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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 30 - DECEMBER 9, 1998

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

INTRODUCTION

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

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

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

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

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

SAMPLING AREA AND PATTERN

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

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

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

ICHTHYOPLANKTON SAMPLING GEAR AND METHODS

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

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

Oblique net tows were made with a bongo net, consisting of a pair of circular frames connected to a central axle (McGowan and Brown 1966; Smith and Richardson 1977). The standard CalCOFI bongo used on this expedition has 71cm frames; for the SPAM cruise, nets and cod ends were constructed of 0.333 mm mesh (the standard CalCOFI net is of 0.505 mm mesh with a 0.333 mm mesh cod end). The standard haul was a 15-min double oblique haul to 200 m depth, intended to encompass the vertical range of most ichthyoplankters. Hauls were made at a ship speed of 1.5–2.0 knots and initiated by clamping the net to the hydrographic wire above a 34 kg weight suspended below the surface. The net was lowered to ~ 200 m depth by paying out 300 m of wire at 50 m/minute (35 m of depth/minute). After fishing at depth for 30 seconds, the net was retrieved 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 S. R. Charter, W. Watson, and the senior author. Early ontogenetic stages of fishes are difficult to identify and this is further complicated by the large number and diversity of species which contribute to the ichthyoplankton

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

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

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

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

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

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

Lampanyctus spp. – Small or damaged larvae lacking diagnostic characters; probably includes *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 1998 were predominantly coastal and most (perhaps all) probably are *P. tringa.*

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

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

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

SPECIES SUMMARY

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

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

EXPLANATION OF FIGURES AND TABLES

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

Table 1. This table lists for each Manta net tow the pertinent station and tow data for ichthyoplankton stations occupied by the *Endeavor*, *Jordan*, and *McArthur*. Cruises are designated by a six character alphanumeric code; the first two digits indicate the year and the second two the month, followed by the ship code, EN (*Endeavor*), JD (*David Starr Jordan*), or M4 (*McArthur*). Data are listed sequentially by tow number. Regions are based on 15° latitude × 15° longitude squares (Figure 4). Time is listed as local time at the start of each tow in 24-hour designation. Values for total fish eggs and larvae are raw counts (unadjusted for volume of water filtered or standard haul factor). In 1998 the Manta or bongo tows and hydrographic casts were made at different times of the day. The column "CTD station" gives the CTD number where a Manta or bongo sample was collected at the same location as the morning hydrographic cast.

Table 2. Pooled occurrences of all larval fish taxa taken in Manta nets on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.

Table 3. Pooled raw counts (unadjusted for volume of water filtered) of all larval fish taxa taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.

Table 4. Numbers of fish larvae for each taxon taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4, listed by tow number (Figures 1–3). Numbers of larvae are listed as raw counts and number per 100 m^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 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

Table 6. Numbers (raw counts) and size ranges of juvenile fishes taken in Manta net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Orders and families are listed in phylogenetic sequence (Eschmeyer 1998); genera and species are listed in alphabetical order. For each entry, the tow number is given first in bold type, the count is next in parentheses, and size range is given last.

Table 7. This table lists for each bongo net tow the pertinent station and tow data for ichthyoplankton stations occupied by the *Endeavor*, *Jordan*, and *McArthur* on this survey (see Table 1 explanation).

Table 8. Pooled occurrences of all larval fish taxa taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.

Table 9. Pooled numbers of larvae per 10 m^2 (adjusted for standard haul factor) of all larval fish taxa taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Taxa are listed in rank order.

Table 10. Numbers of fish larvae for each taxon taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4, listed by tow number (Figures 1–3). Larvae are listed as number per 10 m^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 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4.

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Watson, W., R. L. Charter, H. G. Moser, and S. B. Reilly. 2000. Ichthyoplankton and station data for surface tows taken during the 1992 eastern tropical Pacific common dolphin survey on the research vessels *David Starr Jordan* and *McArthur*. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-291. 50 pp.

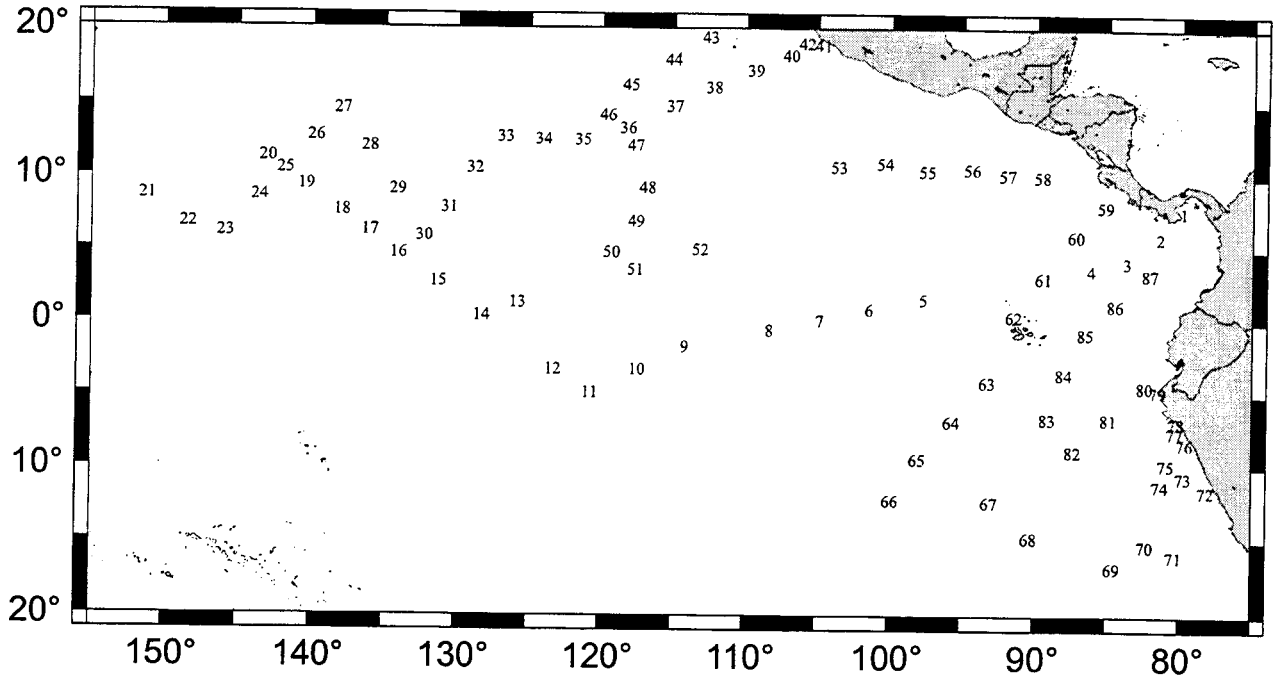

Figure 1. Manta and bongo net tow stations for *Endeavor* cruise 9810EN.

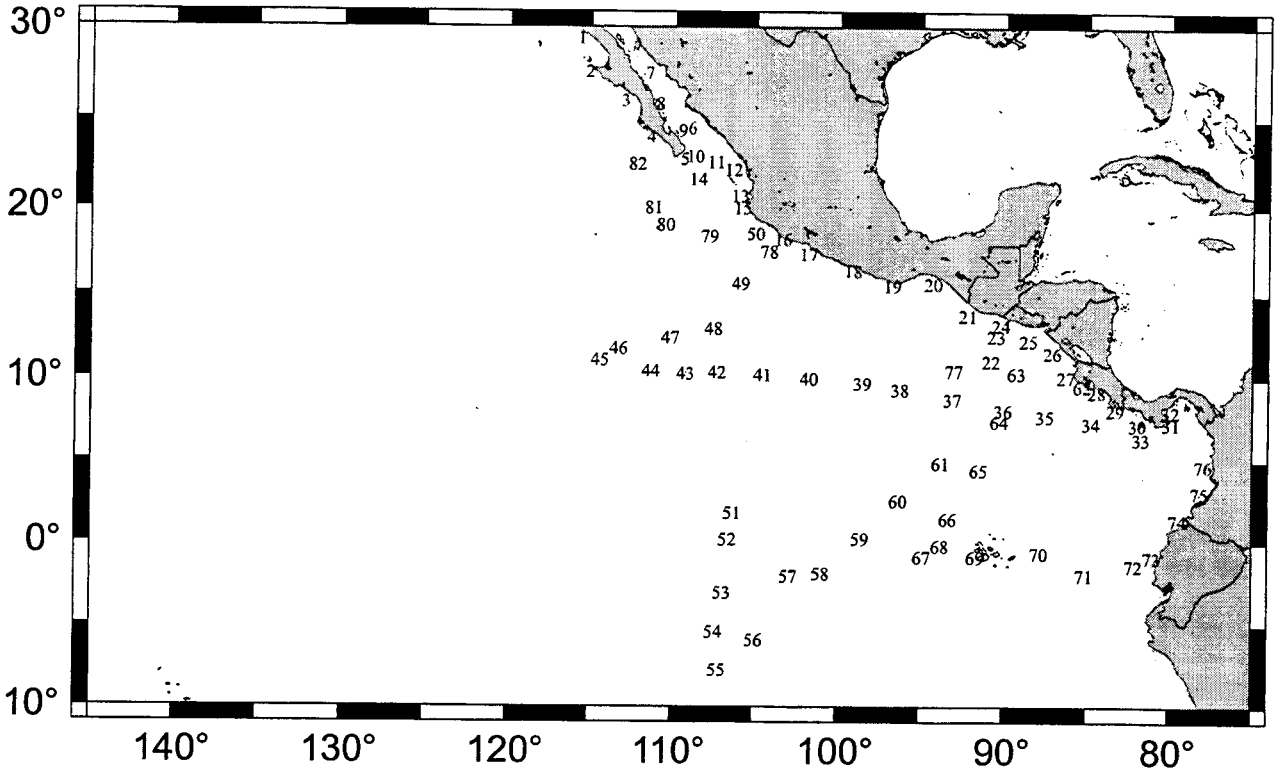

Figure 2. Manta and bongo net tow stations for *Jordan* cruise 9810JD.

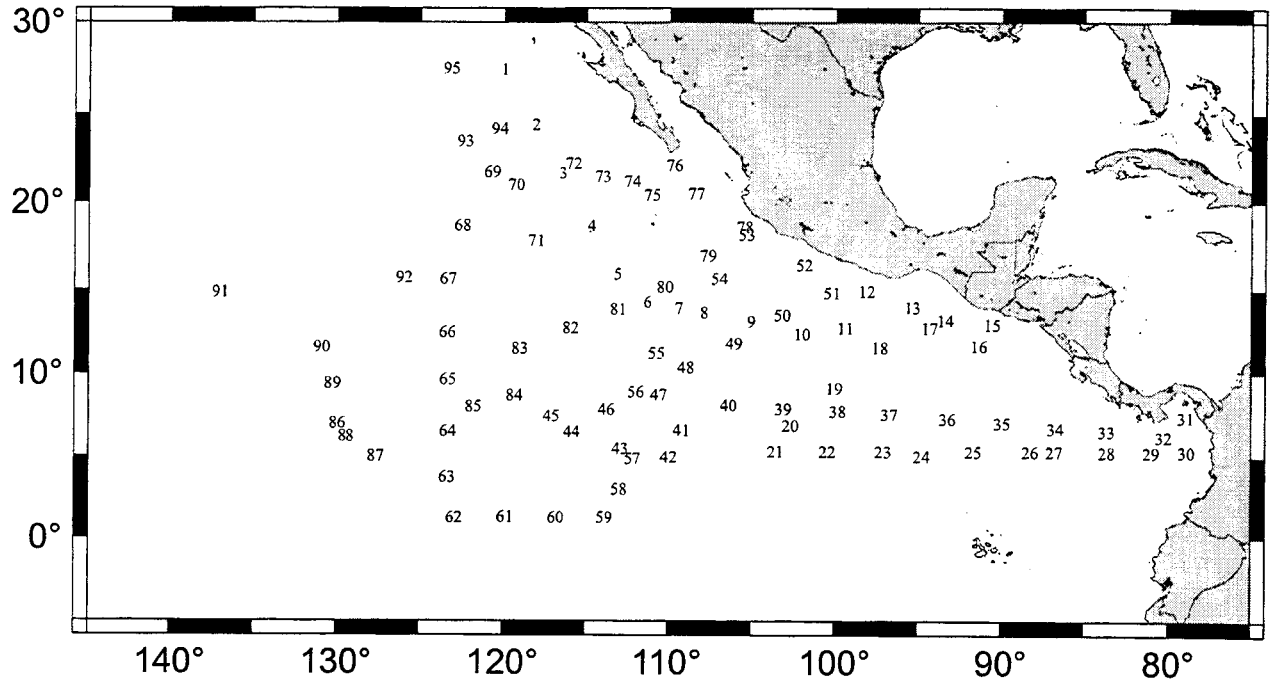

Figure 3. Manta and bongo net tow stations for *McArthur* cruise 9810M4.

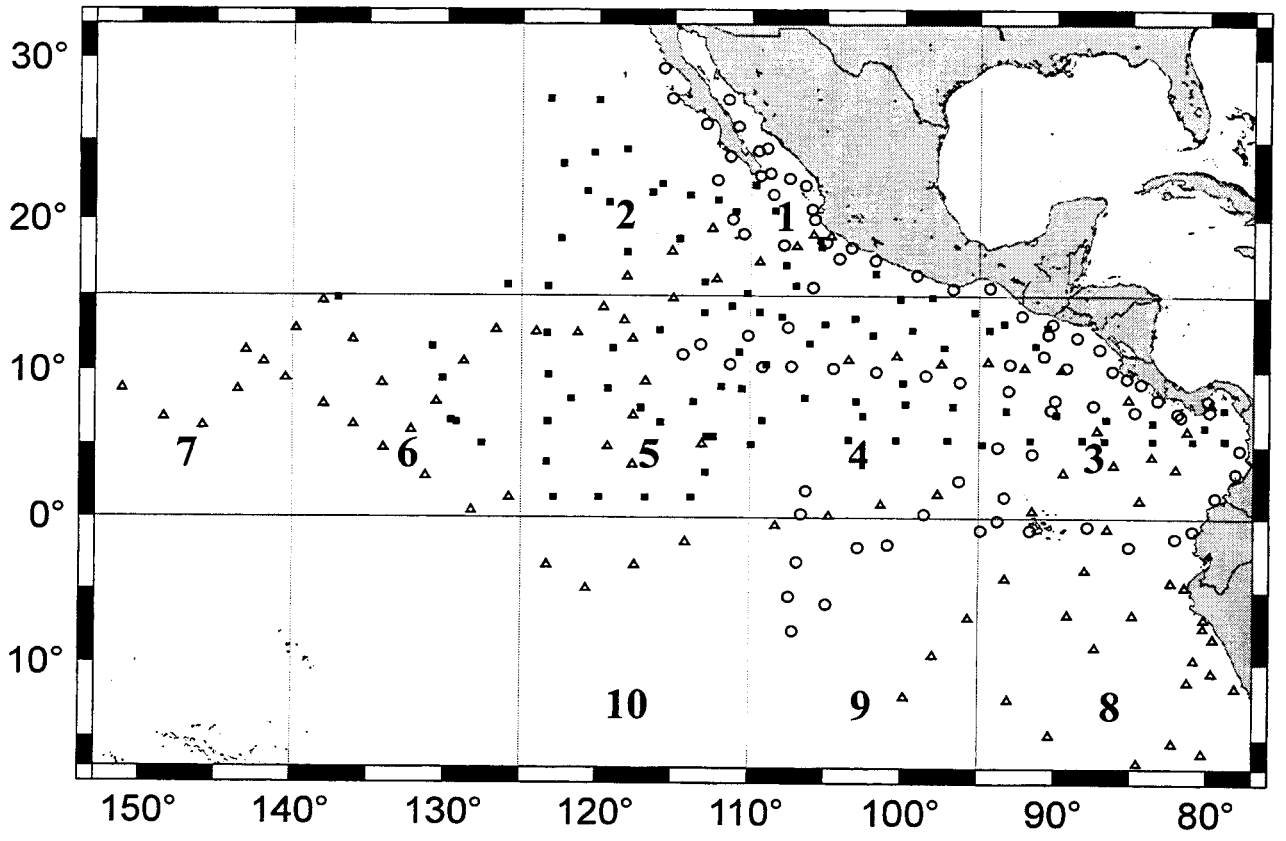

Figure 4. Sampling regions for 1998 eastern tropical Pacific ocean survey indicated by numbers 1 to 10: Manta and bongo net tow stations for *Endeavor* cruise 9810EN are indicated by triangles, for *Jordan* cruise 9810JD by circles, and for *McArthur* cruise 9810M4 by solid squares. *McArthur* tow 92,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

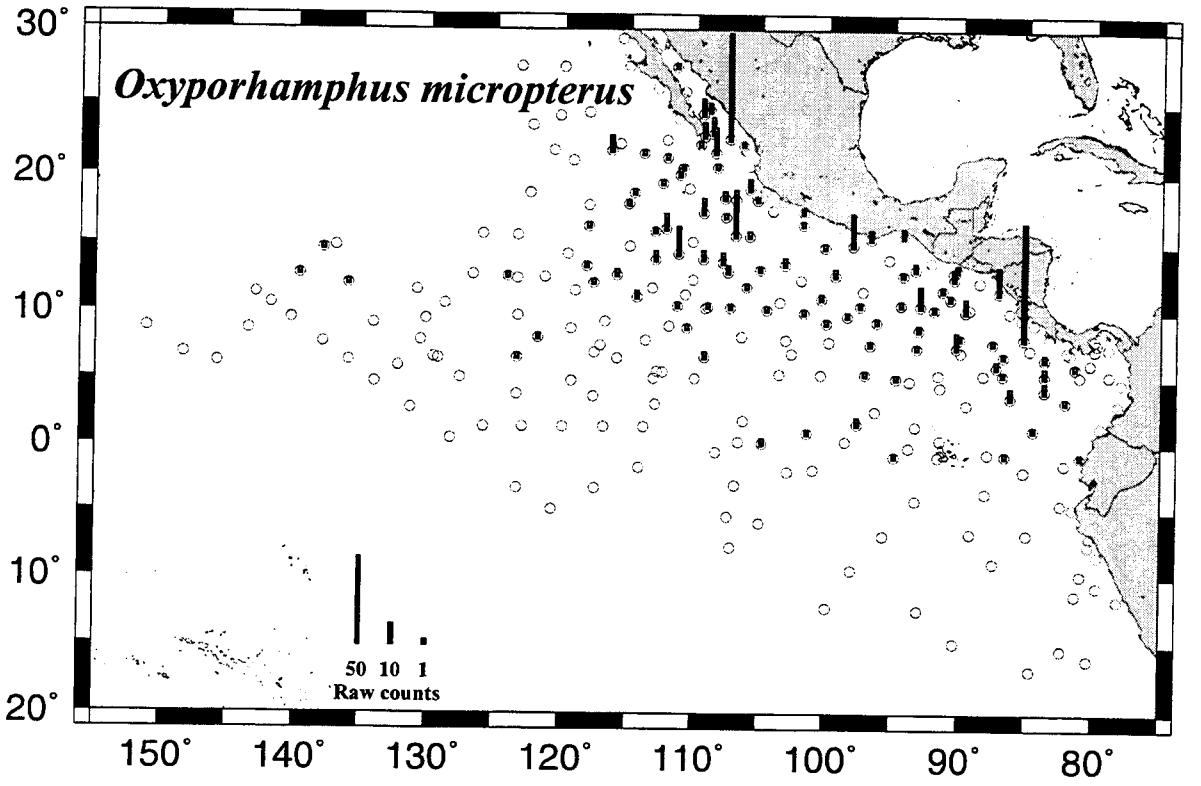

Figure 5. Distribution of *Oxyporhamphus micropterus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

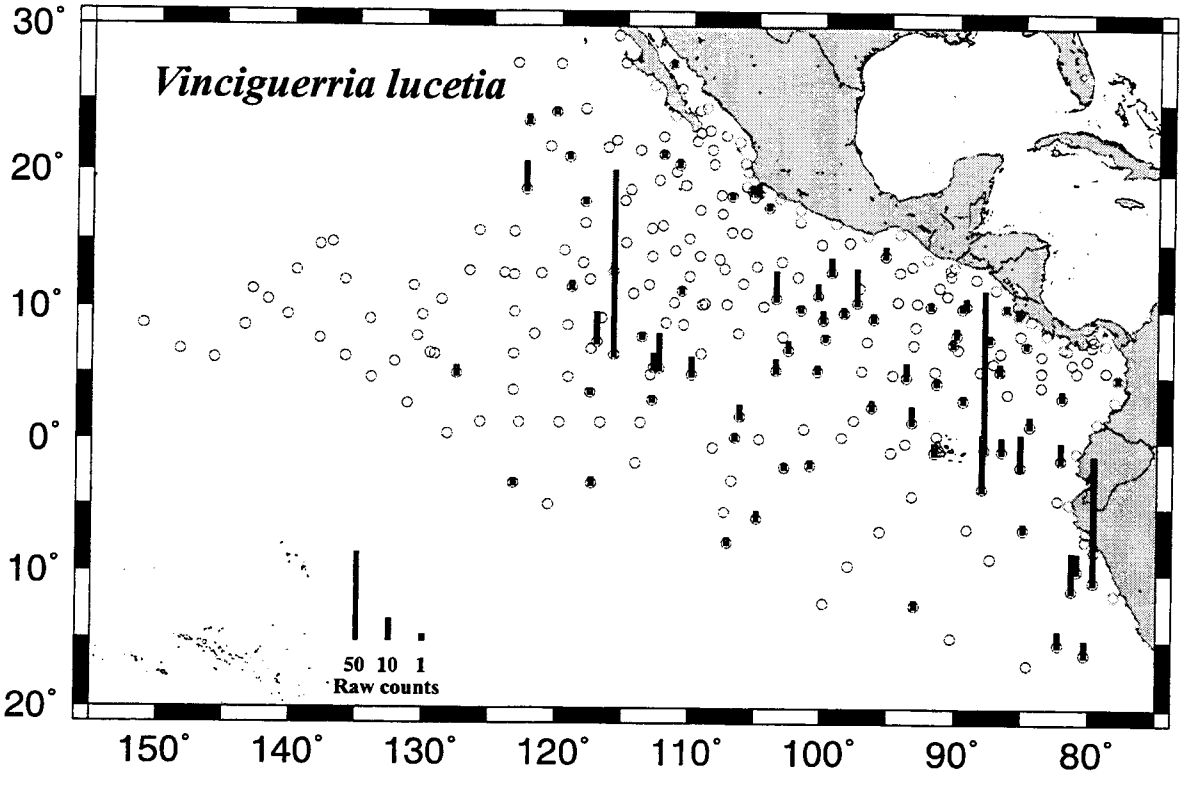

Figure 6. Distribution of *Vinciguerria lucetia* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

