-	-	0.3	-	-	-	-	1.1	-	-	-
Chauliodus spp.	-	-	0.1	1.8	1.2	1.8	-	2.1	3.8	-	-
Stomiinae	-	-	0.3	-	0.3	-	-	-	-	-	-
Stomias spp.	-	0.2	1.4	0.3	0.7	-	-	-	-	0.8	-
Stomias atriventer	-	1.4	-	-	-	-	-	-	-	0.7	-
Astronesthinae	-	-	0.3	-	-	-	-	-	-	-	-
Astronesthes spp.	-	0.2	-	-	0.5	0.4	-	-	-	-	-
Melanostomiinae	-	-	0.3	-	-	-	1.4	-	-	0.7	-
Bathophilus filifer	0.8	0.3	3.8	2.1	1.1	5.6	-	3.5	2.9	-	3.3
Eustomias spp.	-	0.7	-	-	0.4	0.4	-	-	-	-	-
Idiacanthus spp.	0.8	1.6	2.8	5.9	12.0	1.1	3.0	-	1.8	1.3	-
Aulopus spp.	-	-	0.6	-	-	-	-	-	-	-	-
Chloropthalmus spp.	-	-	1.3	-	0.4	-	-	-	-	-	-
Benthalbella dentata	-	-	-	-	0.2	-	-	-	-	-	-
Rosenblattichthys volucris	-	-	0.3	0.3	0.2	1.3	3.0	-	-	0.7	3.3
Scopelarchoides nicholsi	1.5	1.7	2.1	3.5	6.5	3.4	1.6	3.0	0.9	-	-
Scopelarchus analis	-	0.5	-	0.3	-	0.7	-	-	-	-	-
Scopelarchus guentheri	-	0.5	-	0.3	-	-	-	-	-	0.7	-
Scopelosaurus spp.	-	-	0.6	-	-	-	-	2.2	-	-	-
Synodus spp.	-	-	0.1	-	-	-	-	0.5	-	-	-
Synodus evermanni	0.4	0.6	3.6	-	-	-	-	-	-	-	-
Synodus sechurae	-	-	0.4	-	-	-	-	1.0	-	-	-
Paralepididae	-	-	0.2	-	-	-	-	-	-	-	-
Lestidiops spp.	-	-	5.1	0.7	1.3	1.4	-	3.9	17.2	16.3	36.7
Lestidiops neles	14.0	0.5	4.1	12.5	5.0	-	-	-	-	0.8	-
Lestidium spp.	-	0.3	1.8	4.3	4.0	9.5	5.4	-	-	1.3	-
Magnisudis atlantica	-	0.5	-	-	-	-	-	-	-	-	-
Stemonosudis macrura	-	0.5	-	-	1.2	2.1	4.3	0.5	0.9	-	-
Evermannella ahlstromi	-	0.7	0.3	0.3	1.9	1.7	-	-	1.0	2.7	-
Scopelengys tristis	-	-	-	-	0.2	1.8	-	-	-	-	-
Myctophidae	-	0.9	2.8	1.5	0.1	1.3	0.9	1.6	0.9	4.0	-
Bolinichthys longipes	-	0.5	0.2	1.3	-	3.9	-	-	2.0	-	4.8
Ceratoscopelus townsendi	-	8.8	-	-	-	-	-	-	-	-	-
Ceratoscopelus warmingii	-	2.7	0.3	-	1.1	11.8	17.0	2.1	35.9	11.1	21.0
Diaphus spp.	4.6	0.3	2.7	4.3	4.6	7.6	2.8	-	7.8	2.4	-
Diaphus pacificus	98.0	10.7	16.9	53.1	47.4	4.4	1.6	2.2	2.0	1.5	-
Diaphus theta	-	0.5	-	-	-	-	-	-	-	-	-
Lampadena spp.	-	-	-	0.4	0.8	1.1	-	0.5	-	-	-
Lampadena luminosa	-	0.5	-	-	-	-	-	-	-	-	-
Lampadena urophaos	-	1.1	-	-	-	-	-	-	-	-	-
Lampanyctus spp.	0.8	4.1	18.1	12.5	14.9	6.4	2.2	2.8	29.4	39.6	27.6
Lampanyctus nobilis	-	-	-	-	-	-	3.2	-	-	-	-
Lampanyctus parvicauda	9.9	3.4	14.6	11.0	3.6	0.3	-	7.8	6.5	6.2	-