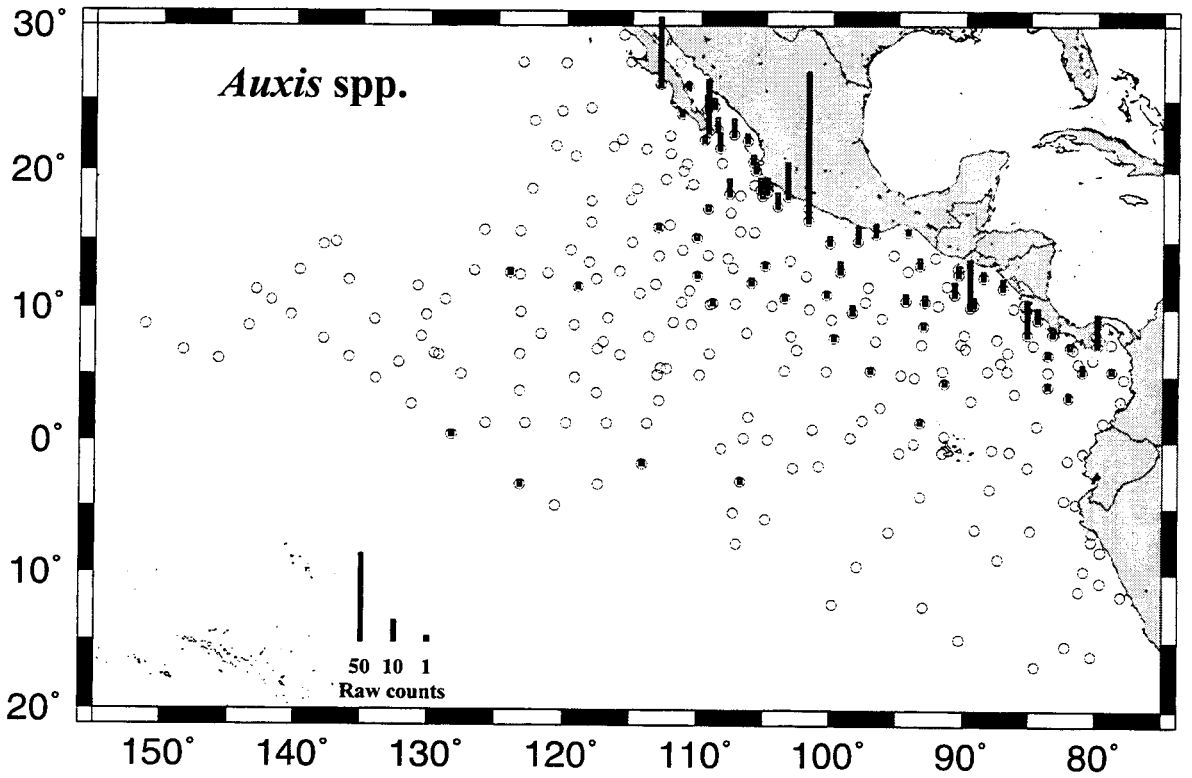

Figure 7. Distribution of *Auxis* spp. larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

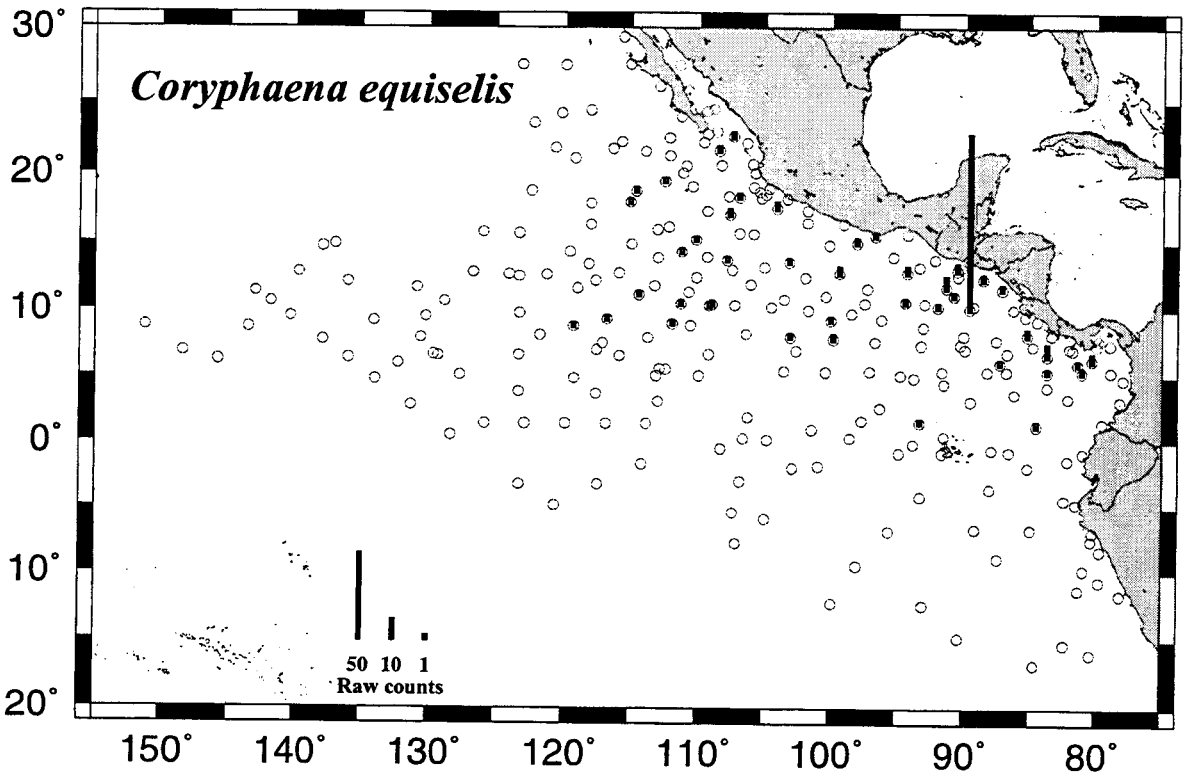

Figure 8. Distribution of *Coryphaena equiselis* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

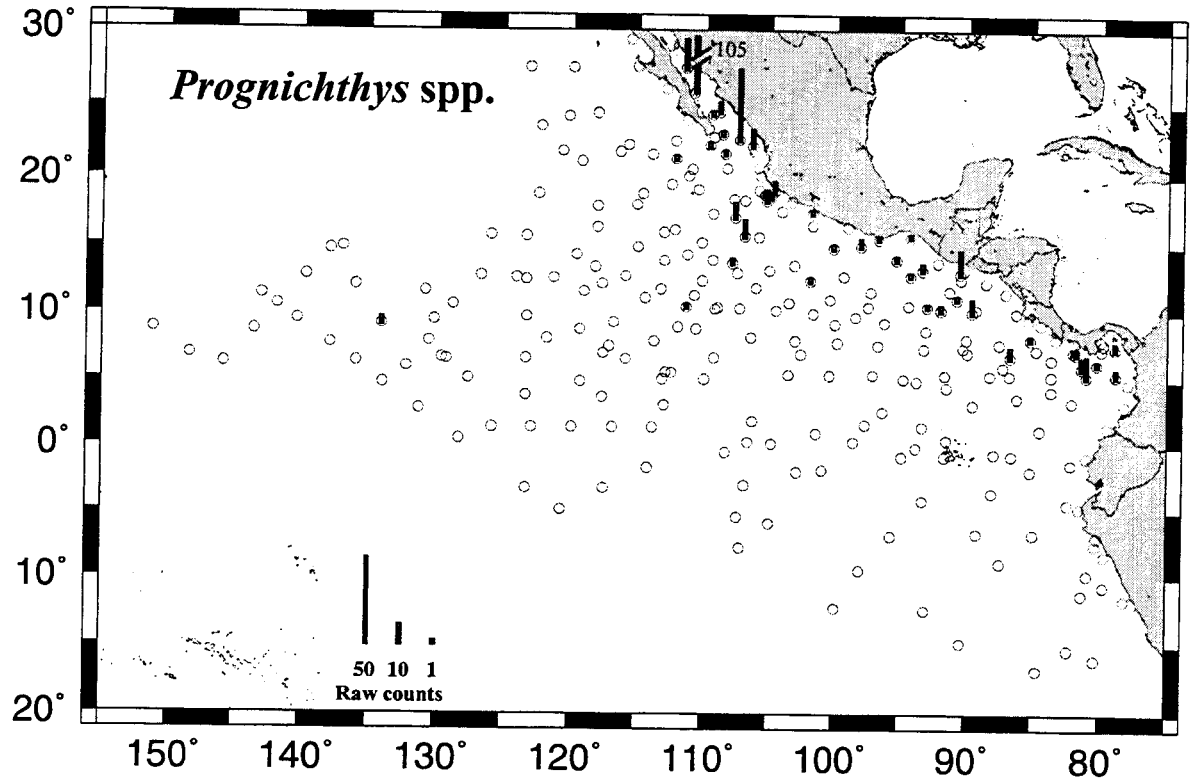

Figure 9. Distribution of *Prognichthys* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

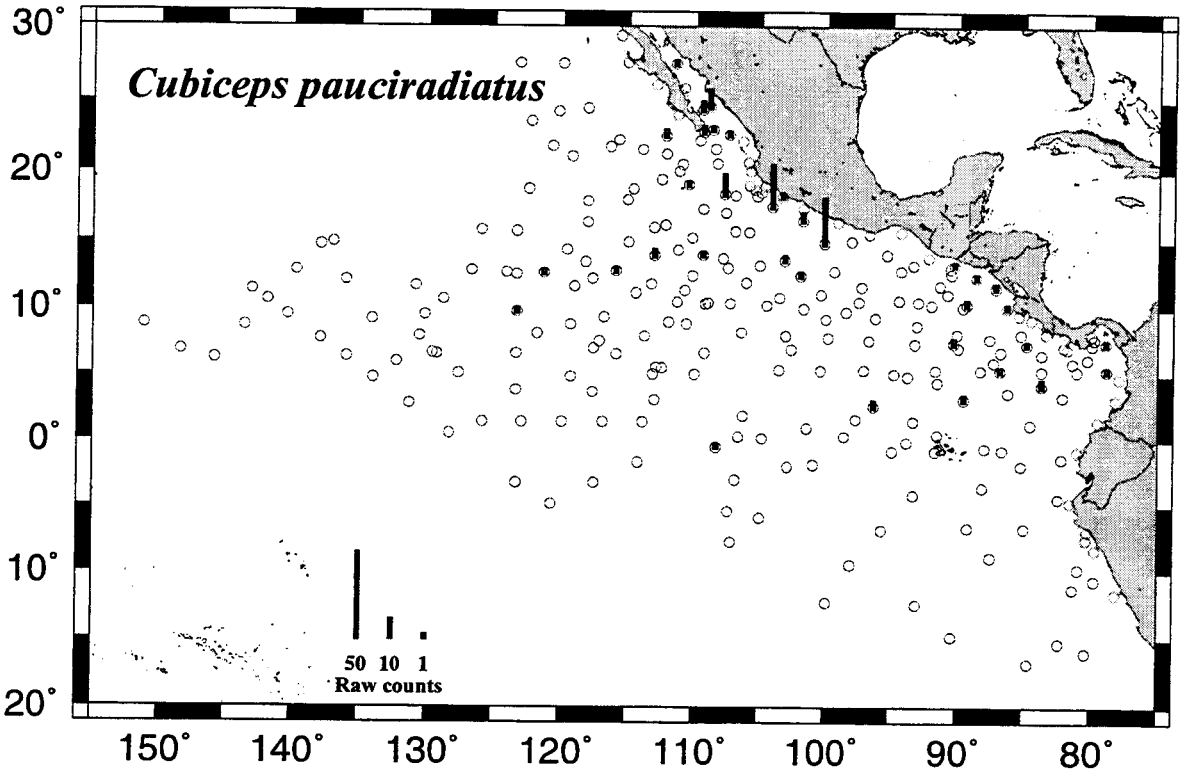

Figure 10. Distribution of *Cubiceps pauciradiatus* larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

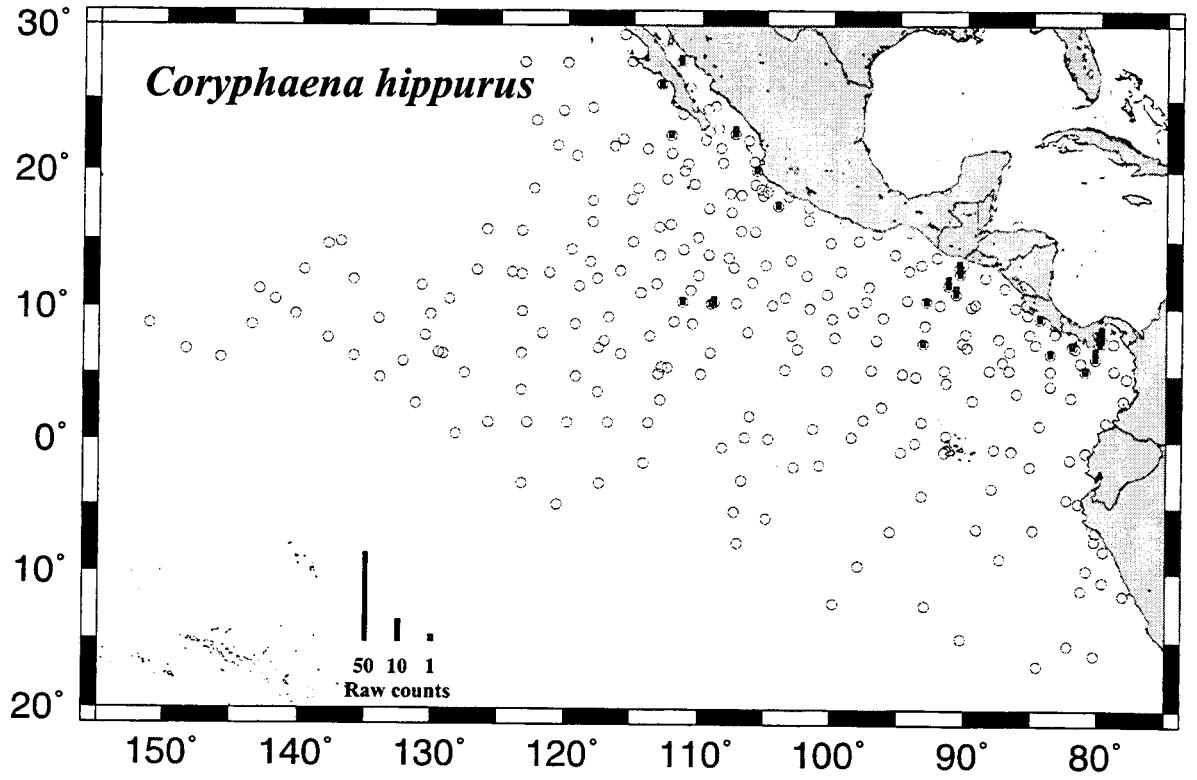

Figure 11. Distribution of *Coryphaena hippurus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

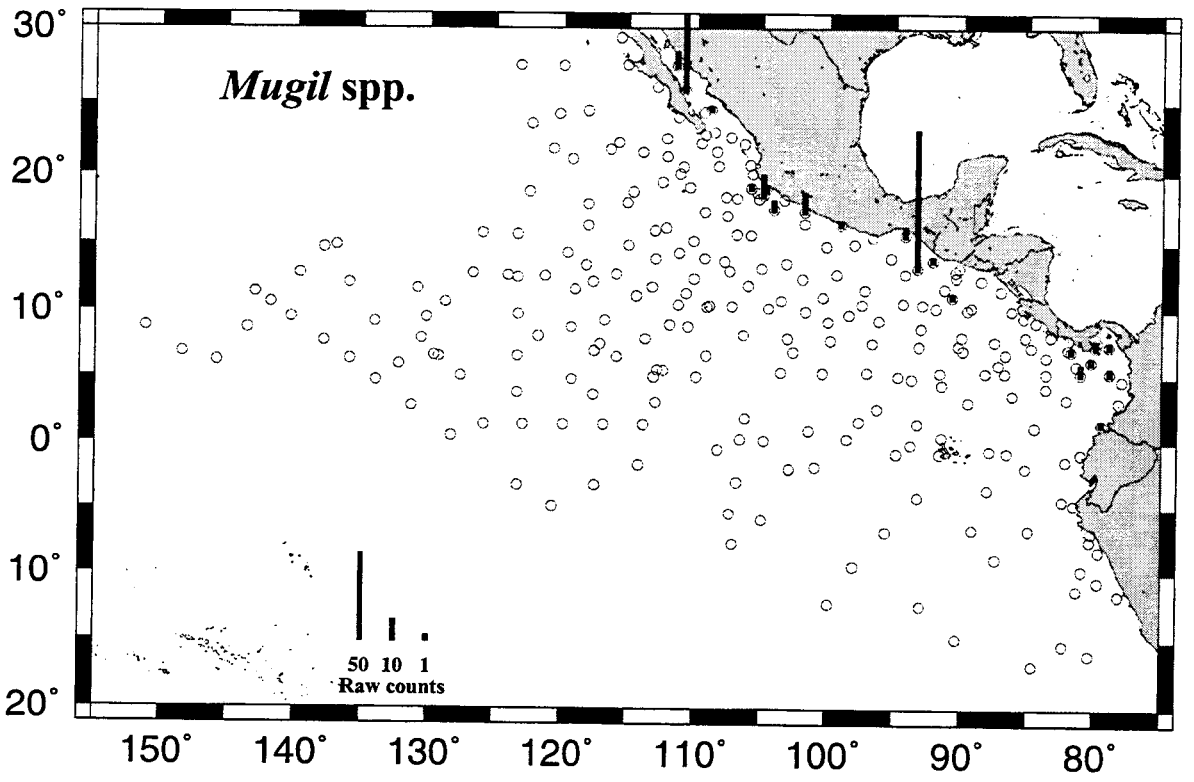

Figure 12. Distribution of *Mugil* spp. larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

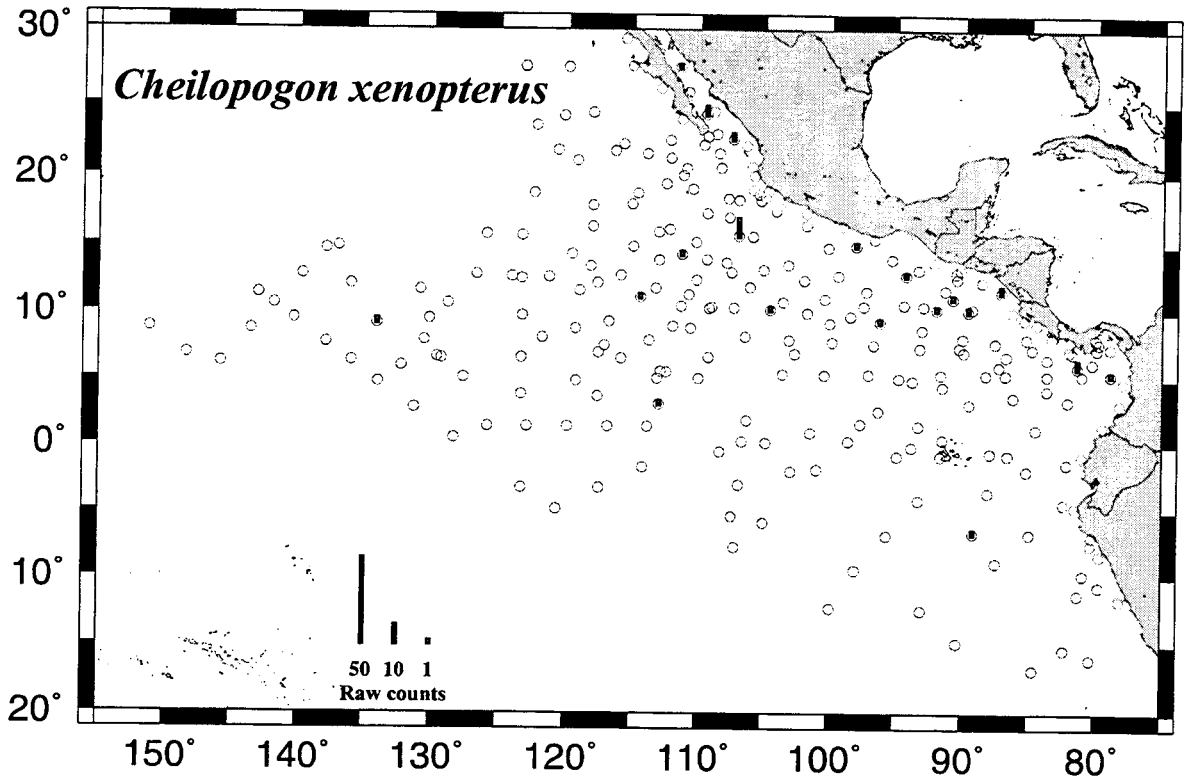

Figure 13. Distribution of *Cheilopogon xenopterus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

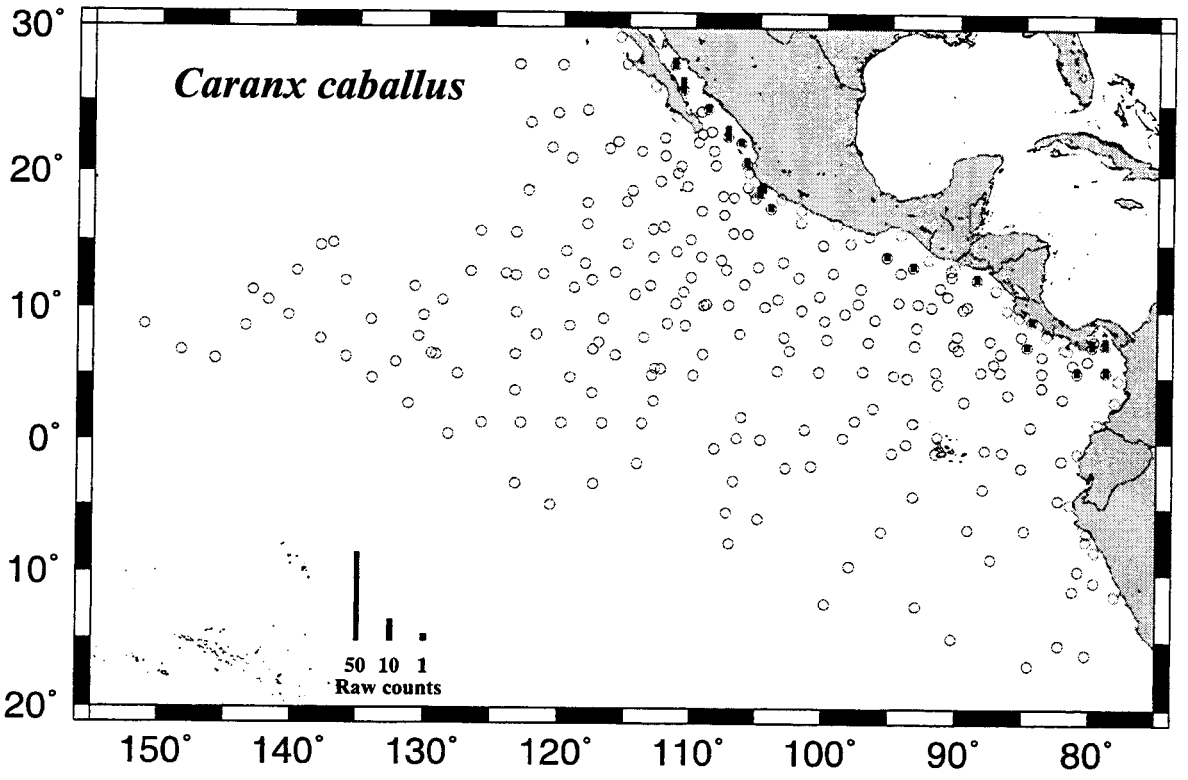

Figure 14. Distribution of *Caranx caballus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

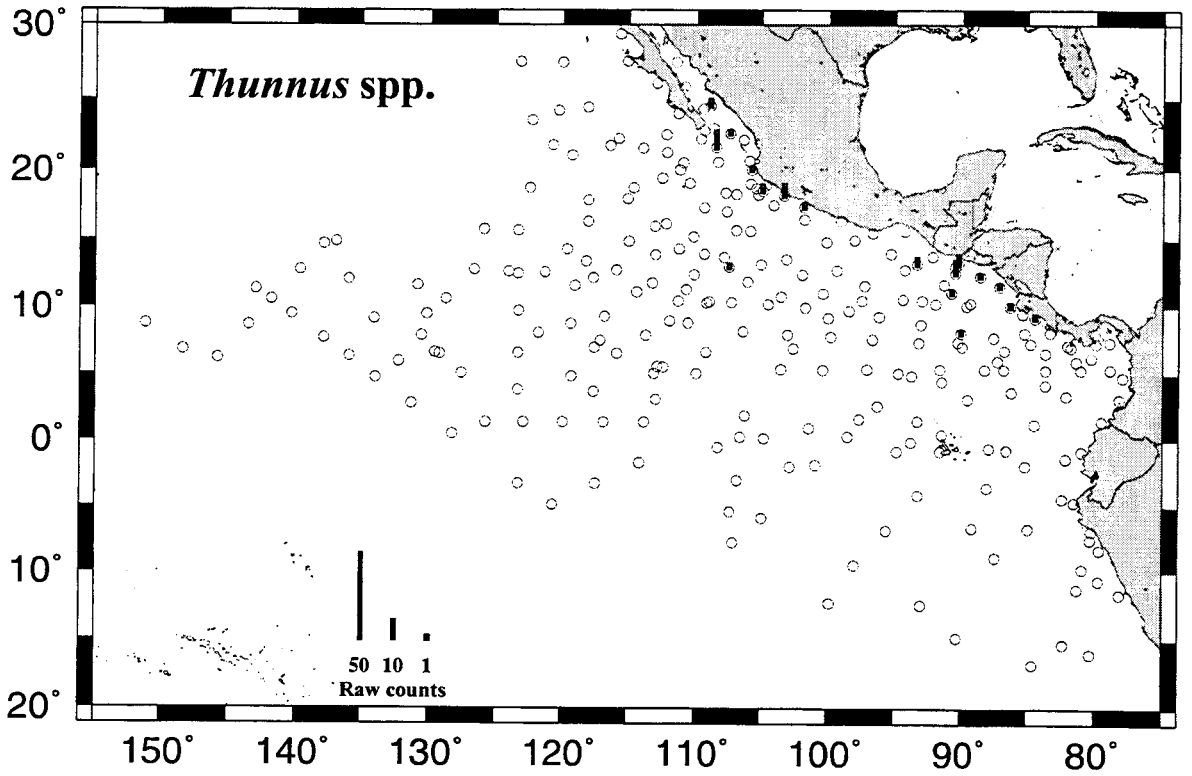

Figure 15. Distribution of *Thunnus* spp. larvae from Manta net tows: 9810JD and 9810M4.

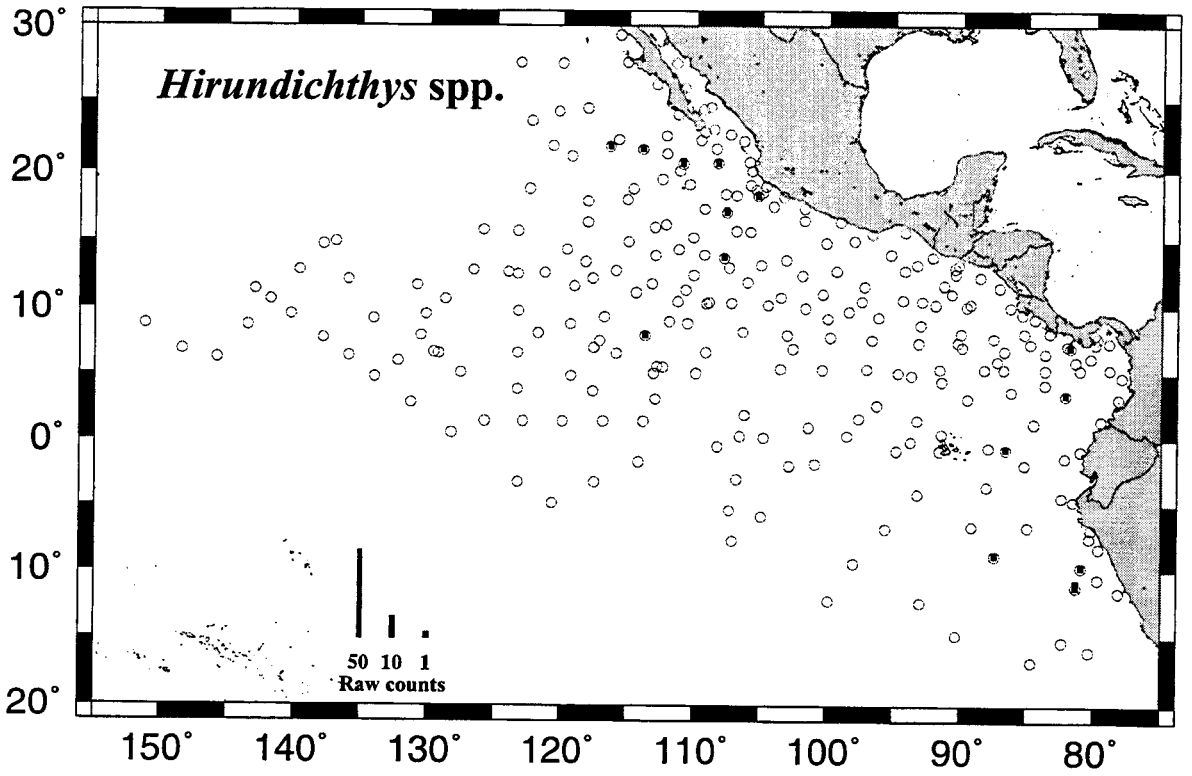

Figure 16. Distribution of *Hirundichthys* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

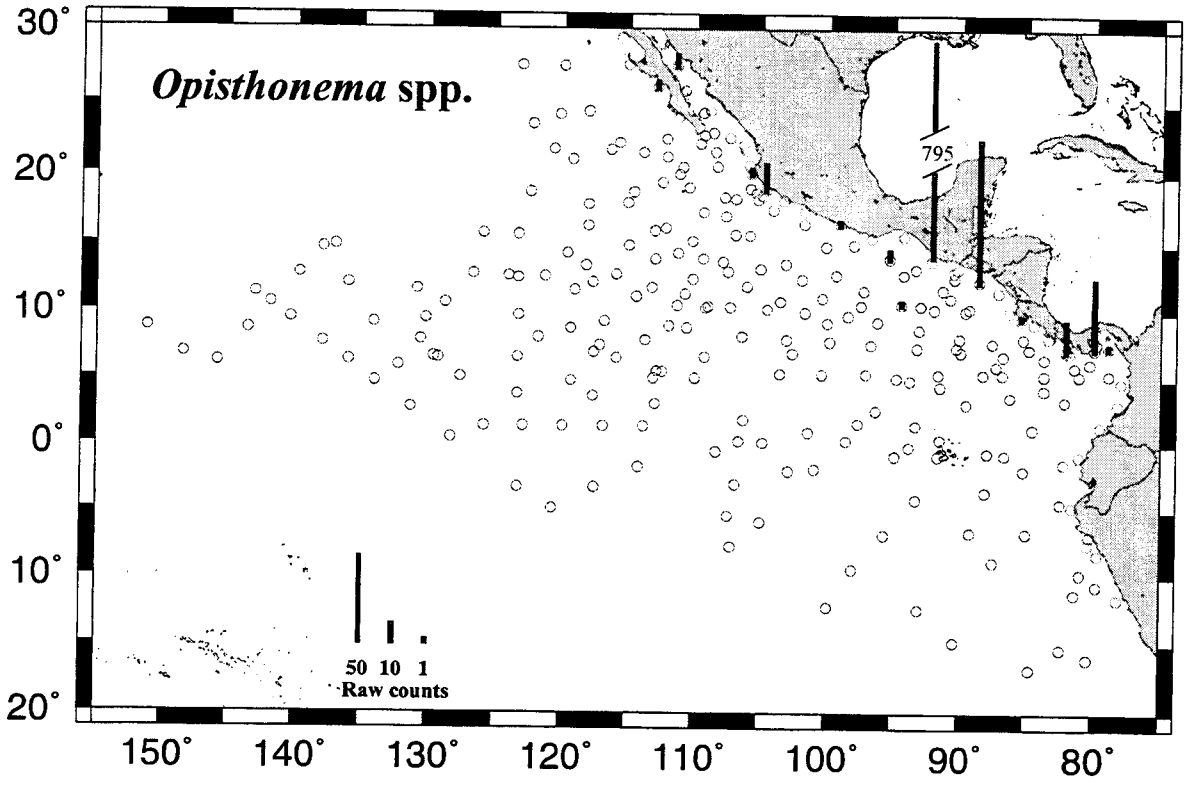

Figure 17. Distribution of *Opisthonema* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

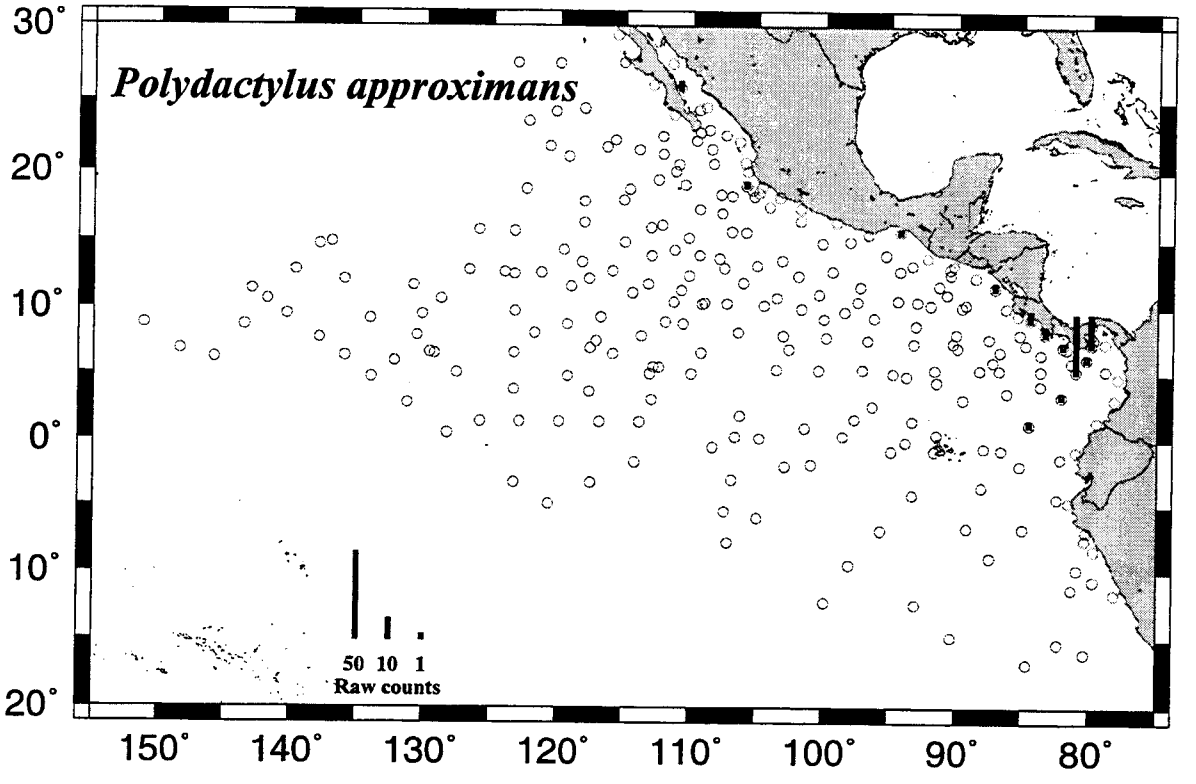

Figure 18. Distribution of *Polydactylus approximans* larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

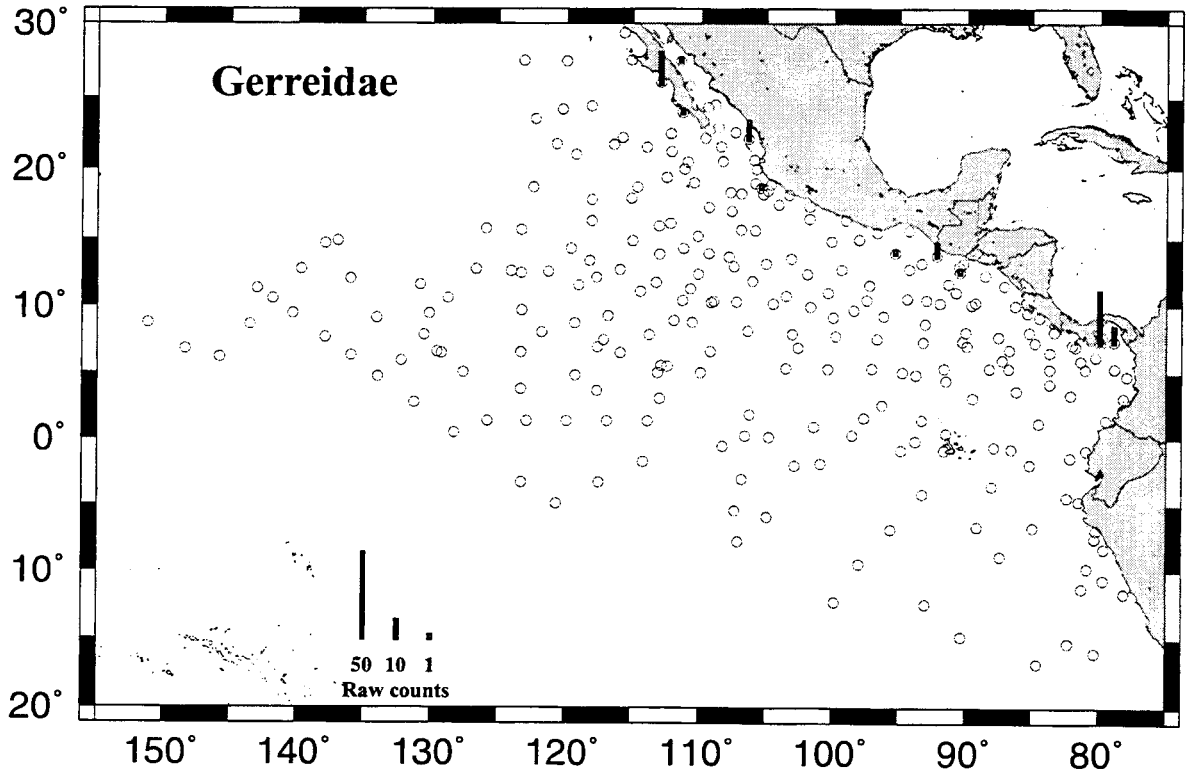

Figure 19. Distribution of Gerreidae larvae from Manta net tows: 9810JD and 9810M4.

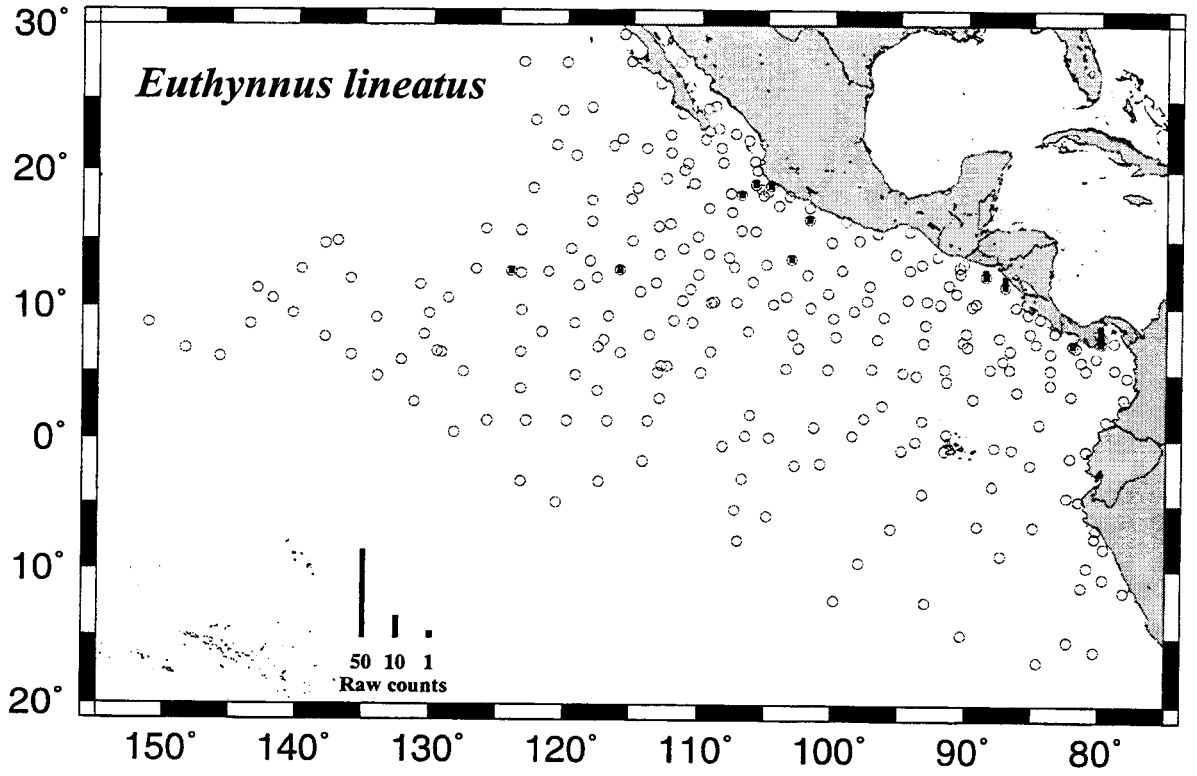

Figure 20. Distribution of *Euthynnus lineatus* larvae from Manta net tows: 9810EN, 9810JD, and 9810M4.

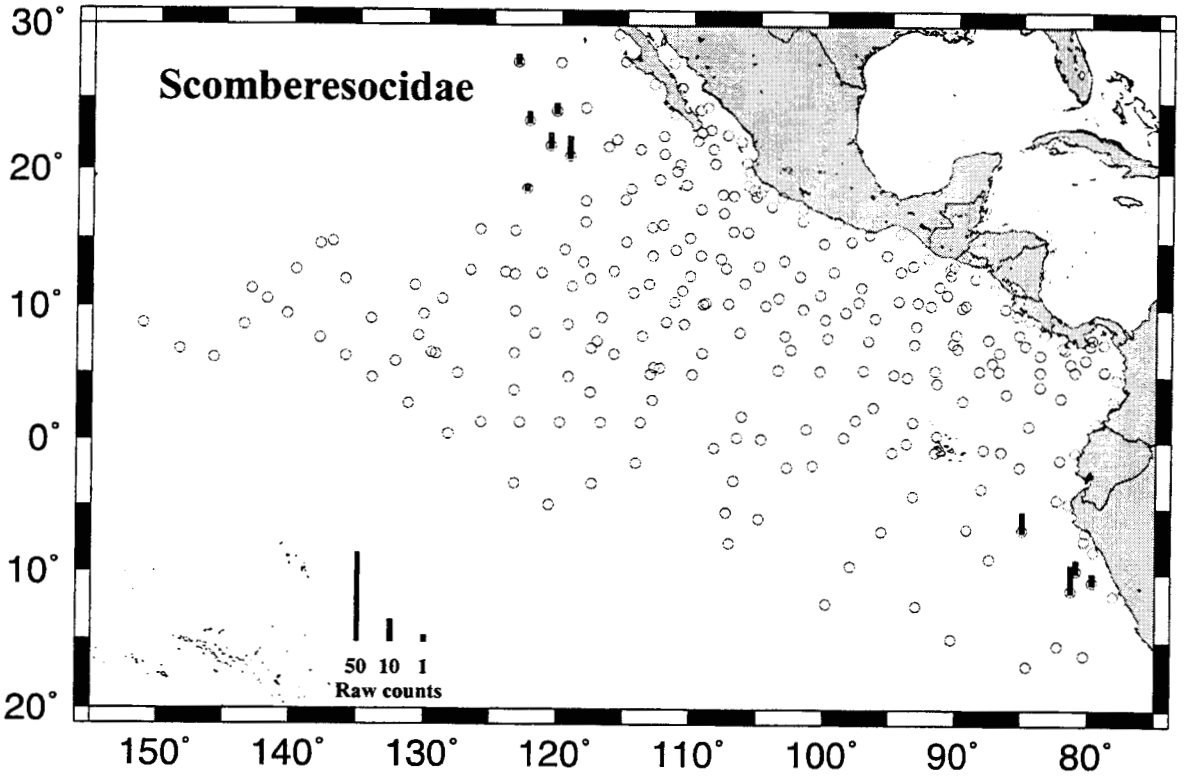

Figure 21. Distribution of Scomberesocidae larvae from Manta net tows: 9810EN and 9810M4.

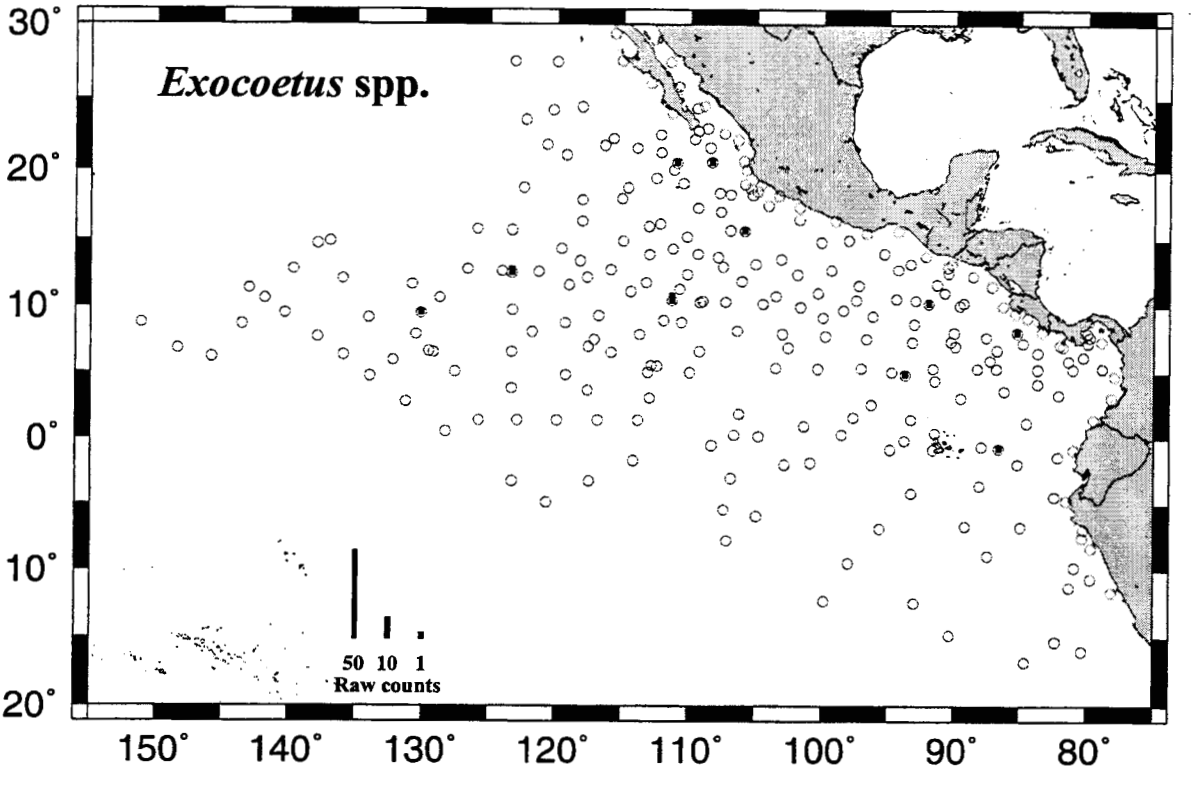

Figure 22. Distribution of *Exocoetus* spp. larvae from Manta net tows: 9810EN, 9810JD and 9810M4.