Taxon	Region 1	2	3	4	5	6	7	8	9	10	11
Lampanyctus steinbecki	-	-	-	-	-	-	-	-	3.7	-	-
Lampanyctus tenuiformes	-	-	-	-	-	-	1.6	-	-	-	-
Lobianchia gemellarii	-	0.3	-	-	-	2.0	1.4	-	-	-	6.7
Nannobrachium bristori	-	-	-	1.1	-	-	-	-	4.0	1.2	-
Nannobrachium hawaiiensis	-	0.5	0.1	-	0.4	0.6	-	-	-	2.4	-
Nannobrachium idostigma	-	0.2	1.5	0.4	1.2	-	-	-	1.2	1.5	-
Notolychnus valdiviae	-	0.7	1.7	5.3	5.7	-	-	-	8.5	6.7	-
Notoscopelus resplendens	-	1.0	2.1	0.3	1.4	1.3	-	1.6	2.7	7.5	-
Parvilux boschmai	-	0.3	0.5	0.3	-	-	1.5	-	-	-	-
Triphoturus spp.	-	-	0.7	-	-	-	-	12.4	3.7	-	-
Triphoturus mexicanus	-	0.2	0.3	-	-	-	-	-	-	-	-
Triphoturus nigrescens	-	-	0.8	0.7	0.4	-	-	6.8	2.9	0.7	-
Benthosema panamense	0.8	-	159.6	0.4	-	-	-	115.5	-	-	3.3
Benthosema suborbitale	-	-	-	-	-	-	-	-	1.9	-	-
Centrobranchus nigroocellatus	-	-	-	-	-	0.7	-	-	-	-	-
Diogenichthys atlanticus	-	3.7	-	-	-	-	-	-	-	-	-
Diogenichthys laternatus	44.8	85.5	698.9	430.8	182.2	65.3	21.5	205.9	113.7	66.0	120.0
Gonichthys tenuiculus	-	1.2	2.4	2.1	0.8	1.1	-	2.1	1.9	2.9	-
Hygophum spp.	-	-	-	-	-	-	7.1	-	-	-	-
Hygophum atratum	-	17.8	-	-	7.7	-	-	8.0	4.8	9.1	10.0
Hygophum proximum	-	3.4	0.3	4.1	3.8	6.2	16.9	-	16.1	22.8	33.3
Hygophum reinhardtii	-	0.5	-	-	-	-	-	-	-	-	-
Loweina rara	-	0.5	0.2	-	-	-	-	-	-	4.5	-
Myctophum spp.	-	-	1.2	0.9	1.0	-	5.5	1.1	-	2.9	-
Myctophum asperum	-	-	-	2.2	-	8.3	-	-	-	-	3.3
Myctophum aurolaternatum	3.9	2.7	7.8	9.3	4.0	2.0	2.9	0.8	-	-	10.0
Myctophum nitidulum	-	2.2	3.0	0.9	1.1	4.8	-	7.7	2.9	5.2	18.1
Myctophum obtusirostrum	-	-	-	-	-	0.7	-	-	-	-	-
Myctophum selenops	-	-	-	-	-	-	-	-	-	0.8	-
Protomyctophum spp.	-	-	0.4	0.3	-	-	-	-	-	0.7	-
Protomyctophum crockeri	-	0.7	-	-	-	-	-	-	-	-	-
Symbolophorus evermanni	-	-	5.1	4.5	4.8	8.3	32.4	5.2	10.7	3.7	-
Trachipterus fukuzakii	-	-	-	0.2	-	-	-	-	-	-	-
Zu cristatus	-	0.3	0.7	0.3	-	0.3	-	0.5	-	-	-
Bregmaceros spp.	4.8	3.5	1.7	5.6	8.3	13.6	4.1	-	3.7	2.5	-
Bregmaceros bathymaster	48.8	0.6	195.3	0.4	-	-	-	39.6	-	-	-
Macrouridae	-	-	0.6	-	-	-	-	0.2	-	-	-
Nezumia spp.	-	-	-	-	-	-	-	0.5	-	-	-
Moridae	-	-	0.3	-	-	-	-	-	-	-	-
Physiculus rastrelliger	-	-	-	-	-	0.7	-	-	-	-	-