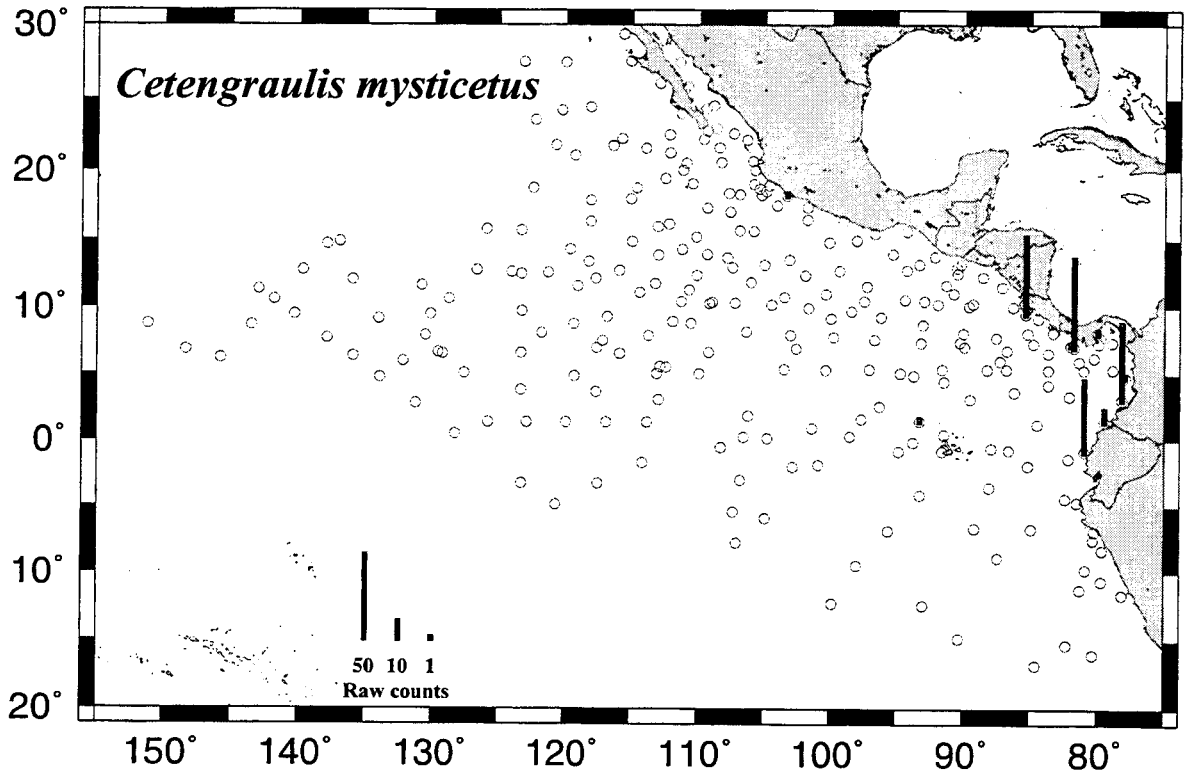

Figure 23. Distribution of *Cetengraulis mysticetus* larvae from Manta net tows: 9810JD.

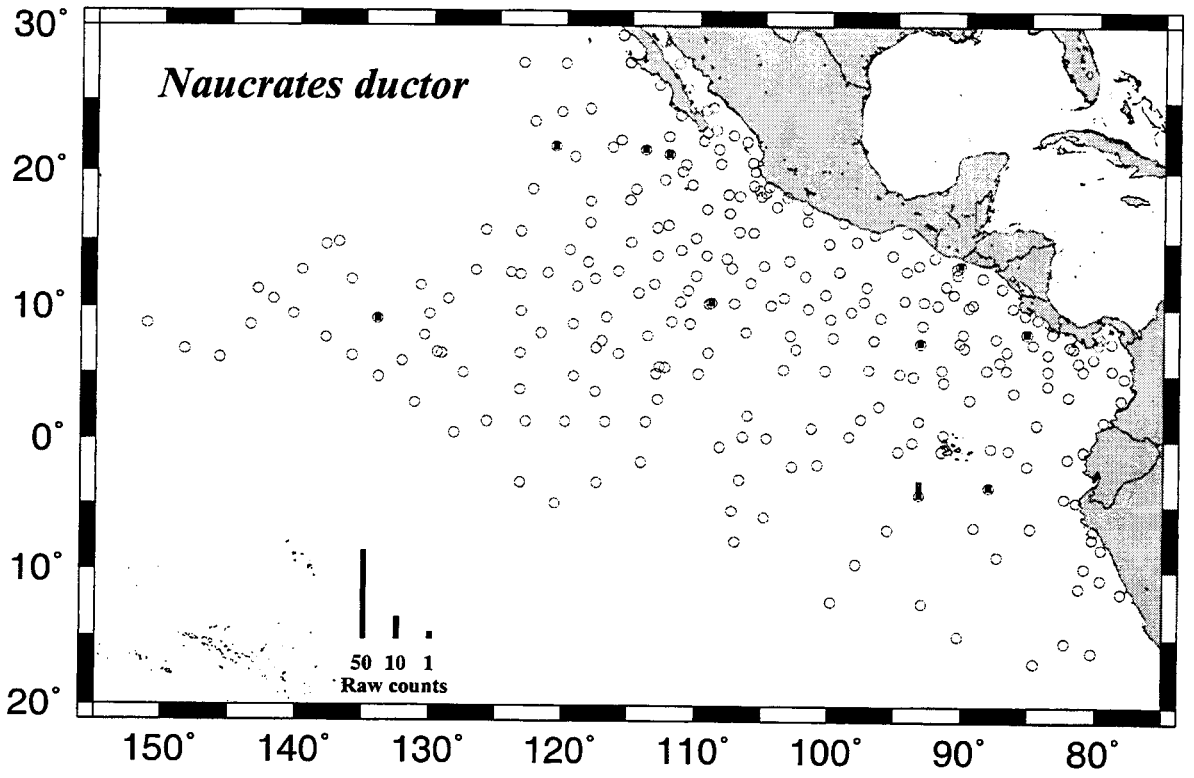

Figure 24. Distribution of *Naucrates ductor* larvae from Manta net tows: 9810EN and 9810M4.

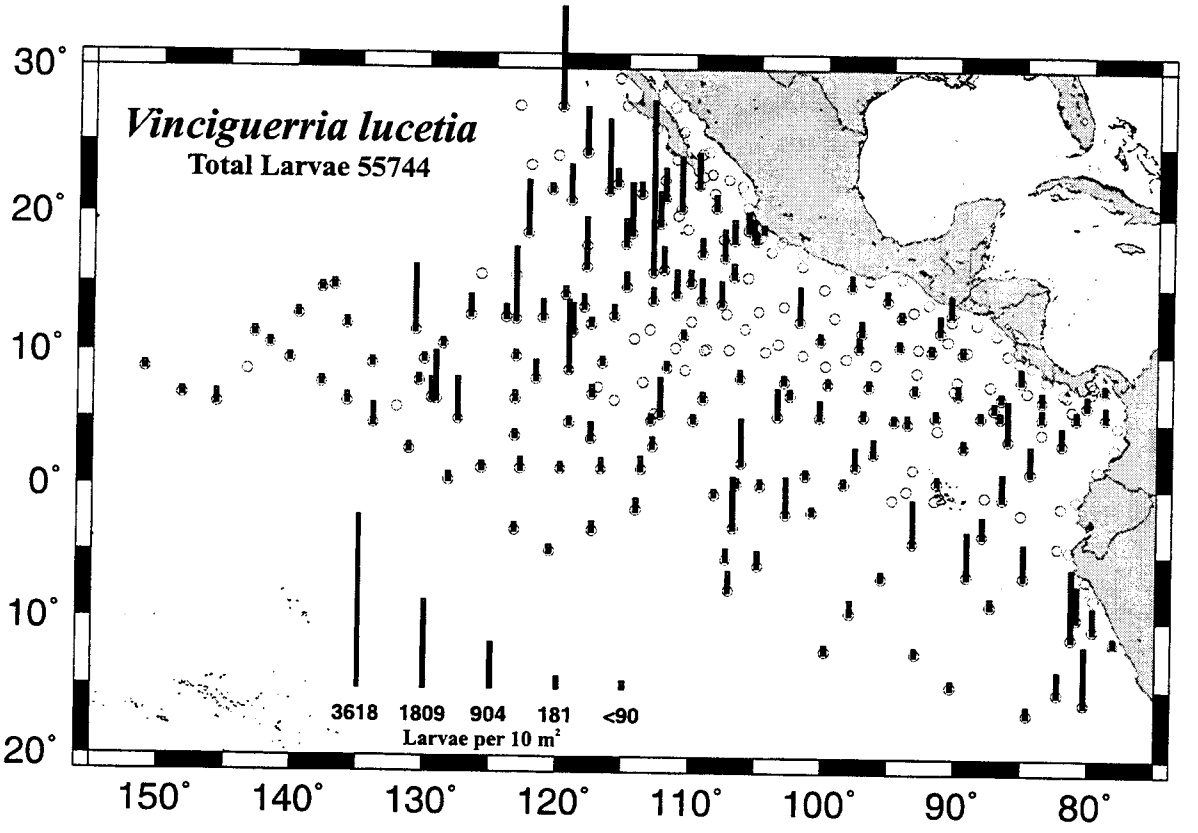

Figure 25. Distribution of *Vinciguerria lucetia* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

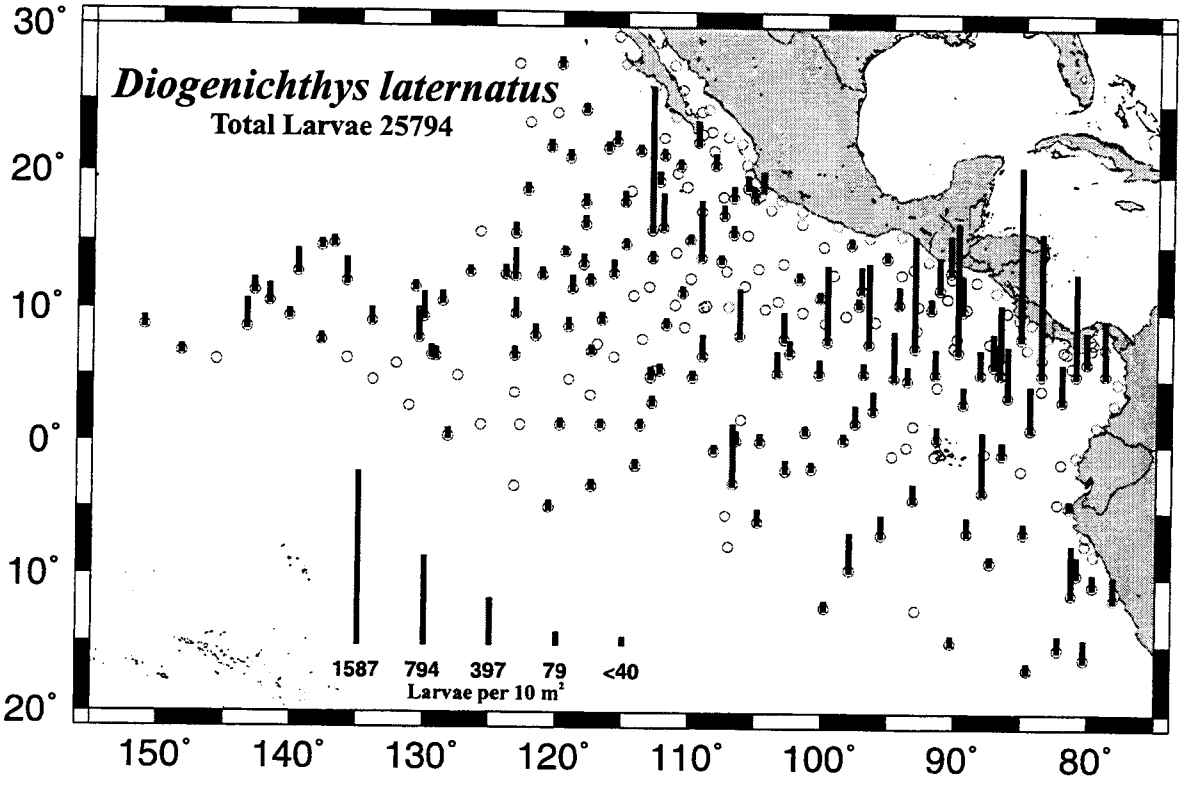

Figure 26. Distribution of *Diogenichthys laternatus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

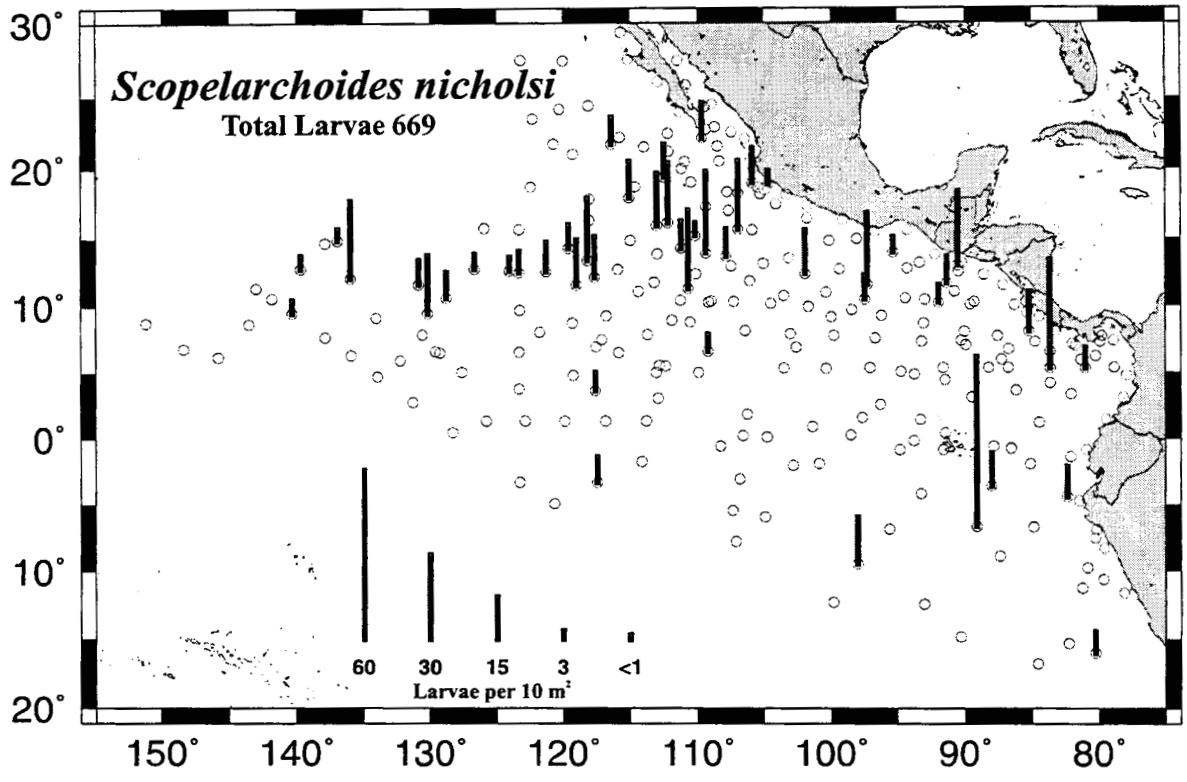

Figure 31. Distribution of *Scopelarchoides nicholsi* larvae from bongo net tows: 9810EN and 9810M4.

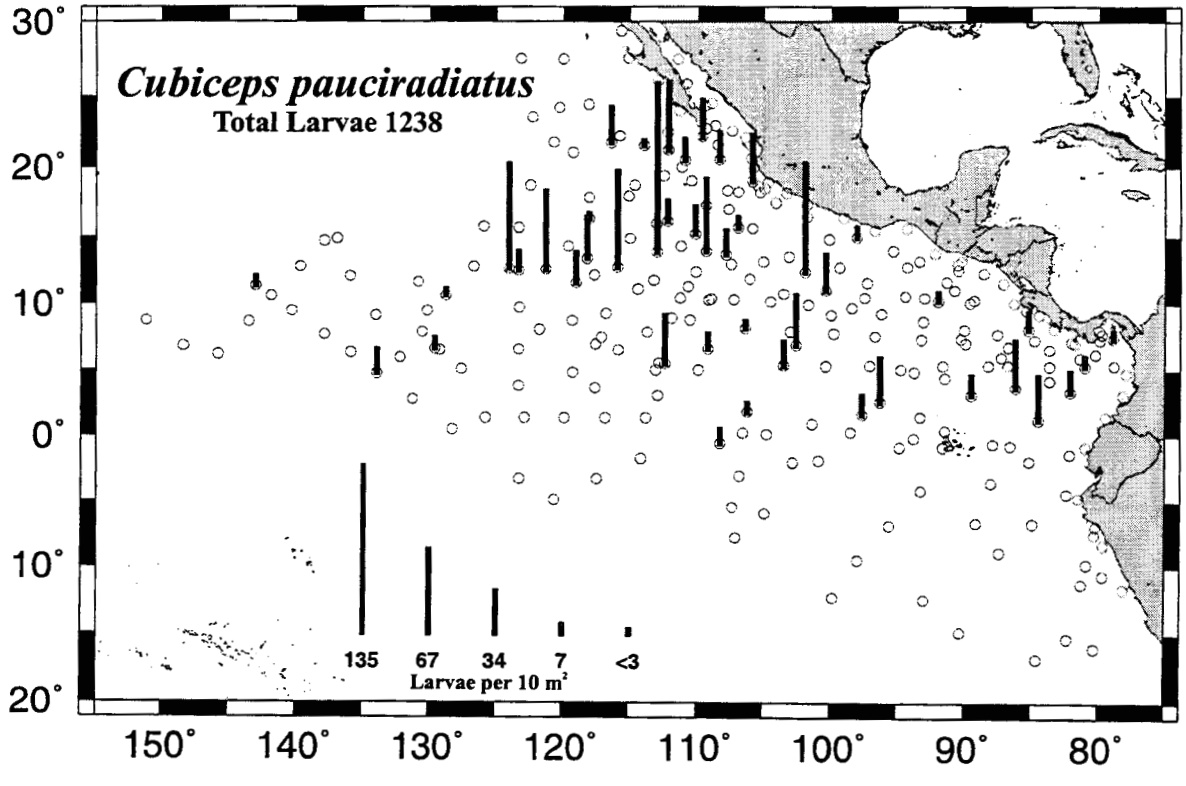

Figure 32. Distribution of *Cubiceps pauciradiatus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

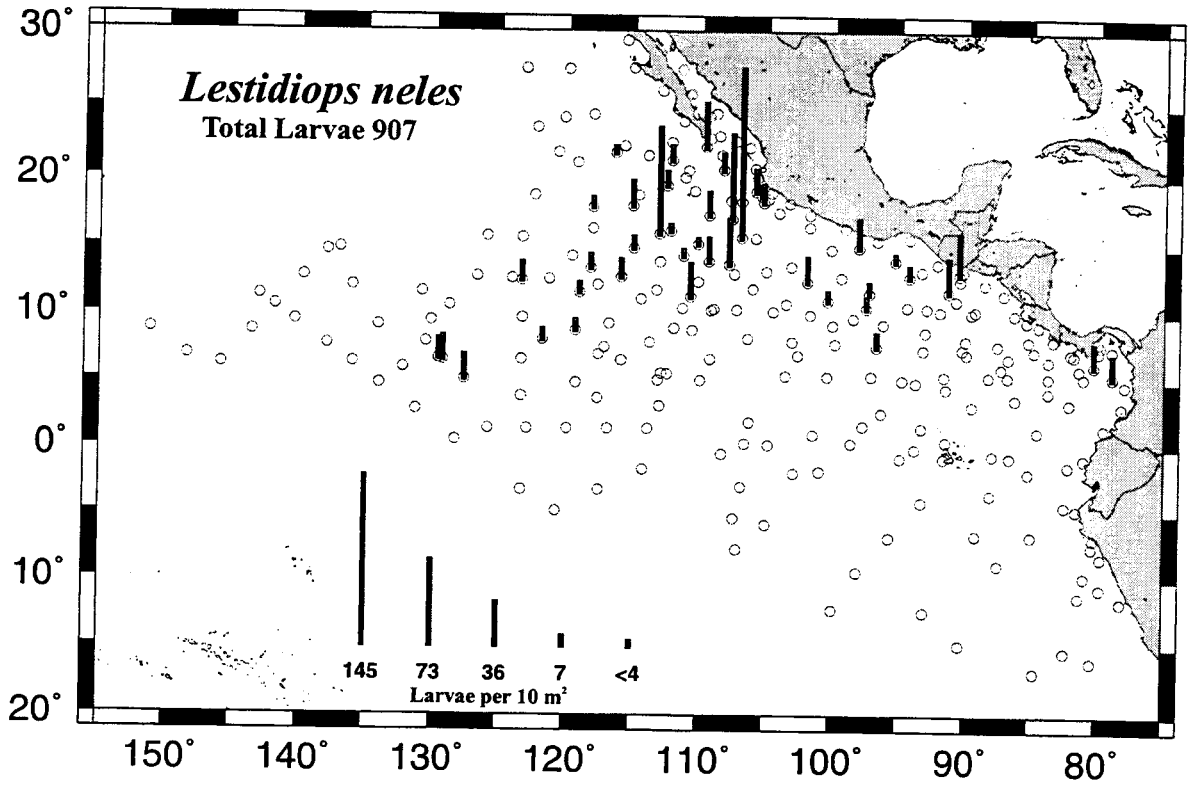

Figure 33. Distribution of *Lestidiops neles* larvae from bongo net tows: 9810EN and 9810M4.

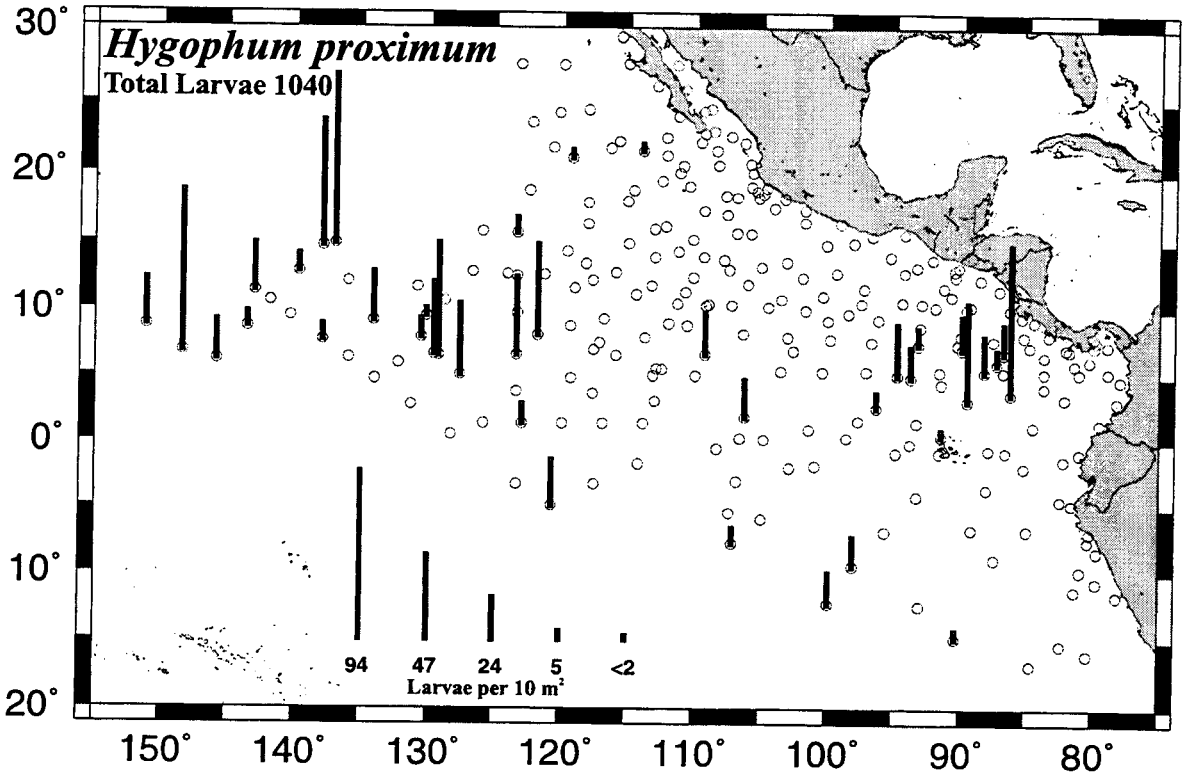

Figure 34. Distribution of *Hygophum proximum* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

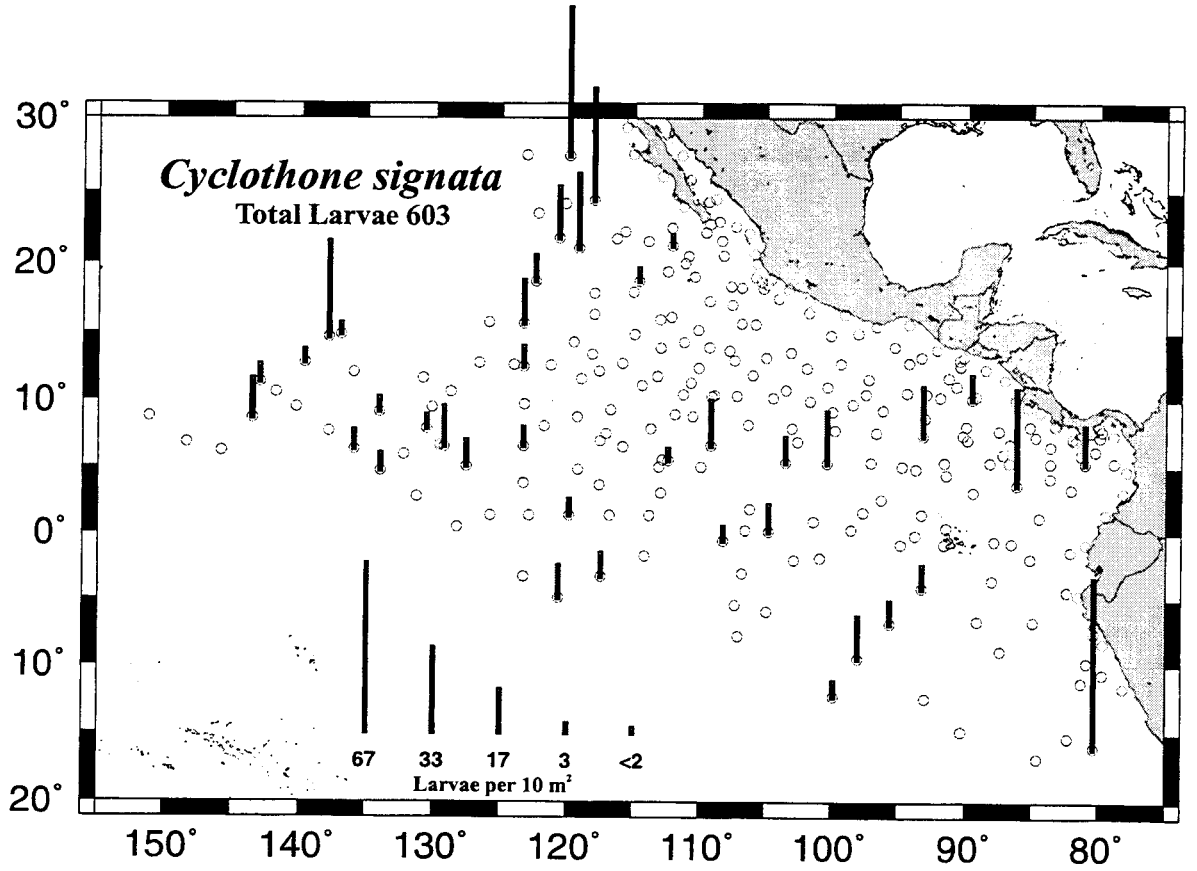

Figure 35. Distribution of *Cyclothone signata* larvae from bongo net tows: 9810EN and 9810M4.

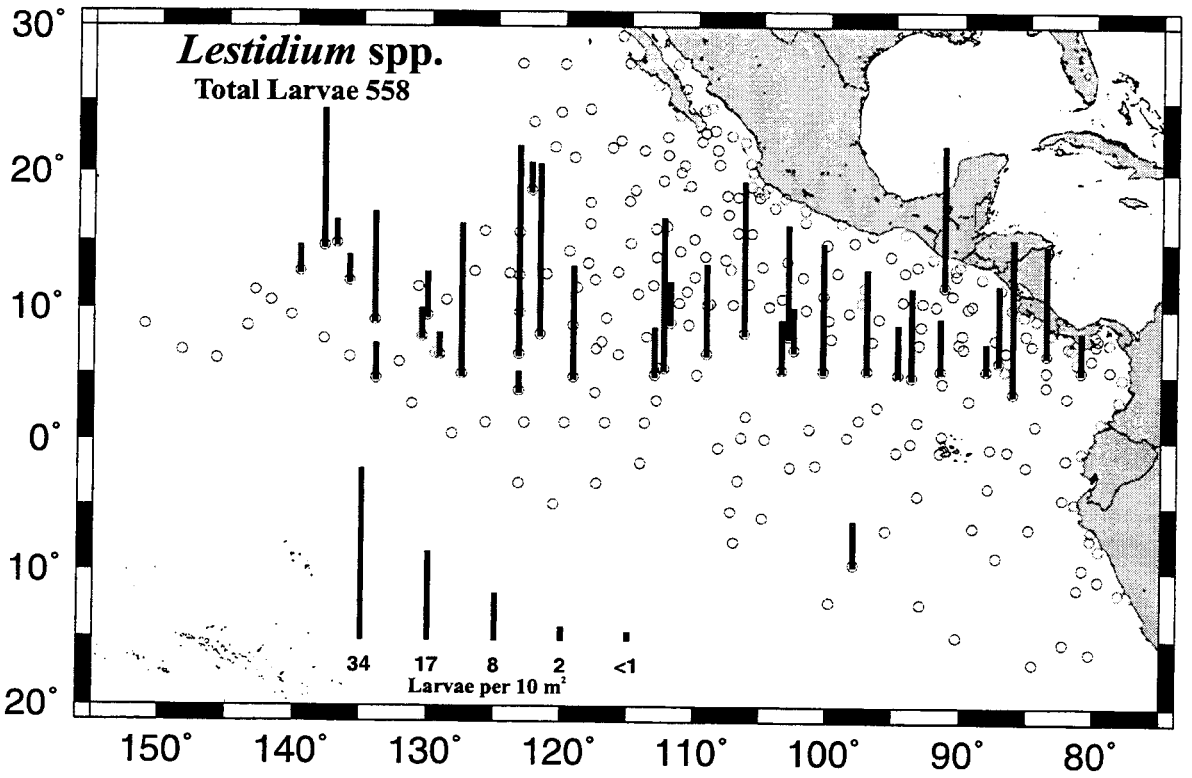

Figure 36. Distribution of *Lestidium* spp. larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

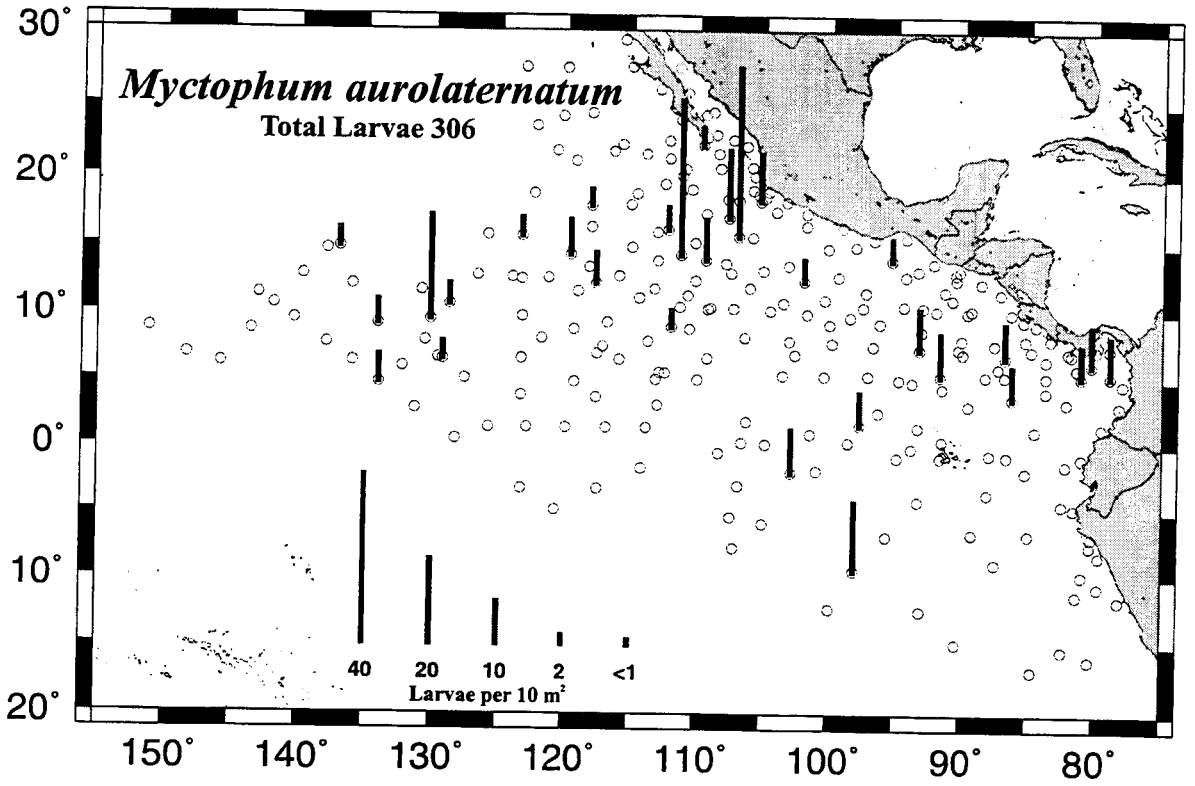

Figure 37. Distribution of *Myctophum aurolaternatum* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

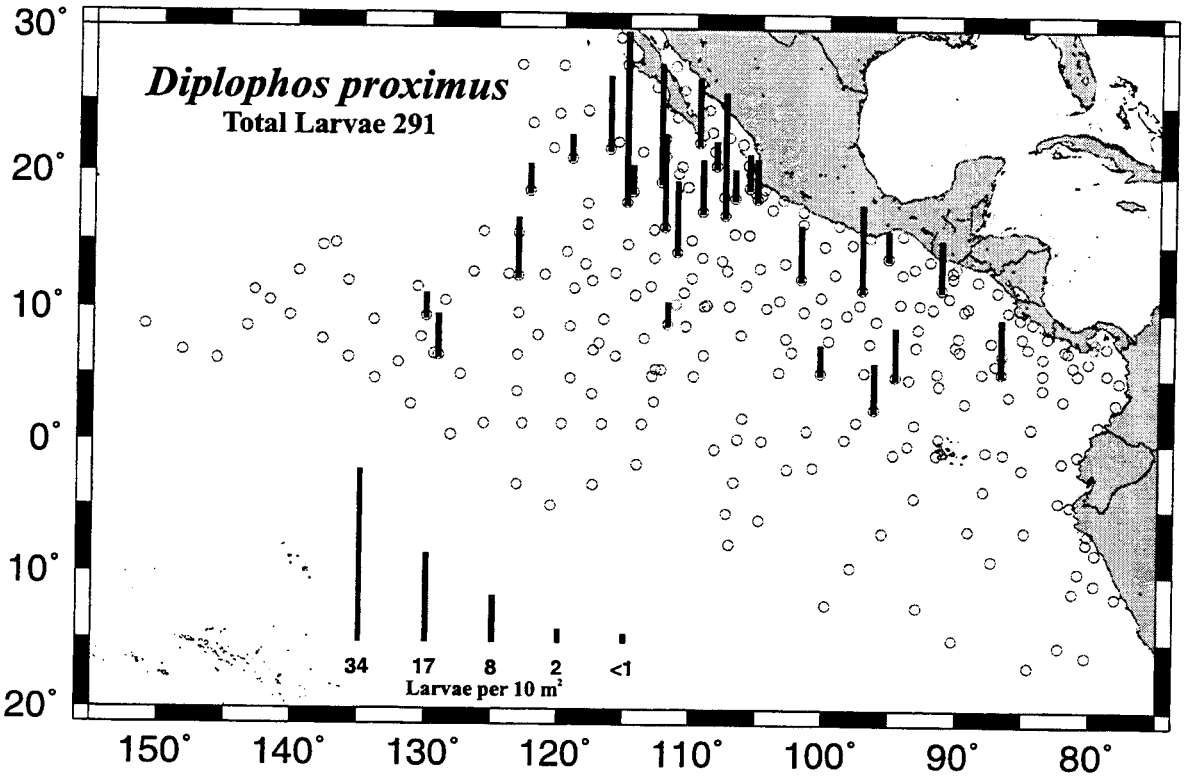

Figure 38. Distribution of *Diplophos proximus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

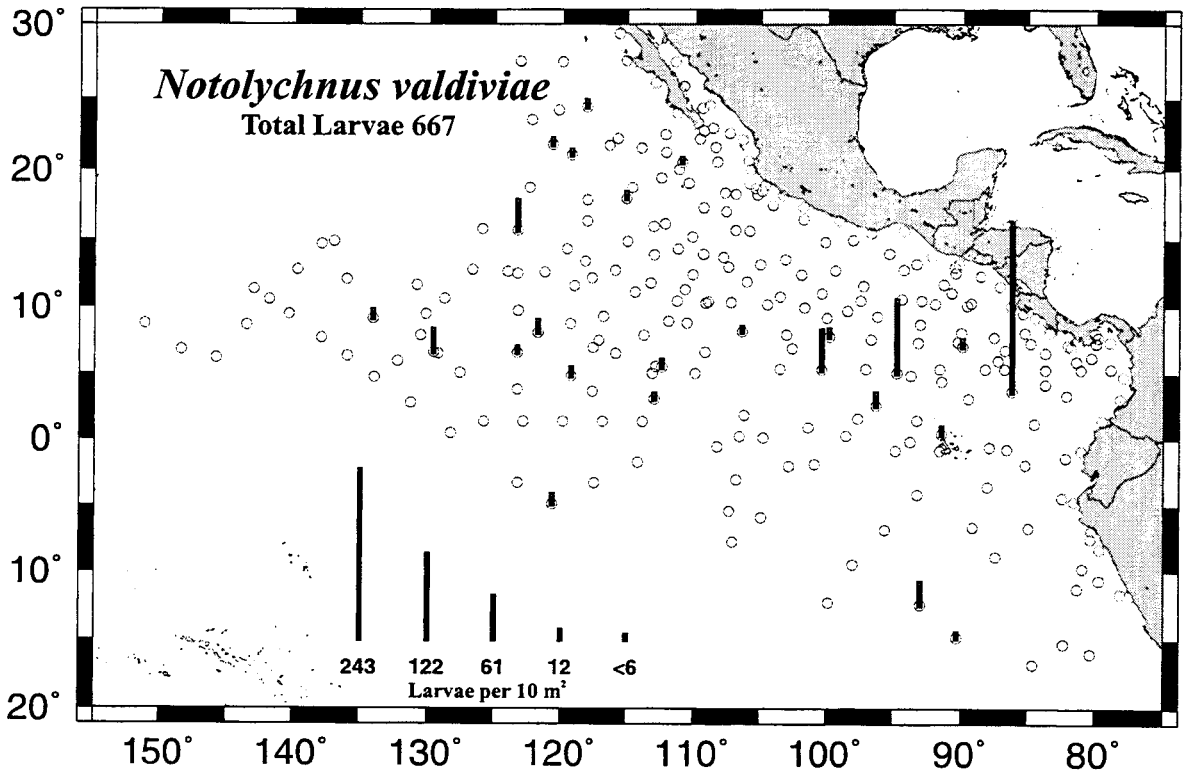

Figure 39. Distribution of *Notolychnus valdiviae* larvae from bongo net tows: 9810JD and 9810M4.

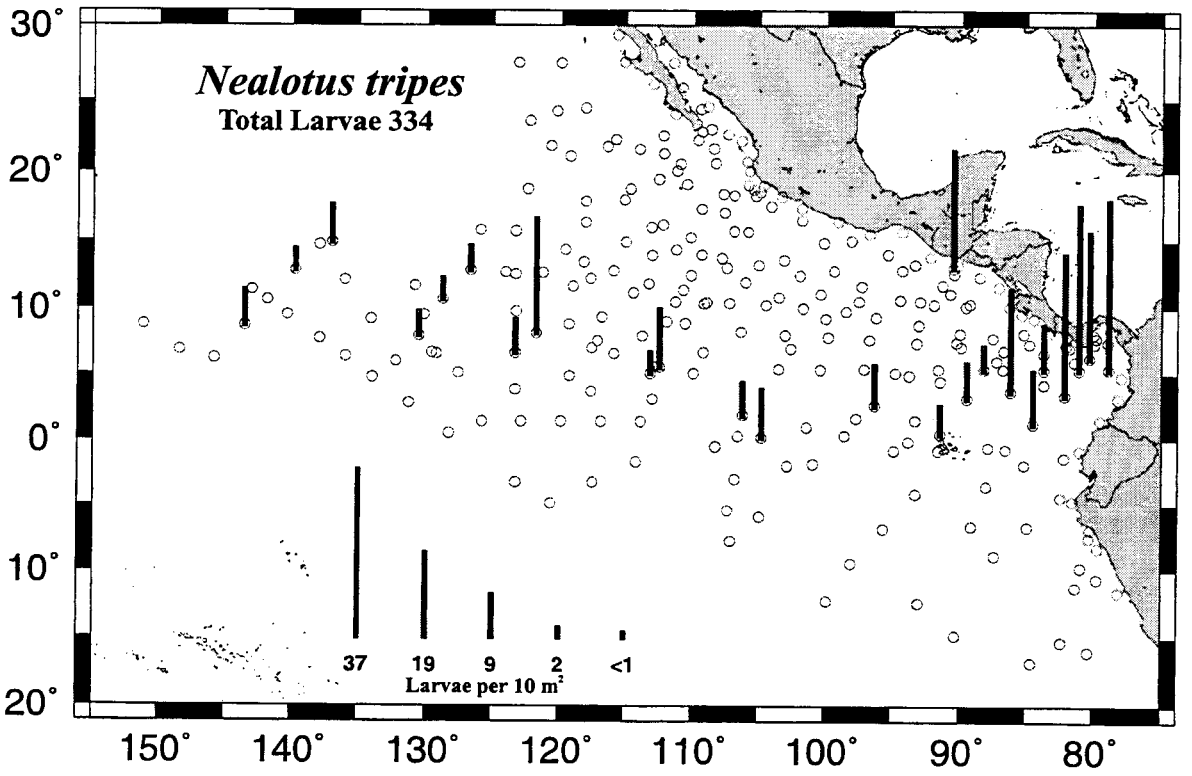

Figure 40. Distribution of *Nealotus tripes* larve from bongo net tows: 9810EN, 9810JD, and 9810M4.

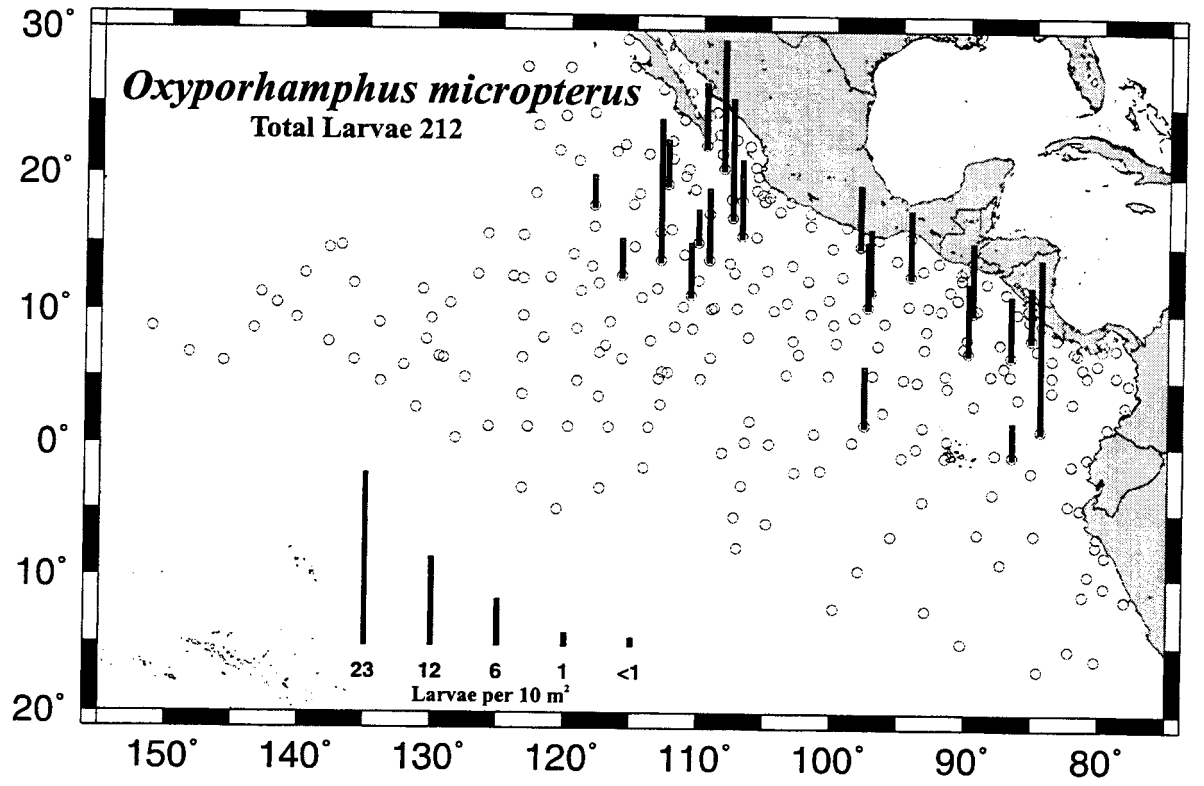

Figure 41. Distribution of *Oxyporhamphus micropterus* larvae from bongo net tows: 9810EN and 9810M4.