Merluccius spp.	-	-	-	-	-	-	-	0.7	-	-	-
Brotula clarkae	-	-	0.2	-	-	-	-	-	-	-	-
Cherublemma emmelas	0.8	-	0.9	0.7	-	1.8	-	-	-	-	-
Lepophidium spp.	-	-	0.1	-	-	-	-	-	-	-	-
Lepophidium negropinna	-	-	0.6	-	-	-	-	0.7	-	-	-
Ophidion spp.	-	-	0.1	-	-	-	-	1.0	-	-	-
Bythitidae	-	-	0.3	-	-	-	-	-	-	-	-
Lophiodes spilurus	-	-	0.5	-	-	-	-	-	-	-	-

Taxon	Region 1	2	3	4	5	6	7	8	9	10	11
Ogcocephalidae	-	-	-	-	-	-	-	0.2	-	-	-
Melanocetus spp.	-	-	0.3	-	-	-	-	-	-	-	-
Oneirodidae	-	-	0.2	-	-	-	-	-	-	-	-
Dolopichthys spp.	-	-	0.3	-	-	0.7	-	-	-	-	-
Oneirodes spp.	-	-	1.1	0.3	0.4	0.6	-	-	-	1.3	-
Ceratias holboelli	-	-	-	-	-	0.6	1.6	-	1.0	-	-
Cryptopsaras couesii	-	-	-	-	0.2	-	-	-	-	-	-
Gigantactis spp.	-	0.2	-	-	-	1.9	-	0.4	-	-	-
Hyporhamphus spp.	-	-	-	0.3	-	-	-	-	-	-	-
Cheilopogon xenopterus	-	-	-	0.2	-	-	-	-	-	-	-
Exocoetus spp.	-	-	-	0.3	-	-	-	-	-	-	-
Hirundichthys spp.	-	-	-	-	-	-	-	-	-	0.8	-
Oxyporhamphus micropterus	1.5	-	0.9	1.6	1.3	1.5	-	-	-	-	-
Prognichthys spp.	-	-	0.5	-	-	-	-	-	-	-	-
Melamphaidae	-	-	-	-	-	-	-	-	0.9	-	-
Melamphaes spp.	-	1.1	4.2	4.7	3.5	-	3.0	2.1	1.9	2.8	3.3
Poromitra spp.	-	-	0.3	0.4	-	-	-	0.2	-	-	-
Poromitra crassiceps	-	-	0.3	-	-	-	-	-	1.2	-	-
Poromitra megalops	-	-	0.3	-	-	-	-	-	-	-	3.3
Scopeloberyx robustus	-	-	-	-	0.2	-	-	-	-	-	-
Scopelogadus bispinosus	1.6	2.0	0.8	2.2	2.6	-	-	3.8	2.0	-	-
Eutaeniophorus festivus	-	-	-	-	0.2	-	-	-	-	-	-
Pontinus spp.	2.9	-	3.9	-	0.7	0.7	-	4.6	-	-	-
Scorpaenodes xyris	1.6	-	0.4	5.2	-	-	-	-	-	-	-
Prionotus ruscarius	-	-	0.3	-	-	-	-	-	-	-	-
Prionotus stephanophrys	-	-	0.1	-	-	-	-	0.5	-	-	-
Howella spp.	0.4	-	-	-	-	-	-	-	-	-	-
Howella pammelas	-	-	0.7	4.2	1.2	4.2	0.7	-	1.9	1.3	-
Serraninae	-	-	0.9	-	-	-	-	-	-	-	-
Diplectrum spp.	-	-	0.2	-	-	-	-	-	1.2	-	-
Serranus spp.	-	-	4.0	-	-	-	-	2.4	-	-	-
Anthiinae	-	-	0.2	-	-	-	-	-	-	-	-
Hemanthias spp.	-	-	0.3	-	-	-	-	-	-	-	-
Pronotogrammus spp.	-	-	0.2	-	-	-	-	-	-	-	-
Pronotogrammus multifasciatus	-	-	-	-	-	-	-	0.2	-	-	-
Epinephelinae	-	-	0.1	-	-	-	-	-	-	-	-
Paranthias colonus	-	-	0.2	-	-	-	-	-	-	-	-
Apogon spp.	-	-	0.3	-	-	-	-	-	-	-	-
Apogon atricaudus	-	-	0.3	-	-	-	-	-	-	-	-
Apogon retrosella	-	-	0.3	-	-	-	-	-	-	-	-
Carangidae	-	-	0.1	-	-	-	-	-	-	-	-
Caranx spp.	0.9	-	0.6	-	0.8	-	-	-	-	-	-
Caranx caballus	-	-	0.1	0.4	-	-	-	0.7	-	-	-
Caranx sexfasciatus	0.8	-	0.6	-	-	-	-	-	-	-	-
Chloroscombrus orqueta	4.7	-	-	-	-	-	-	-	-	-	-
Decapterus spp.	-	-	0.2	-	-	-	-	-	-	-	-
Naucrates ductor	-	-	-	-	-	-	-	-	1.1	-	-
Oligoplites spp.	-	-	0.2	-	-	-	-	-	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Selar crumenophthalmus	-	-	2.5	-	-	-	-	-	-	-	-
Selene peruviana	0.4	-	-	-	-	-	-	-	-	-	-
Coryphaena equiselis	-	-	-	0.3	0.4	-	-	-	-	-	-
Coryphaena hippurus	0.8	1.1	0.4	0.8	0.7	0.3	-	-	-	-	4.8
Brama spp.	-	-	-	-	-	0.7	-	-	1.9	-	-
Brama dussumieri	-	-	0.9	0.3	0.5	1.4	-	-	-	0.7	-
Caristius maderensis	-	-	0.2	-	0.3	-	-	-	0.9	-	-
Lutjanidae	-	-	0.2	-	-	-	-	-	-	-	-
Lutjanus spp.	-	-	0.2	-	-	-	-	-	-	-	-
Lutjanus peru	-	-	-	0.4	-	-	-	-	-	-	-
Gerreidae	-	-	0.5	-	-	-	-	0.2	-	-	-
Eucinostomus spp.	-	-	0.6	-	-	-	-	-	-	-	-
Haemulidae	-	-	3.8	-	-	-	-	0.2	-	-	-
Xenistius californiensis	-	-	0.5	-	-	-	-	-	-	-	-
Sparidae	-	-	0.2	-	-	-	-	-	-	-	-
Sciaenidae	0.4	-	2.2	-	-	-	-	0.7	-	-	-
Larimus spp.	-	-	-	-	-	-	-	1.4	-	-	-
Polydactylus approximans	-	-	0.1	-	-	-	-	-	-	-	-
Kyphosus spp.	-	-	0.9	-	-	-	-	-	-	-	-
Mugil spp.	-	-	0.1	-	0.2	-	-	1.0	-	-	-
Pomacentridae	2.1	-	1.6	-	-	-	-	-	-	-	-
Abudefduf spp.	-	-	0.2	-	-	-	-	-	-	-	-
Chromis atrilobata	-	-	0.8	-	-	-	-	-	-	-	-
Labridae	-	-	-	-	-	-	-	0.2	-	-	-
Halichoeres spp.	2.4	-	0.7	-	-	-	-	-	-	-	-
Thalassoma spp.	0.4	-	-	7.5	-	-	-	-	-	-	-
Xyrichtys spp.	1.6	-	1.2	-	-	-	-	1.1	-	-	-
Xyrichtys mundiceps	2.2	-	-	-	-	-	-	-	-	-	-
Chiasmodontidae	0.8	-	-	0.7	-	-	-	-	-	-	-
Chiasmodon niger	-	3.8	0.2	0.3	1.5	2.5	-	1.4	4.0	3.0	-
Kali spp.	-	-	-	-	1.1	-	-	-	-	-	-
Kali normani	-	-	-	-	-	0.7	-	-	-	-	-
Blennioidei	-	-	0.5	-	-	-	-	-	-	-	-
Malacoctenus hubbsi	-	-	-	0.4	-	-	-	-	-	-	-
Ophioblennius steindachneri	-	-	0.9	-	-	-	-	-	-	-	-
Synchiropus atrilabiatus	-	-	0.4	0.7	-	-	-	-	-	-	-
Eleotridae	33.6	-	3.8	1.2	-	-	-	-	-	-	-
Dormitator latifrons	9.2	-	12.6	0.3	-	-	-	-	-	-	-
Gobiidae	6.2	-	32.4	0.3	-	-	-	4.4	-	-	-
Microdesmidae	-	-	0.1	-	-	-	-	-	-	-	-
Microdesmus spp.	-	-	0.5	-	-	-	-	-	-	-	-