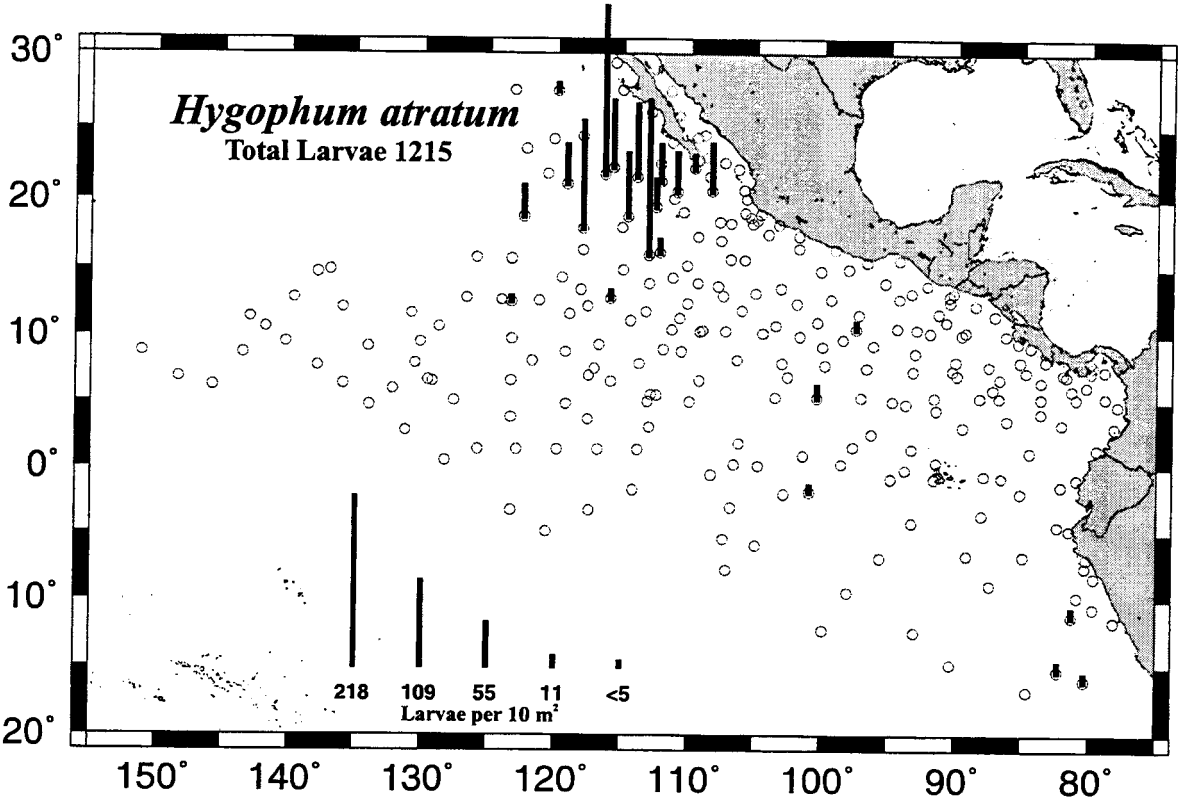

Figure 42. Distribution of *Hygophum atratum* larvae from bongo net tows: 9810EN and 9810M4.

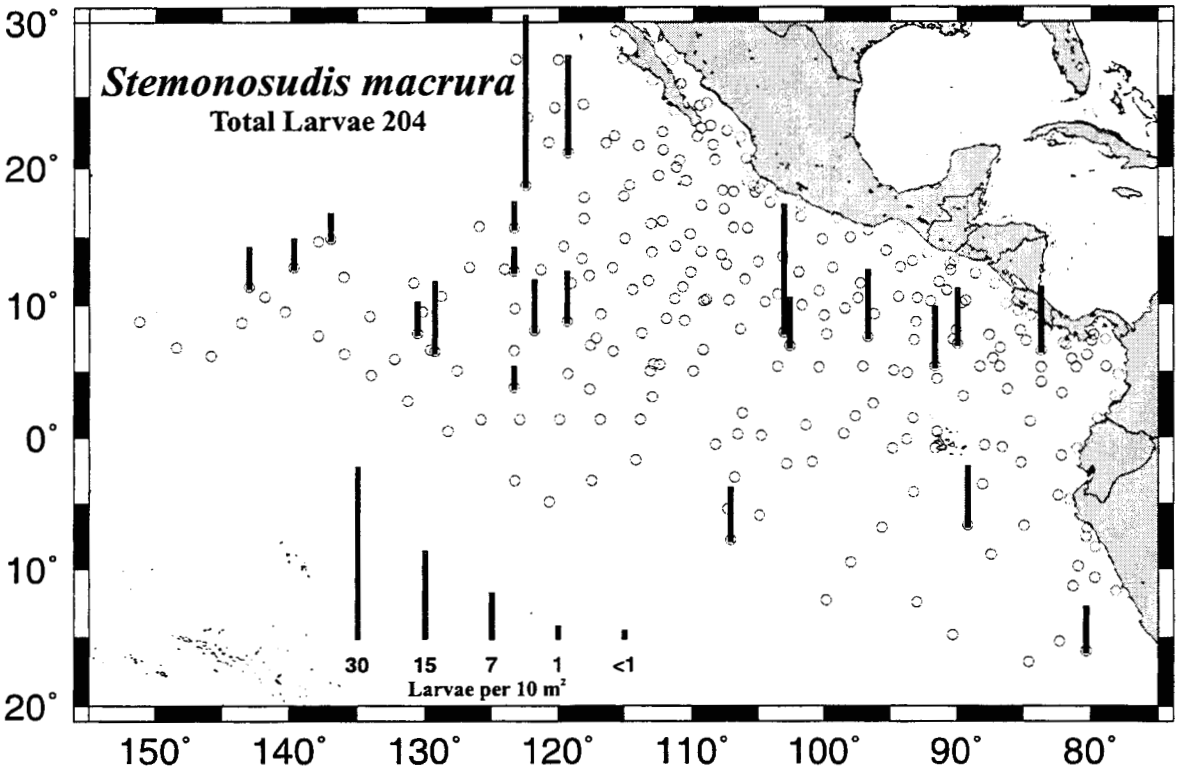

Figure 43. Distribution of *Stemonosudis macrura* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

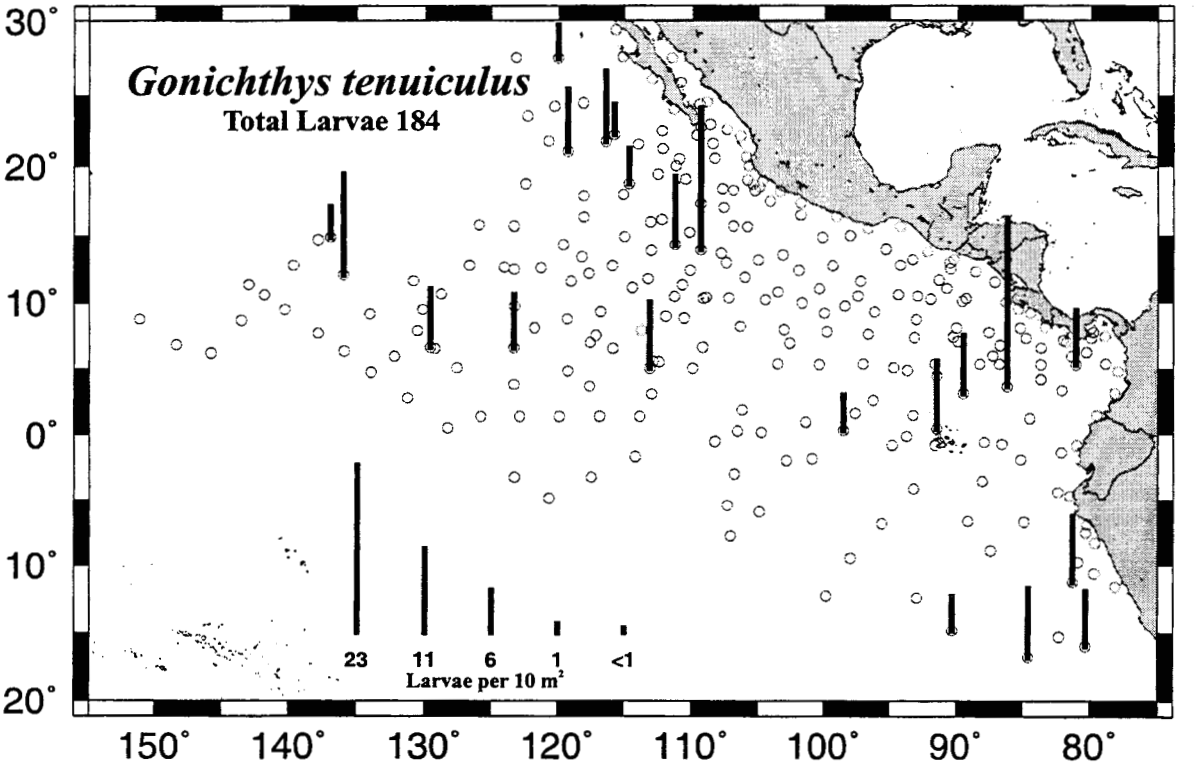

Figure 44. Distribution of *Gonichthys tenuiculus* larvae from bongo net tows: 9810EN, 9810JD, and 9810M4.

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

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

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

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

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

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

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

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

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

Table 2. (cont.)

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

Table 2. (cont.)

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

Table 2. (cont.)

Rank	Taxon	Occurrences
89	*Scorpaena guttata*	1
89	*Scorpaenodes xyris*	1
89	Triglidae	1
89	*Exocoetus volitans*	1
	Total	854

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

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

Table 3. (cont.)

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

Table 3. (cont.)

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

Table 3. (cont.)

Rank	Taxon	Count
107	*Labrisomus multiporosus*	1
107	Tetraodontidae	1
107	*Diodon* spp.	1
107	*Gobiesox eugrammus*	1
107	*Diogenichthys atlanticus*	1
107	*Stemonosudis macrura*	1
	Total	4846

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

Gymnothorax mordax

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	JD	2-020	1	1	1.13

Ophichthus zophochir

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-014	2	1	0.86

Congridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Ariosoma gilberti

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-014	2	1	0.86
9	EN	1-020	10	1	0.97
10	JD	1-018	1	1	0.89

Harengula thrissina

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
20	JD	2-034	1	1	1.08

Opisthonema spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	3	3.20
7	JD	1-012	2	6	6.65
13	M4	1-024	4	4	2.93
15	JD	2-025	1	3	4.09
18	JD		1	2	1.99
21	JD	2-036	3	795	857.61
25	JD	2-043	3	84	108.53
30	JD	2-053	3	17	15.98
31	M4		3	1	0.74
31	JD	2-055	3	41	46.64
32	JD		3	17	14.08
41	EN		1	15	17.50
56	EN	3-124	3	1	0.98
62	JD		3	1	1.40

Engraulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
73	EN		8	46	72.56

Anchoa spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	2	2.13
12	JD	2-020	1	1	1.13

Anchoa spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	136	146.71
25	JD	2-043	3	17	21.96
41	EN		1	8	9.33

Cetengraulis mysticetus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
16	JD	2-027	1	1	1.35
30	JD	2-053	3	1	0.94
32	JD		3	2	1.66
33	JD	3-058	3	53	49.63
62	JD		3	46	64.25
66	JD	5-136	3	1	1.15
73	JD		8	42	54.33
74	JD	5-151	3	7	10.43
75	JD	5-153	3	45	60.73
76	JD	5-154	3	1	1.52

Engraulis mordax

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	3	2.39

Chanos chanos

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD		1	4	3.96
18	JD		1	2	1.99

Cyclothone spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
19	EN	1-040	7	1	1.20
66	JD	5-136	3	1	1.15
68	M4	4-132	2	1	0.76
70	EN	4-153	8	1	1.02
71	EN	4-155	8	5	4.71
84	EN	5-178	8	1	1.20

Cyclothone acclinidens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	EN	1-012	4	1	0.95
27	M4		3	1	0.77
70	M4	4-136	2	2	1.38

Diplophos proximus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	1	0.81
16	JD	2-027	1	2	2.70

Diplophos proximus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
37	M4	3-070	4	1	0.82
50	JD		1	3	3.22
79	JD	6-166	1	1	1.15
81	JD	6-169	2	1	1.03
81	M4	5-160	5	1	0.71
82	M4	5-162	5	1	0.78

Diplophos taenia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
38	EN	2-083	2	1	1.32
40	EN	2-087	1	1	0.96

Sternoptyx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
68	M4	4-132	2	1	0.76

Vinciguerria lucetia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	1	1.11
10	EN	1-022	10	2	1.74
11	M4	1-020	4	7	4.80
12	EN	1-026	10	1	0.82
13	M4	1-024	4	4	2.93
19	M4	2-036	4	4	2.37
20	M4	2-038	4	4	2.90
21	M4	2-040	4	6	4.98
22	M4	2-042	4	2	1.62
27	M4		3	3	2.30
27	JD	2-047	3	1	1.43
34	JD	3-060	3	1	1.34
35	JD	3-062	3	2	2.77
36	JD	3-064	3	3	3.93
38	JD	3-068	4	2	2.48
38	M4	3-072	4	1	0.80
39	JD	3-070	4	2	2.91
40	JD	3-072	4	1	1.26
40	EN	2-087	1	1	0.96
42	M4	3-080	4	9	6.33
43	M4	3-082	5	7	5.24
44	M4	3-084	5	108	91.22
45	M4	3-086	5	16	14.08
46	M4	3-088	5	1	0.78
50	JD		1	4	4.29
51	EN	3-110	5	1	0.66
51	JD	4-102	4	6	8.17
52	JD	4-104	4	1	0.76
53	EN	3-118	4	15	14.75
54	EN	3-120	4	6	5.77

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
55	JD	4-110	9	2	2.01
55	EN	3-122	4	19	27.50
55	M4	4-106	5	1	0.90
56	JD	4-112	9	3	3.07
57	EN	3-126	3	1	0.99
57	M4	4-110	5	19	14.17
57	JD	4-114	9	1	0.96
58	JD	4-116	9	2	1.74
58	M4	4-112	5	1	0.71
58	EN		3	1	0.76
60	JD	4-120	4	3	3.24
61	EN	4-131	3	2	1.95
61	JD	4-122	3	7	7.51
62	JD		3	3	4.19
63	JD	5-130	3	3	6.29
64	JD	5-132	3	2	2.70
65	JD	5-134	3	2	2.73
66	JD	5-136	3	8	9.22
67	EN	4-145	8	2	1.77
68	M4	4-132	2	15	11.36
69	JD	5-142	8	4	5.81
70	EN	4-153	8	7	7.12
70	JD	5-144	8	93	113.97
70	M4	4-136	2	1	0.69
71	JD	5-146	8	18	28.08
71	M4	4-138	2	1	0.75
71	EN	4-155	8	7	6.60
72	JD	5-148	8	9	11.35
73	EN		8	74	116.72
74	EN	5-159	8	21	19.79
74	M4	4-146	2	1	0.80
75	M4	4-148	2	2	1.37
75	EN	5-161	8	9	8.91
76	JD	5-154	3	1	1.52
78	JD	6-164	1	1	1.00
78	M4	5-154	1	2	1.60
81	EN	5-172	8	2	1.75
82	M4	5-162	5	4	3.13
83	M4	5-164	5	2	1.37
84	EN	5-178	8	31	37.21
85	EN	5-180	8	7	4.55
86	EN	5-182	3	4	5.12
87	M4	5-172	6	3	1.97
87	EN	5-184	3	3	4.62
93	M4	5-184	2	3	2.27
94	M4	5-185	2	1	0.67

Bathophilus filifer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
44	M4	3-084	5	1	0.84

Synodus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-016	1	1	0.97
41	EN		1	1	1.17
73	JD		8	2	2.59
74	JD	5-151	3	1	1.49

Synodus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	3	3.24
74	JD	5-151	3	1	1.49

Synodus lacertinus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	JD	2-021	1	2	4.59

Synodus scituliceps

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
32	JD		3	4	3.31

Synodus sechurae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Lestidiops spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	EN	2-069	6	1	1.29

Lestidiops neles

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
16	EN	1-034	6	1	0.92

Lestidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
19	M4	2-036	4	3	1.78
20	M4	2-038	4	1	0.73
31	EN	2-069	6	1	1.29
44	M4	3-084	5	1	0.84
45	M4	3-086	5	1	0.88
61	EN	4-131	3	1	0.98
74	JD	5-151	3	2	2.98
89	M4	5-176	6	1	0.83

Stemonosudis macrura

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
20	M4	2-038	4	1	0.73

Ceratoscopelus warmingii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
68	M4	4-132	2	1	0.76
70	EN	4-153	8	1	1.02
71	EN	4-155	8	11	10.37

Diaphus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	M4		4	1	0.82
70	EN	4-153	8	5	5.09
84	EN	5-178	8	1	1.20

Lampanyctus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
56	M4	4-108	5	1	0.67
60	JD	4-120	4	1	1.08
68	M4	4-132	2	1	0.76
70	JD	5-144	8	1	1.23

Lampanyctus parvicauda

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
61	JD	4-122	3	1	1.07
73	EN		8	2	3.15
75	EN	5-161	8	1	0.99
77	JD	6-160	3	1	2.02

Triphoturus nigrescens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
71	EN	4-155	8	1	0.94
72	JD	5-148	8	1	1.26

Benthosema panamense

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	13	10.48
7	JD	1-012	2	1	1.11
62	JD		3	4	5.59
73	JD		8	34	43.98
74	JD	5-151	3	13	19.37
75	JD	5-153	3	8	10.80

Diogenichthys atlanticus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	M4	1-024	4	1	0.73

Hygophum atratum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
70	EN	4-153	8	1	1.02

Hygophum proximum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
44	M4	3-084	5	1	0.84

Hygophum reinhardtii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
71	EN	4-155	8	1	0.94

Myctophum nitidulum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
69	EN	4-151	8	1	0.88

Symbolophorus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
71	EN	4-155	8	1	0.94

Bregmaceros spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
73	EN		8	2	3.15
79	EN	5-168	8	4	4.98
84	EN	5-178	8	1	1.20

Bregmaceros bathymaster

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
72	JD	5-148	8	2	2.52
73	JD		8	1	1.29

Ophidiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	1	0.81
73	JD		8	1	1.29

Lepophidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Dolopichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
27	M4		3	1	0.77

Oneirodes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	EN	1-007	3	1	1.12
11	EN	1-024	10	1	0.94
61	EN	4-131	3	1	0.98
70	JD	5-144	8	1	1.23
71	M4	4-138	2	1	0.75

Gobiesox eugrammus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Scomberesocidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
68	M4	4-132	2	1	0.76
69	M4	4-134	2	6	4.39
70	M4	4-136	2	10	6.89
73	EN		8	4	6.31
74	EN	5-159	8	14	13.20
75	EN	5-161	8	5	4.95
81	EN	5-172	8	9	7.87
93	M4	5-184	2	4	3.03
94	M4	5-185	2	3	2.01
95	M4	5-187	2	3	2.06

Cololabis saira

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
74	EN	5-159	8	2	1.89
81	EN	5-172	8	3	2.62

Elassichthys adocetus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
69	M4	4-134	2	1	0.73
70	M4	4-136	2	3	2.07
93	M4	5-184	2	1	0.76

Hemiramphus saltator

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	8	9.00

Exocoetidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	M4	1-014	4	1	0.80
71	M4	4-138	2	1	0.75

Cheilopogon heterurus

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

Cheilopogon pinnatibarbatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
5	EN	1-010	4	1	0.58
9	EN	1-020	10	1	0.97
12	EN	1-026	10	1	0.82

Cheilopogon xenopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	4	3.87

Cheilopogon xenopterus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	M4	1-011	5	1	0.80
7	JD	1-012	2	1	1.11
9	JD	1-016	1	4	3.87
11	JD		1	3	2.97
12	M4	1-022	4	1	0.80
17	M4	2-032	3	1	0.74
22	JD	2-038	3	1	1.26
26	JD	2-045	3	3	3.36
29	EN	2-065	6	2	2.75
30	M4	2-056	3	1	0.68
38	JD	3-068	4	1	1.24
41	JD	3-074	4	1	0.87
45	JD	3-082	5	1	1.18
54	M4	4-104	1	10	7.64
57	EN	3-126	3	1	0.99
58	EN		3	2	1.52
58	M4	4-112	5	1	0.71
83	EN	5-176	8	1	1.20

Exocoetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
44	JD	3-080	5	3	2.51
49	JD	3-090	1	1	1.10
57	EN	3-126	3	1	0.99
59	EN		3	1	0.91
61	JD	4-122	3	1	1.07
66	M4	4-128	5	2	1.48
75	M4	4-148	2	1	0.68
77	M4	4-152	1	1	0.78
85	EN	5-180	8	1	0.65
89	M4	5-176	6	1	0.83

Exocoetus monocirrhus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD		1	1	0.99
12	M4	1-022	4	1	0.80
85	EN	5-180	8	1	0.65

Exocoetus volitans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	M4	4-150	1	1	0.74

Fodiator acutus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	1	1.08

Hirundichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	M4	1-005	2	1	0.77
8	M4	1-014	4	1	0.80
33	JD	3-058	3	1	0.94
46	M4	3-088	5	1	0.78
53	M4	4-102	1	1	0.94
73	M4	4-144	2	1	0.74
74	EN	5-159	8	3	2.83
75	EN	5-161	8	1	0.99
75	M4	4-148	2	2	1.37
77	M4	4-152	1	1	0.78
79	M4	5-156	1	2	1.38
82	EN	5-174	8	1	1.21
85	EN	5-180	8	1	0.65
87	EN	5-184	3	1	1.54

Hirundichthys marginatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
16	M4	2-030	3	1	0.67
21	M4	2-040	4	1	0.83
29	EN	2-065	6	1	1.38
33	M4	3-062	3	1	0.79
44	JD	3-080	5	1	0.84
52	EN	3-114	5	1	0.99
54	M4	4-104	1	1	0.76
79	M4	5-156	1	1	0.69

Oxyporhamphus micropterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	1	0.97
3	M4	1-005	2	8	6.13
3	EN	1-005	3	4	4.21
4	EN	1-007	3	5	5.59
4	M4	1-007	2	1	0.77
5	EN	1-010	4	3	1.75
5	M4	1-009	2	1	0.83
5	JD	1-008	1	7	7.73
6	JD	1-010	1	4	3.23
6	M4	1-011	5	15	12.04
6	EN	1-012	4	1	0.95
7	M4		4	4	3.26
7	JD	1-012	2	1	1.11
7	EN	1-014	4	2	1.71
8	M4	1-014	4	5	4.02
9	M4	1-016	4	1	0.77
9	JD	1-016	1	8	7.74
10	JD	1-018	1	9	7.98
11	JD		1	62	61.33
11	M4	1-020	4	3	2.06

Oxyporhamphus micropterus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	M4	1-022	4	18	14.32
12	JD	2-020	1	1	1.13
14	M4	1-026	3	3	2.17
14	JD	2-023	1	14	14.61
15	M4	2-028	3	1	0.71
16	M4	2-030	3	1	0.67
17	M4	2-032	3	1	0.74
17	JD	2-030	1	2	2.21
19	JD	2-032	1	4	5.13
19	M4	2-036	4	1	0.59
20	JD	2-034	1	4	4.32
22	JD	2-038	3	1	1.26
23	M4	2-044	4	1	0.70
23	JD	2-040	3	5	5.68
24	M4	2-046	3	1	0.78
24	JD	2-042	3	2	2.68
26	JD	2-045	3	14	15.70
26	EN	2-059	6	1	1.24
27	EN	2-061	6	1	1.09
27	M4		3	1	0.77
28	EN	2-063	6	1	1.24
28	M4	2-053	3	4	3.16
33	M4	3-062	3	2	1.59
34	EN	2-075	5	1	1.28
34	M4	3-064	3	1	0.81
35	JD	3-062	3	1	1.39
36	M4	3-068	3	1	0.80
36	EN	2-079	5	1	0.99
36	JD	3-064	3	1	1.31
37	JD	3-066	3	2	2.67
37	M4	3-070	4	1	0.82
38	JD	3-068	4	1	1.24
38	EN	2-083	2	8	10.54
39	JD	3-070	4	1	1.46
39	EN	2-085	1	8	8.49
40	EN	2-087	1	4	3.84
40	JD	3-072	4	1	1.26
41	JD	3-074	4	1	0.87
41	M4	3-078	4	2	1.31
42	JD	3-076	4	1	1.05
42	EN	3-089	1	5	6.02
43	EN	3-094	2	1	0.95
44	JD	3-080	5	1	0.84
44	EN	3-096	2	1	0.83
45	EN	3-098	2	1	1.10
45	JD	3-082	5	3	3.53
47	EN	3-102	5	1	0.88
47	M4	3-090	5	1	0.87

Oxyporhamphus micropterus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	M4	3-092	4	1	0.73
48	JD	3-088	4	3	2.59
49	M4	3-094	4	1	0.67
49	JD	3-090	1	2	2.21
50	M4	3-096	4	3	2.04
51	M4	3-098	4	1	0.95
52	M4	3-100	1	1	0.93
53	M4	4-102	1	1	0.94
54	EN	3-120	4	2	1.92
54	M4	4-104	1	26	19.86
55	EN	3-122	4	1	1.45
56	EN	3-124	3	1	0.98
57	EN	3-126	3	1	0.99
58	EN		3	7	5.30
59	EN		3	68	61.93
60	EN		3	2	1.75
64	M4	4-124	5	1	0.70
64	JD	5-132	3	8	10.81
67	JD	5-138	8	1	1.06
73	M4	4-144	2	1	0.74
73	JD		8	1	1.29
74	M4	4-146	2	1	0.80
75	M4	4-148	2	1	0.68
76	M4	4-150	1	1	0.74
77	JD	6-160	3	11	22.22
77	M4	4-152	1	1	0.78
79	M4	5-156	1	1	0.69
79	JD	6-166	1	3	3.46
81	JD	6-169	2	3	3.08
81	M4	5-160	5	4	2.84
82	M4	5-162	5	2	1.57
85	M4	5-168	5	1	0.72
85	EN	5-180	8	1	0.65
86	EN	5-182	3	1	1.28
87	EN	5-184	3	1	1.54

Prognichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	5	4.84
6	JD	1-010	1	5	4.03
7	JD	1-012	2	16	17.74
8	JD	1-014	2	105	89.97
8	M4	1-014	4	2	1.61
9	JD	1-016	1	1	0.97
10	JD	1-018	1	1	0.89
10	M4	1-018	4	1	0.82
11	JD		1	41	40.55
12	JD	2-020	1	9	10.15

Prognichthys spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	M4	1-022	4	4	3.18
13	M4	1-024	4	1	0.73
14	JD	2-023	1	1	1.04
14	M4	1-026	3	3	2.17
15	M4	2-028	3	13	9.21
17	JD	2-030	1	1	1.10
17	M4	2-032	3	1	0.74
19	JD	2-032	1	1	1.28
20	JD	2-034	1	1	1.08
22	JD	2-038	3	1	1.26
29	M4	2-054	3	11	7.43
29	EN	2-065	6	3	4.13
30	JD	2-053	3	1	0.94
30	M4	2-056	3	3	2.04
31	M4		3	3	2.22
32	M4	3-060	3	1	0.68
33	JD	3-058	3	3	2.81
34	M4	3-064	3	5	4.04
41	EN		1	5	5.83
44	JD	3-080	5	1	0.84
50	JD		1	2	2.14
51	M4	3-098	4	1	0.95
53	M4	4-102	1	6	5.65
54	M4	4-104	1	9	6.88
57	EN	3-126	3	2	1.99
58	EN		3	7	5.30
59	EN		3	1	0.91
74	M4	4-146	2	1	0.80
76	M4	4-150	1	1	0.74
77	JD	6-160	3	1	2.02
78	M4	5-154	1	1	0.80
79	M4	5-156	1	8	5.51

Myripristis leiognathos

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD		1	2	1.98

Sargocentron suborbitalis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
50	JD		1	1	1.07

Scorpaena spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
76	JD	5-154	3	1	1.52

Scorpaena guttata

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	1	0.80

Scorpaenodes xyris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	1	1.11

Triglidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
74	JD	5-151	3	1	1.49

Howella pammelas

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
27	M4		3	1	0.77
60	JD	4-120	4	2	2.16

Centropomus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
25	JD	2-043	3	1	1.29
75	JD	5-153	3	6	8.10

Serraninae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	6	6.47

Paralabrax spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	5	5.33

Pronotogrammus multifasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	30	31.98

Epinephelinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-016	1	1	0.97
29	JD	2-051	3	1	1.36

Priacanthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
9	JD	1-016	1	1	0.97

Apogonidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	1	1.12

Phtheirichthys lineatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
42	EN	3-089	1	1	1.20

Carangidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
4	EN	1-007	3	1	1.12
21	JD	2-036	3	11	11.87
31	JD	2-055	3	1	1.14

Alectis ciliaris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
22	JD	2-038	3	1	1.26
50	JD		1	1	1.07

Caranx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
15	JD	2-025	1	1	1.36
16	JD	2-027	1	2	2.70
22	JD	2-038	3	1	1.26

Caranx caballus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	2	1.61
7	JD	1-012	2	3	3.33
8	JD	1-014	2	6	5.14
11	JD		1	5	4.95
12	JD	2-020	1	1	1.13
13	M4	1-024	4	1	0.73
13	JD	2-021	1	2	4.59
14	M4	1-026	3	1	0.72
25	JD	2-043	3	2	2.58
28	JD	2-049	3	1	1.06
29	M4	2-054	3	2	1.35
30	M4	2-056	3	2	1.36
31	JD	2-055	3	3	3.41
31	M4		3	3	2.22
34	JD	3-060	3	1	1.34
41	EN		1	2	2.33
50	JD		1	3	3.22
78	JD	6-164	1	1	1.00

Caranx sexfasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	1	0.97
22	JD	2-038	3	1	1.26
25	JD	2-043	3	1	1.29
28	JD	2-049	3	1	1.06
74	JD	5-151	3	1	1.49
87	EN	5-184	3	1	1.54

Chloroscombrus orqueta

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	1	1.08

Chloroscombrus orqueta (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
29	JD	2-051	3	1	1.36
73	JD		8	10	12.94

Elagatis bipinnulatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
41	EN		1	1	1.17

Naucrates ductor

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
24	JD	2-042	3	1	1.34
29	EN	2-065	6	1	1.38
36	M4	3-068	3	1	0.80
48	M4	3-092	4	1	0.73
59	EN		3	1	0.91
63	EN	4-135	8	7	5.48
69	M4	4-134	2	1	0.73
73	M4	4-144	2	1	0.74
74	M4	4-146	2	1	0.80
84	EN	5-178	8	1	1.20

Oligoplites saurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	JD	2-020	1	2	2.25
21	JD	2-036	3	1	1.08

Selar crumenophthalmus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	JD	2-021	1	1	2.29
15	JD	2-025	1	3	4.09
18	JD		1	2	1.99

Seriola rivoliana

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	1	0.97

Trachinotus kennedyi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	25	28.12
8	JD	1-014	2	2	1.71
12	JD	2-020	1	1	1.13
31	JD	2-055	3	1	1.14
33	JD	3-058	3	1	0.94

Trachinotus paitensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	1	1.12
3	JD	1-004	2	2	2.13

Trachinotus rhodopus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	2	2.22
31	JD	2-055	3	2	2.28

Trachurus symmetricus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	3	3.20

Nematistius pectoralis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	1	1.11
31	JD	2-055	3	1	1.14

Coryphaena equiselis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	EN	1-003	3	1	0.97
4	M4	1-007	2	1	0.77
6	M4	1-011	5	1	0.80
8	M4	1-014	4	1	0.80
11	JD		1	2	1.98
11	M4	1-020	4	3	2.06
12	M4	1-022	4	2	1.59
14	JD	2-023	1	2	2.09
15	M4	2-028	3	3	2.13
16	M4	2-030	3	6	4.01
17	M4	2-032	3	3	2.22
19	M4	2-036	4	1	0.59
19	JD	2-032	1	1	1.28
22	JD	2-038	3	1	1.26
25	JD	2-043	3	2	2.58
26	JD	2-045	3	2	2.24
28	M4	2-053	3	1	0.79
29	M4	2-054	3	2	1.35
32	M4	3-060	3	3	2.04
33	M4	3-062	3	6	4.76
38	M4	3-072	4	2	1.59
39	M4	3-074	4	1	0.77
40	EN	2-087	1	2	1.92
43	JD	3-078	4	1	0.96
43	EN	3-094	2	1	0.95
44	JD	3-080	5	1	0.84
44	EN	3-096	2	1	0.83
45	JD	3-082	5	1	1.18
48	M4	3-092	4	1	0.73
48	EN	3-104	5	1	1.58
50	M4	3-096	4	1	0.68
56	M4	4-108	5	1	0.67
56	EN	3-124	3	1	0.98
57	EN	3-126	3	1	0.99

Coryphaena equiselis (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
58	EN		3	103	78.03
59	EN		3	3	2.73
60	EN		3	1	0.88
66	JD	5-136	3	1	1.15
78	JD	6-164	1	3	2.99
79	M4	5-156	1	3	2.06
80	M4	5-158	2	1	0.78
84	M4	5-166	5	1	0.67
86	EN	5-182	3	2	2.56

Coryphaena hippurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	6	6.75
3	JD	1-004	2	1	1.07
7	JD	1-012	2	3	3.33
11	JD		1	3	2.97
15	M4	2-028	3	3	2.13
15	JD	2-025	1	1	1.36
16	M4	2-030	3	4	2.67
22	JD	2-038	3	4	5.06
23	JD	2-040	3	4	4.55
28	JD	2-049	3	1	1.06
29	M4	2-054	3	1	0.68
30	JD	2-053	3	1	0.94
31	JD	2-055	3	4	4.55
32	M4	3-060	3	5	3.41
32	JD		3	1	0.83
33	M4	3-062	3	1	0.79
36	M4	3-068	3	1	0.80
43	JD	3-078	4	1	0.96
44	JD	3-080	5	1	0.84
48	M4	3-092	4	2	1.46
77	JD	6-160	3	1	2.02
78	JD	6-164	1	1	1.00
82	JD	6-171	2	1	1.11

Lutjanus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
16	JD	2-027	1	1	1.35
21	JD	2-036	3	2	2.16
30	JD	2-053	3	1	0.94

Lutjanus peru

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	JD	2-021	1	1	2.29
31	JD	2-055	3	1	1.14

Lobotes surinamensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	EN	1-001	3	6	6.75
33	JD	3-058	3	1	0.94
41	EN		1	2	2.33

Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	17	18.12
4	JD	1-006	2	1	0.82
7	JD	1-012	2	1	1.11
12	JD	2-020	1	10	11.27
13	M4	1-024	4	1	0.73
21	JD	2-036	3	7	7.55
23	JD	2-040	3	1	1.14
31	M4		3	8	5.91
31	JD	2-055	3	2	2.28
32	JD		3	24	19.88
78	M4	5-154	1	1	0.80

Eucinostomus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
41	EN		1	3	3.50

Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-014	2	3	2.57
21	JD	2-036	3	1	1.08
32	JD		3	2	1.66
73	JD		8	5	6.47

Haemulon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07
21	JD	2-036	3	7	7.55
32	JD		3	1	0.83

Xenistius californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	1	0.80
3	JD	1-004	2	1	1.07

Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	34	36.68
72	JD	5-148	8	1	1.26
73	JD		8	26	33.64
74	JD	5-151	3	2	2.98
75	JD	5-153	3	18	24.29

Polydactylus approximans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-014	2	3	2.57
20	JD	2-034	1	1	1.08
26	JD	2-045	3	2	2.24
28	JD	2-049	3	4	4.22
29	M4	2-054	3	33	22.30
29	JD	2-051	3	3	4.09
30	JD	2-053	3	1	0.94
31	JD	2-055	3	17	19.34
32	M4	3-060	3	1	0.68
42	EN	3-089	1	1	1.20
86	EN	5-182	3	1	1.28
87	EN	5-184	3	1	1.54

Polydactylus opercularis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	JD	2-055	3	16	18.20

Mullidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07
15	JD	2-025	1	1	1.36

Kyphosidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
15	JD	2-025	1	5	6.82

Kyphosus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
30	JD	2-053	3	1	0.94
50	JD		1	1	1.07

Chaetodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
80	JD	6-168	2	1	1.32

Mugil spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	1	0.81
7	JD	1-012	2	7	7.76
8	JD	1-014	2	44	37.70
14	M4	1-026	3	81	58.65
17	JD	2-030	1	10	11.03
18	JD		1	1	1.00
20	JD	2-034	1	4	4.32
21	JD	2-036	3	1	1.08
22	JD	2-038	3	1	1.26
29	M4	2-054	3	4	2.70

Mugil spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
30	M4	2-056	3	2	1.36
31	JD	2-055	3	3	3.41
31	M4		3	1	0.74
32	M4	3-060	3	1	0.68
33	JD	3-058	3	1	0.94
41	EN		1	1	1.17
42	EN	3-089	1	1	1.20
50	JD		1	11	11.79
74	JD	5-151	3	1	1.49
78	JD	6-164	1	4	3.99

Pomacentridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
67	JD	5-138	8	1	1.06

Chromis punctipinnis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	3	2.39

Microspathodon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	1	1.11
12	JD	2-020	1	1	1.13
26	JD	2-045	3	1	1.12
32	M4	3-060	3	1	0.68

Labridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
50	JD		1	1	1.07

Halichoeres semicinctus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	2	2.13

Scaridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
29	JD	2-051	3	1	1.36

Labrisomus multiporosus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Entomacrodus chiostictus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
8	JD	1-014	2	3	2.57
13	JD	2-021	1	1	2.29
15	JD	2-025	1	2	2.73

Hypsoblennius spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
72	EN	5-156	8	1	0.85
78	EN		8	1	0.83

Hypsoblennius jenkinsi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	4	3.19
3	JD	1-004	2	3	3.20

Eleotridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	1	1.08
74	JD	5-151	3	1	1.49

Gobiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	3	3.20
7	JD	1-012	2	1	1.11
21	JD	2-036	3	1	1.08
32	JD		3	1	0.83
70	JD	5-144	8	1	1.23
73	JD		8	6	7.76
74	JD	5-151	3	1	1.49
75	JD	5-153	3	15	20.24

Microdesmus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
75	JD	5-153	3	1	1.35

Chaetodipterus zonatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	2	2.16

Sphyraena spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	EN	1-012	4	1	0.95

Sphyraena argentea

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	1	1.07

Nealotus tripes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
53	EN	3-118	4	1	0.98

Trichiurus lepturus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
74	JD	5-151	3	16	23.85

Trichiurus lepturus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
75	JD	5-153	3	2	2.70

Istiophoridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
12	JD	2-020	1	1	1.13
52	M4	3-100	1	1	0.93

Istiophorus platypterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
23	JD	2-040	3	1	1.14

Auxis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	JD	1-004	2	39	41.58
3	EN	1-005	3	1	1.05
4	JD	1-006	2	1	0.82
5	JD	1-008	1	30	33.11
5	M4	1-009	2	1	0.83
6	JD	1-010	1	4	3.23
8	JD	1-014	2	2	1.71
9	EN	1-020	10	1	0.97
9	JD	1-016	1	7	6.77
9	M4	1-016	4	1	0.77
10	JD	1-018	1	6	5.32
11	JD		1	8	7.91
11	M4	1-020	4	5	3.43
12	EN	1-026	10	1	0.82
12	JD	2-020	1	3	3.38
12	M4	1-022	4	8	6.36
13	JD	2-021	1	3	6.88
14	M4	1-026	3	3	2.17
14	JD	2-023	1	8	8.35
14	EN	1-030	6	1	0.72
15	JD	2-025	1	4	5.46
16	JD	2-027	1	19	25.68
17	JD	2-030	1	80	88.20
19	JD	2-032	1	5	6.41
20	JD	2-034	1	1	1.08
22	JD	2-038	3	6	7.59
23	M4	2-044	4	1	0.70
23	JD	2-040	3	4	4.55
25	JD	2-043	3	3	3.88
26	JD	2-045	3	4	4.48
28	JD	2-049	3	6	6.34
29	JD	2-051	3	3	4.09
29	M4	2-054	3	3	2.03
30	M4	2-056	3	1	0.68
30	JD	2-053	3	1	0.94

Auxis spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	JD	2-055	3	17	19.34
33	M4	3-062	3	1	0.79
34	EN	2-075	5	1	1.28
37	JD	3-066	3	1	1.34
38	M4	3-072	4	1	0.80
39	EN	2-085	1	1	1.06
39	JD	3-070	4	3	4.37
41	EN		1	1	1.17
47	JD	3-086	5	1	1.35
48	M4	3-092	4	1	0.73
49	M4	3-094	4	2	1.34
50	JD		1	7	7.50
51	M4	3-098	4	3	2.86
52	M4	3-100	1	17	15.89
53	EN	3-118	4	1	0.98
53	M4	4-102	1	1	0.94
53	JD	4-106	9	1	0.84
54	EN	3-120	4	1	0.96
56	EN	3-124	3	3	2.95
58	EN		3	27	20.45
59	EN		3	19	17.30
63	JD	5-130	3	3	6.29
65	JD	5-134	3	1	1.36
66	JD	5-136	3	1	1.15
76	M4	4-150	1	1	0.74
77	JD	6-160	3	3	6.06
78	M4	5-154	1	6	4.81
78	JD	6-164	1	7	6.99
79	JD	6-166	1	8	9.23
80	M4	5-158	2	1	0.78
83	M4	5-164	5	1	0.68
87	EN	5-184	3	2	3.08

Euthynnus lineatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
25	JD	2-043	3	3	3.88
26	JD	2-045	3	5	5.61
30	JD	2-053	3	1	0.94
31	JD	2-055	3	9	10.24
34	EN	2-075	5	1	1.28
40	EN	2-087	1	1	0.96
41	EN		1	1	1.17
42	EN	3-089	1	1	1.20
50	M4	3-096	4	1	0.68
52	M4	3-100	1	1	0.93
82	M4	5-162	5	1	0.78

Scomber japonicus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	1	0.80
73	EN		8	35	55.21
74	EN	5-159	8	2	1.89

Scomberomorus sierra

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
21	JD	2-036	3	14	15.10
32	JD		3	1	0.83

Thunnus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	JD	1-010	1	3	2.42
11	JD		1	1	0.99
14	M4	1-026	3	3	2.17
14	JD	2-023	1	9	9.39
15	JD	2-025	1	1	1.36
16	JD	2-027	1	6	8.11
17	JD	2-030	1	2	2.21
22	JD	2-038	3	1	1.26
23	JD	2-040	3	7	7.95
24	JD	2-042	3	5	6.71
25	JD	2-043	3	1	1.29
26	JD	2-045	3	1	1.12
27	JD	2-047	3	1	1.43
28	JD	2-049	3	1	1.06
36	JD	3-064	3	1	1.31
48	JD	3-088	4	1	0.86
50	JD		1	3	3.22

Cubiceps pauciradiatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
3	EN	1-005	3	3	3.16
5	JD	1-008	1	3	3.31
6	JD	1-010	1	10	8.06
7	M4		4	1	0.82
7	JD	1-012	2	1	1.11
8	EN	1-016	9	1	0.78
9	JD	1-016	1	4	3.87
10	M4	1-018	4	1	0.82
10	JD	1-018	1	1	0.89
11	JD		1	1	0.99
16	JD	2-027	1	1	1.35
24	JD	2-042	3	1	1.34
25	JD	2-043	3	1	1.29
26	JD	2-045	3	2	2.24
27	M4		3	1	0.77
27	JD	2-047	3	1	1.43
30	M4	2-056	3	1	0.68

Cubiceps pauciradiatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	M4		3	1	0.74
34	JD	3-060	3	1	1.34
35	EN	2-077	5	1	1.05
50	M4	3-096	4	2	1.36
51	M4	3-098	4	26	24.76
52	M4	3-100	1	4	3.74
60	JD	4-120	4	3	3.24
61	EN	4-131	3	2	1.95
63	JD	5-130	3	2	4.19
64	JD	5-132	3	2	2.70
65	M4	4-126	5	1	0.76
78	JD	6-164	1	24	23.95
79	JD	6-166	1	11	12.69
80	JD	6-168	2	1	1.32
81	M4	5-160	5	3	2.13
82	M4	5-162	5	1	0.78
82	JD	6-171	2	3	3.33

Nomeus gronovii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
75	M4	4-148	2	1	0.68

Psenes pellucidus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
33	M4	3-062	3	1	0.79

Psenes sio

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
71	JD	5-146	8	3	4.68

Citharichthys platophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
73	JD		8	3	3.88
74	JD	5-151	3	2	2.98

Etropus crossotus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
2	JD	1-002	2	1	0.80
4	JD	1-006	2	1	0.82

Syacium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
31	JD	2-055	3	1	1.14
32	JD		3	1	0.83

Syacium ovale

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
75	JD	5-153	3	1	1.35

Bothus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	JD	2-021	1	2	4.59
35	JD	3-062	3	1	1.39
50	JD		1	1	1.07

Monolene spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
13	M4	1-024	4	1	0.73

Perissias taeniopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD		1	1	0.99

Symphurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
15	JD	2-025	1	1	1.36
21	JD	2-036	3	1	1.08
29	JD	2-051	3	1	1.36

Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
54	EN	3-120	4	1	0.96

Balistes polylepis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
11	JD		1	2	1.98

Canthidermis maculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
15	M4	2-028	3	2	1.42
28	M4	2-053	3	1	0.79
29	M4	2-054	3	2	1.35
30	M4	2-056	3	1	0.68
31	JD	2-055	3	3	3.41

Canthedermis maculatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
32	M4	3-060	3	5	3.41
73	M4	4-144	2	1	0.74

Lactoria diaphana

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
6	M4	1-011	5	1	0.80
46	EN	3-100	5	1	1.39
55	M4	4-106	5	1	0.90
81	M4	5-160	5	1	0.71

Lactoria fornasini

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
48	M4	3-092	4	1	0.73

Tetraodontidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
59	EN		3	1	0.91

Diodon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
77	JD	6-160	3	1	2.02

Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
7	JD	1-012	2	1	1.11
8	JD	1-014	2	1	0.86
87	EN	5-184	3	1	1.54

Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 100m³
1	JD	1-001	2	1	1.04
75	EN	5-161	8	1	0.99

Table 5. Average numbers of larvae (per 100 m³ of water filtered) for each taxon taken in Manta net tows in the regions (Figure 4) occupied on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4. Number in parenthesis below region number is number of tows in that region.

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

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

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

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

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

STOMIIFORMES
Astronesthidae

Astronesthes spp.
EN 16 (1) 24mm; **EN 30** (2) 25-32mm.
M4 58 (1) 26mm; **M4 84** (1) 30mm.

Astronesthes gibbsi
EN 18 (1) 29mm.
JD 51 (1) 24mm.