Ephippidae	-	-	0.3	-	-	-	-	-	-	-	-
Sphyraena argentea	-	-	-	-	-	0.3	-	-	-	-	-
Diplospinus multistriatus	-	0.5	-	-	-	-	-	0.6	-	-	-
Gempylus serpens	-	0.3	1.5	1.1	1.0	2.1	-	-	0.9	-	-
Lepidocybium flavobrunneum	-	-	-	-	-	1.4	-	-	-	-	-
Nealotus tripes	-	-	1.7	0.4	0.3	0.7	4.3	2.8	-	-	4.8
Ruvettus pretiosus	-	-	-	-	-	1.3	-	-	-	-	-

Taxon	Region										
	1	2	3	4	5	6	7	8	9	10	11
Trichiurus lepturus	-	-	2.1	-	-	-	-	-	-	-	-
Acanthocybium solandri	-	-	-	-	0.2	-	-	-	-	-	-
Auxis spp.	41.7	3.2	12.4	3.2	3.2	0.4	-	8.3	-	-	-
Euthynnus lineatus	-	-	0.6	-	-	-	-	-	-	-	-
Katsuwonus pelamis	-	0.3	-	0.4	0.5	-	-	-	-	-	-
Scomber japonicus	-	-	-	-	-	-	-	8.4	-	-	-
Thunnus spp.	-	0.3	-	-	-	2.4	-	-	-	-	-
Amarsipus carlsbergi	-	-	-	-	-	-	-	-	-	1.3	-
Cubiceps baxteri	-	0.2	0.3	-	0.5	-	-	-	0.9	1.3	3.3
Cubiceps pauciradiatus	15.4	3.5	7.7	10.5	7.5	1.1	3.3	0.6	-	1.3	6.7
Nomeus gronovii	-	-	-	0.7	-	-	-	-	-	-	-
Psenes arafurensis	-	-	-	-	0.4	3.0	-	-	-	-	-
Psenes cyanophrys	-	-	-	-	-	1.3	-	-	-	-	-
Psenes pellucidus	-	-	0.6	-	-	-	-	1.1	-	-	-
Psenes sio	12.5	-	3.3	1.4	-	-	-	0.6	2.2	-	-
Tetragonurus atlanticus	-	-	-	-	-	-	-	-	0.9	-	-
Paralichthyidae	-	-	0.3	-	-	-	-	-	-	-	-
Citharichthys gordae	-	-	-	-	-	-	-	0.6	-	-	-
Citharichthys platophrys	-	-	4.0	-	-	-	-	1.1	-	-	-
Cyclopsetta spp.	-	-	0.2	-	-	-	-	-	-	-	-
Etropus spp.	0.8	-	0.7	-	-	-	-	-	-	-	-
Etropus crossotus	-	-	-	-	-	-	-	5.6	-	-	-
Syacium spp.	1.7	-	2.8	-	-	-	-	-	-	-	-
Syacium ovale	2.4	-	1.5	-	-	-	-	-	-	-	-
Bothus spp.	2.0	-	-	0.4	-	-	-	2.2	-	-	-
Engyophrys sanctilaurentii	-	-	0.6	-	-	-	-	-	-	-	-
Monolene spp.	-	-	-	-	-	-	-	1.1	-	-	-
Cynoglossidae	-	-	-	0.4	-	-	-	-	-	-	-
Symphurus spp.	3.1	-	4.7	-	-	-	-	11.0	-	-	-
Symphurus elongatus	1.3	1.7	1.0	-	-	-	-	0.2	-	-	-
Balistidae	0.4	-	0.4	-	-	-	-	-	-	-	-
Canthidermis maculatus	-	-	0.2	-	-	-	-	-	-	-	-
Tetraodontidae	0.4	-	-	-	-	-	-	-	-	-	-
Disintegrated fish larvae	1.2	-	2.8	1.8	1.0	-	-	6.8	-	-	-
Unidentified fish larvae	2.3	0.3	5.2	2.7	2.3	1.1	-	5.6	-	-	-

PHYLOGENETIC INDEX TO TABLES 4, 6, AND 10

ALPHABETICAL INDEX TO TABLES 4, 6, AND 10

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