MYCTOPHIFORMES
Myctophidae
Lampanyctinae

Lampanyctus spp.
M4 38 (1) 47mm.

Lampanyctus omostigma
EN 48 (1) 55mm.
JD 41 (1) 46mm.
M4 36 (1) 53mm; **M4 37** (1) 47mm.

Myctophinae

Diogenichthys laternatus
EN 81 (1) 15mm.
JD 52 (4) 13-18mm.

Gonichthys tenuiculus
EN 8 (1) 42mm; **EN 11** (1) 23mm; **EN 32** (1) 17mm; **EN 33** (1) 15mm; **EN 35** (1) 17mm; **EN 38** (1) 15mm; **EN 58** (7) 17-20mm; **EN 59** (6) 20-28mm; **EN 62** (5) 20-29mm; **EN 63** (2) 21-21mm; **EN 70** (1) 19mm; **EN 85** (15) 18-39mm; **EN 87** (4) 18-36mm.
JD 44 (1) 11mm; **JD 52** (4) 15-21mm; **JD 59** (4) 15-16mm.
M4 3 (1) 22mm; **M4 4** (1) 27mm; **M4 5** (1) 19mm; **M4 15** (4) 16-17mm; **M4 18** (1) 16mm; **M4 20** (1) 17mm; **M4 21** (4) 33-38mm; **M4 22** (3) 17-34mm; **M4 23** (1) 34mm; **M4 26** (2) 17-20mm; **M4 32** (1) 21mm; **M4 33** (1) 17mm; **M4 34** (1) 37mm; **M4 35** (7) 16-30mm; **M4 36** (6) 15-23mm; **M4 37** (23) 16-18mm; **M4 38** (5) 16-38mm; **M4 39** (2) 18-31mm; **M4 40** (1) 16mm; **M4 41** (4) 25-36mm; **M4 44** (1) 37mm; **M4 46** (1) 36mm; **M4 56** (9) 15-19mm; **M4 58** (4) 16-18mm; **M4 59** (11) 17-30mm; **M4 60** (1) 16mm; **M4 65** (1) 23mm; **M4 66** (2) 17-17mm; **M4 67** (4) 22-44mm; **M4 68** (1) 36mm; **M4 70** (2) 28-30mm; **M4 72** (2) 40-48mm; **M4 73** (3) 17-39mm; **M4 74** (2) 25-26mm; **M4 75** (1) 21mm; **M4 77** (1) 22mm; **M4 82** (1) 23mm; **M4 83** (3) 17-25mm; **M4 84** (5) 15-17mm; **M4 85** (2) 18-45mm; **M4 87** (1) 41mm; **M4 91** (1) 33mm; **M4 94** (1) 35mm; **M4 95** (4) 16-34mm.

Hygophum atratum
EN 63 (3) 16-18mm.
M4 2 (70) 12-14mm; **M4 3** (60) 12-25mm; **M4 4** (2) 13-17mm; **M4 5** (29) 13-29mm; **M4 6** (2) 13-13mm; **M4 22** (2) 14-14mm; **M4 23** (1) 14mm: **M4 25** (1) 15mm; **M4 33** (1) 17mm; **M4 66** (1) 13mm; **M4 67** (3) 16-16mm; **M4 68** (14) 12-32mm; **M4 69** (4) 15-33mm; **M4 70** (39) 12-26mm; **M4 71** (12) 13-33mm; **M4 73** (5) 13-40mm.

Hygophum proximum
EN 14 (1) 37mm; **EN 36** (1) 15mm; **EN 43** (2) 12-12mm; **EN 44** (10) 12-14mm; **EN 51** (1) 41mm; **EN 62** (1) 24mm; **EN 64** (1) 15mm.
JD 4 (1) 19mm; **JD 58** (2) 33-45mm.
M4 2 (1) 34mm; **M4 3** (4) 20-33mm; **M4 5** (7) 13-27mm; **M4 6** (1) 30mm; **M4 22** (1) 39mm; **M4 23** (2) 39-40mm; **M4 25** (1) 36mm; **M4 26** (1) 35mm; **M4 36** (1) 36mm; **M4 42** (1) 42mm; **M4 44** (22) 31-43mm; **M4 59** (2) 20-21mm; **M4 70** (1) 28mm; **M4 72** (12) 13-38mm; **M4 73** (1) 30mm; **M4 87** (1) 42mm; **M4 88** (1) 43mm.

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

Myctophum asperum
EN 18 (3) 14-15mm; **EN 68** (1) 17mm.
JD 60 (2) 14-16mm.
M4 21 (1) 15mm; **M4 42** (1) 14mm; **M4 44** (11) 43-53mm; **M4 45** (1) 13mm; **M4 57** (6) 14-51mm; **M4 60** (1) 15mm; **M4 62** (1) 30mm; **M4 63** (1) 21mm; **M4 88** (1) 50mm.

Myctophum aurolaternatum
EN 14 (1) 45mm; **EN 18** (1) 43mm; **EN 32** (1) 24mm; **EN 36** (3) 24-40mm; **EN 47** (1) 51mm; **EN 49** (1) 44mm; **EN 56** (1) 24mm; **EN 58** (1) 25mm.
JD 19 (1) 24mm; **JD 41** (1) 24mm; **JD 67** (1) 22mm.
M4 6 (1) 28mm; **M4 9** (6) 24-32mm; **M4 10** (4) 26-28mm; **M4 11** (1) 27mm; **M4 12** (15) 24-34mm; **M4 13** (5) 26-30mm; **M4 16** (1) 22mm; **M4 17** (3) 34-37mm; **M4 18** (7) 23-32mm; **M4 19** (2) 26-30mm; **M4 21** (1) 34mm; **M4 31** (1) 39mm; **M4 33** (1) 33mm; **M4 34** (1) 33mm; **M4 36** (1) 26mm; **M4 37** (6) 24-66mm; **M4 39** (1) 27mm; **M4 41** (2) 24-26mm; **M4 44** (2) 43-86mm; **M4 46** (2) 28-49mm; **M4 54** (1) 28mm; **M4 55** (2) 24-31mm; **M4 58** (2) 29-34mm; **M4 59** (1) 62mm; **M4 61** (1) 31mm; **M4 64** (1) 62mm; **M4 65** (2) 27-27mm; **M4 73** (2) 31-32mm; **M4 74** (1) 30mm; **M4 75** (5) 27-36mm; **M4 76** (1) 29mm; **M4 77** (3) 28-29mm; **M4 79** (6) 22-32mm; **M4 80** (4) 25-32mm; **M4 83** (3) 28-36mm; **M4 84** (3) 27-35mm; **M4 85** (2) 27-29mm.

Myctophum lychnobium
EN 10 (2) 28-79mm; **EN 14** (3) 16-53mm; **EN 15** (1) 47mm; **EN 17** (4) 54-57mm; **EN 18** (1) 18mm; **EN 51** (3) 66-70mm.
M4 21 (1) 70mm; **M4 44** (2) 17-41mm; **M4 45** (1) 17mm; **M4 46** (1) 18mm; **M4 57** (2) 70-72mm; **M4 60** (1) 66mm; **M4 62** (2) 18-63mm; **M4 63** (3) 16-70mm; **M4 84** (3) 16-76mm; **M4 86** (3) 17-72mm.

Myctophum nitidulum
EN 8 (1) 21mm; **EN 9** (2) 49-53mm; **EN 12** (2) 18-49mm; **EN 14** (5) 16-17mm; **EN 15** (4) 16-17mm; **EN 18** (1) 72mm; **EN 39** (1) 37mm; **EN 51** (1) 56mm; **EN 67** (2) 18-19mm; **EN 85** (16) 20-39mm.
JD 51 (2) 11-12mm; **JD 52** (8) 15-24mm; **JD 56** (1) 17mm; **JD 57** (1) 16mm; **JD 58** (7) 16-29mm; **JD 59** (2) 17-18mm; **JD 60** (1) 26mm; **JD 69** (1) 16mm; **JD 70** (1) 15mm; **JD 71** (1) 44mm.
M4 20 (2) 26-29mm; **M4 21** (17) 16-52mm; **M4 22** (6) 17-28mm; **M4 23** (5) 18-22mm; **M4 24** (2) 20-29mm; **M4 25** (2) 29-31mm; **M4 41** (2) 28-30mm; **M4 42** (1) 54mm; **M4 44** (41) 17-56mm; **M4 45** (2) 18-39mm; **M4 47** (1) 44mm; **M4 58** (40) 15-59mm; **M4 59** (10) 16-53mm; **M4 60** (11) 17-56mm; **M4 61** (8) 16-50mm; **M4 62** (21) 16-52mm; **M4 63** (2) 25-38mm; **M4 64** (2) 25-35mm; **M4 65** (1) 33mm; **M4 66** (2) 33-34mm; **M4 68** (1) 23mm; **M4 69** (2) 18-27mm; **M4 84** (1) 31mm; **M4 86** (3) 25-34mm; **M4 87** (13) 16-60mm; **M4 88** (2) 17-18mm; **M4 89** (1) 27mm; **M4 91** (4) 17-26mm; **M4 93** (1) 18mm; **M4 94** (3) 18-22mm; **M4 95** (3) 21-67mm.

Symbolophorus evermanni
EN 18 (10) 20-22mm; **EN 32** (1) 20mm; **EN 67** (1) 23mm; **EN 71** (2) 26-70mm; **EN 87** (1) 65mm.
JD 61 (1) 20mm.
M4 17 (1) 56mm; **M4 19** (1) 47mm; **M4 20** (1) 23mm; **M4 21** (1) 36mm; **M4 22** (2) 23-51mm; **M4 23** (1) 63mm; **M4 24** (2) 32-35mm; **M4 29** (1) 34mm; **M4 30** (1) 67mm; **M4 32** (1) 19mm; **M4 34** (14) 19-57mm; **M4 35** (10) 19-63mm; **M4 36** (6) 19-50mm; **M4 37** (3) 20-57mm; **M4 39** (4) 30-64mm; **M4 40** (3) 23-29mm; **M4 41** (6) 22-23mm; **M4 42** (2) 21-54mm; **M4 44** (5) 24-38mm; **M4 46** (6) 33-44mm; **M4 47** (6) 39-46mm; **M4 56** (9) 19-22mm; **M4 57** (1) 48mm; **M4 58** (3) 58-66mm; **M4 59** (1) 21mm; **M4 63** (1) 52mm; **M4 64** (1) 57mm; **M4 66** (3) 16-64mm; **M4 83** (2) 40-52mm; **M4 84** (11) 20-56mm; **M4 85** (2) 22-23mm; **M4 86** (3) 21-41mm; **M4 87** (1) 63mm; **M4 88** (1) 64mm; **M4 90** (2) 41-43mm.

BELONIFORMES

Scombersocidae

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

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

Scomberesox saurus
EN 71 (1) 43mm; **EN 72** (1) 81mm.

Belonidae

Strongylura exilis
JD 8 (1) 64mm.

Tylosurus crocodilus fodiator
EN 1 (1) 69mm.

Hemiramphidae

Hemiramphus saltator
EN 1 (29) 26-54mm.

Exocoetidae

Cheilopogon xenopterus
EN 17 (1) 30mm.

Exocoetus monocirrhus
EN 31 (1) 31mm; **EN 62** (1) 36mm.
M4 22 (3) 20-22mm; **M4 23** (1) 33mm; **M4 84** (1) 54mm; **M4 88** (1) 39mm.

Exocoetus volitans
EN 85 (2) 17-21mm.
M4 35 (1) 25mm; **M4 41** (1) 59mm; **M4 44** (1) 55mm; **M4 45** (1) 22mm; **M4 55** (1) 20mm; **M4 87** (1) 24mm.

Fodiator acutus
EN 1 (1) 27mm.

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

Oxyporhamphus micropterus
EN 47 (1) 88mm.

Pronichthys tringa
EN 1 (2) 18-60mm; **EN 41** (1) 18mm.
M4 54 (1) 14mm.

Holocentridae

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

PERCIFORMES
Carangidae

Caranx caballus
JD 8 (1) 19mm.
M4 78 (2) 19-36mm.

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

Coryphaenidae

Coryphaena equiselis
EN 1 (32) 28-42mm; **EN 58** (2) 15-21mm.
JD 28 (1) 46 mm.
M4 3 (1) 19mm; **M4 4** (1) 19mm; **M4 6** (1) 23mm; **M4 10** (1) 19mm; **M4 12** (1) 13mm; **M4 21** (1) 45mm; **M4 22** (1) 17mm; **M4 23** (1) 42mm; **M4 29** (1) 12mm; **M4 30** (1) 19mm; **M4 32** (1) 27mm; **M4 33** (4) 16-28mm; **M4 34** (2) 25-26mm; **M4 35** (1) 13mm; **M4 36** (1) 27mm; **M4 37** (1) 25mm; **M4 48** (1) 23mm; **M4 51** (1) 13mm; **M4 53** (1) 10mm; **M4 55** (1) 47mm; **M4 66** (2) 12-15mm; **M4 67** (1) 22mm; **M4 70** (1) 19.8mm; **M4 72** (1) 22mm; **M4 75** (3) 10-12mm; **M4 76** (1) 14mm; **M4 79** (1) 44mm; **M4 90** (1) 15mm.

Lobotidae

Lobotes surinamensis
EN 1 (19) 9-22mm.

Polynemidae

Polydactylus approximans
EN 1 (35) 11-21mm; **EN 85** (7) 14-17mm.
JD 33 (1) 23mm.
M4 15 (4) 23-27mm; **M4 29** (3) 21-22mm; **M4 30** (4) 18-27mm; **M4 32** (4) 20-21mm.

Polydactylus opercularis
JD 21 (1) 49mm.
M4 15 (1) 36mm.

Kyphosidae

Kyphosus analogus
EN 1 (1) 17mm.

Mugilidae

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

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

Pomacentridae

EN 1 (1) 11mm.

Nomeidae

Nomeus gronovii
M4 40 (1) 13mm.

Psenes sio
EN 2 (1) 32mm.

TETRADONTIFORMES
Balistidae

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

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

Diodontidae

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

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

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

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

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

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

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

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

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

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

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

Table 8. (cont.)

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

Table 8. (cont.)

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

Table 8. (cont.)

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

Table 8. (cont.)

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

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

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

Table 9. (cont.)

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

Table 9. (cont.)

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

Table 9. (cont.)

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

Table 9. (cont.)

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

Table 10. Standaridized numbers (number per 10m²) of fish larvae taken in bongo net tows on *Endeavor* cruise 9810EN, *Jordan* cruise 9810JD, and *McArthur* cruise 9810M4 listed by taxon, tow number, and region.

Albula spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
42	EN	3-089	1	1	6.10

Chlopsis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	4	30.39
55	EN	3-122	4	1	8.62
59	JD	4-118	4	1	4.85
86	EN	5-182	3	1	11.60

Muraenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	EN	5-182	3	1	11.60

Ophichthus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
35	M4	3-066	3	1	9.17
37	M4	3-070	4	1	11.33

Ophichthus zophochir

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	2-032	3	1	8.74
41	EN		1	1	4.50
57	EN	3-126	3	1	6.25
83	EN	5-176	8	1	9.94

Congridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-102	4	1	7.03

Ariosoma gilberti

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
11	EN	1-024	10	1	12.54
13	M4	1-024	4	3	15.27
57	EN	3-126	3	3	18.74
77	M4	4-152	1	2	8.66

Bathycongrus macrurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
60	EN		3	2	14.85
79	EN	5-168	8	1	9.63

Chiloconger spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	EN	4-135	8	1	8.88

Heteroconger digueti

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
42	EN	3-089	1	1	6.10

Paraconger californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
30	M4	2-056	3	1	9.36
31	M4		3	1	5.73

Rhynchoconger spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	EN		3	1	9.23

Rhynchoconger nitens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	M4	1-022	4	1	8.08
13	M4	1-024	4	2	10.18
15	M4	2-028	3	2	17.35
16	M4	2-030	3	1	9.25
17	M4	2-032	3	1	8.74
31	M4		3	1	5.73
37	M4	3-070	4	1	11.33

Avocettina bowersi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
56	EN	3-124	3	1	10.41

Nemichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
24	M4	2-046	3	2	18.89
59	JD	4-118	4	1	4.85

Nemichthys scolopaceus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
25	M4	2-048	3	1	10.06
60	EN		3	1	7.43

Serrivomer sector

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
64	M4	4-124	5	1	7.24

Serrivomer sector (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-168	5	1	8.42

Nettastomatidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	EN	5-180	8	1	4.36

Clupeidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
71	EN	4-155	8	1	7.43

Opisthonema spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	36	162.00
42	EN	3-089	1	2	12.21

Sardinops sagax

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
73	EN		8	186	1220.7

Anchoa spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	38	171.00
72	EN	5-156	8	18	188.81

Cetengraulis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
79	EN	5-168	8	2	19.25

Nansenia crassa

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
23	M4	2-044	4	1	9.92

Bathylagus nigrigenys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	4	30.39
5	EN	1-010	4	4	30.72
5	M4	1-009	2	1	9.16
6	M4	1-011	5	3	13.83
7	EN	1-014	4	7	74.20
8	EN	1-016	9	10	54.40
8	M4	1-014	4	1	9.69
9	EN	1-020	10	1	12.49
12	M4	1-022	4	2	16.15
12	EN	1-026	10	1	11.08
13	EN	1-028	6	1	9.31
13	M4	1-024	4	12	61.08
15	M4	2-028	3	10	86.74

Bathylagus nigrigenys (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
16	M4	2-030	3	3	27.75
18	M4	2-034	4	6	49.92
18	EN	1-038	6	2	16.60
20	EN	1-042	7	1	6.50
24	EN	2-055	7	3	22.62
24	M4	2-046	3	1	9.45
25	EN	2-057	7	16	80.00
26	EN	2-059	6	1	4.56
26	M4	2-050	3	1	5.04
27	M4		3	1	10.47
28	M4	2-053	3	5	49.49
28	EN	2-063	6	3	13.59
29	EN	2-065	6	2	10.58
29	M4	2-054	3	8	58.39
30	M4	2-056	3	2	18.72
31	M4		3	1	5.73
32	M4	3-060	3	2	18.60
32	EN	2-071	6	3	13.77
33	M4	3-062	3	5	53.55
34	M4	3-064	3	1	8.13
34	EN	2-075	5	11	54.01
35	M4	3-066	3	6	55.01
35	EN	2-077	5	1	10.38
36	EN	2-079	5	3	32.94
36	M4	3-068	3	1	9.58
37	M4	3-070	4	3	33.98
38	M4	3-072	4	5	52.00
38	EN	2-083	2	1	5.28
39	M4	3-074	4	3	32.87
40	EN	2-087	1	2	10.78
41	EN		1	1	4.50
41	M4	3-078	4	3	17.49
43	EN	3-094	2	2	11.67
44	EN	3-096	2	1	4.24
46	EN	3-100	5	5	41.50
48	EN	3-104	5	1	5.21
53	JD	4-106	9	2	17.67
53	M4	4-102	1	2	7.50
55	EN	3-122	4	7	60.37
55	M4	4-106	5	2	13.84
56	EN	3-124	3	2	20.82
57	EN	3-126	3	5	31.23
57	JD	4-114	9	2	20.25
58	EN		3	14	129.16
58	JD	4-116	9	1	7.75
59	M4	4-114	5	1	9.28
59	EN		3	8	55.20
60	EN		3	1	7.43
61	M4	4-118	5	1	5.97

Bathylagus nigrigenys (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
61	EN	4-131	3	3	23.65
61	JD	4-122	3	1	8.66
62	EN	4-133	3	15	45.52
63	EN	4-135	8	5	44.41
65	M4	4-126	5	5	19.30
66	M4	4-128	5	11	41.03
67	M4	4-130	2	5	21.05
68	M4	4-132	2	3	14.76
69	EN	4-151	8	2	18.71
70	EN	4-153	8	10	99.57
70	M4	4-136	2	1	4.17
71	EN	4-155	8	18	133.72
72	M4	4-142	2	1	4.09
72	EN	5-156	8	8	83.91
73	EN		8	11	72.19
73	M4	4-144	2	1	3.75
74	EN	5-159	8	23	207.50
75	M4	4-148	2	4	16.76
75	EN	5-161	8	3	28.29
76	M4	4-150	1	11	45.87
77	M4	4-152	1	4	17.32
79	EN	5-168	8	3	28.88
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
80	EN	5-170	8	3	32.11
81	EN	5-172	8	1	7.76
82	EN	5-174	8	1	4.43
82	M4	5-162	5	2	9.56
83	M4	5-164	5	6	48.09
83	EN	5-176	8	4	39.75
84	EN	5-178	8	8	90.70
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
85	EN	5-180	8	6	26.18
86	EN	5-182	3	5	58.02
86	M4	5-170	6	2	15.78
90	M4	5-178	6	2	16.78
91	M4	5-180	6	1	4.10

Bathylagus wesethi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	3	13.59

Leuroglossus urotranus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
70	EN	4-153	8	2	19.91
75	EN	5-161	8	1	9.43
79	EN	5-168	8	64	616.05

Leuroglossus urotranus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	EN	5-170	8	82	877.75
84	EN	5-178	8	3	34.01
87	EN	5-184	3	1	15.65

Stomiiformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	M4	5-170	6	1	7.89
88	M4	5-174	6	1	3.93

Cyclothone spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	3	12.09
4	EN	1-007	3	1	7.60
5	EN	1-010	4	1	7.68
8	EN	1-016	9	1	5.44
16	EN	1-034	6	2	12.67
17	EN	1-036	6	1	7.25
20	M4	2-038	4	6	47.70
21	EN	2-049	7	2	8.58
22	M4	2-042	4	2	10.08
24	M4	2-046	3	1	9.45
26	M4	2-050	3	3	15.12
27	EN	2-061	6	1	5.37
30	M4	2-056	3	3	28.07
31	EN	2-069	6	2	10.18
32	EN	2-071	6	1	4.59
34	M4	3-064	3	1	8.13
35	M4	3-066	3	1	9.17
39	M4	3-074	4	1	10.96
51	JD	4-102	4	7	49.24
53	JD	4-106	9	1	8.84
56	JD	4-112	9	1	9.75
57	JD	4-114	9	3	30.37
60	EN		3	2	14.85
60	JD	4-120	4	1	8.89
61	JD	4-122	3	1	8.66
62	EN	4-133	3	4	12.14
64	M4	4-124	5	3	21.71
65	M4	4-126	5	1	3.86
67	M4	4-130	2	2	8.42
69	EN	4-151	8	2	18.71
70	M4	4-136	2	3	12.51
71	EN	4-155	8	1	7.43
84	EN	5-178	8	3	34.01
87	EN	5-184	3	2	31.29
89	M4	5-176	6	3	12.30
91	M4	5-180	6	5	20.50

Cyclothone signata

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	13	58.89
2	M4	1-003	2	11	44.33
4	M4	1-007	2	1	4.80
4	EN	1-007	3	5	37.99
7	EN	1-014	4	1	10.60
8	EN	1-016	9	1	5.44
10	EN	1-022	10	1	8.84
11	EN	1-024	10	1	12.54
16	EN	1-034	6	1	6.34
17	EN	1-036	6	1	7.25
20	EN	1-042	7	1	6.50
21	M4	2-040	4	1	9.74
22	M4	2-042	4	4	20.16
24	EN	2-055	7	2	15.08
26	EN	2-059	6	1	4.56
27	EN	2-061	6	7	37.59
29	EN	2-065	6	1	5.29
29	M4	2-054	3	2	14.60
31	EN	2-069	6	1	5.09
36	M4	3-068	3	2	19.16
41	M4	3-078	4	3	17.49
57	M4	4-110	5	1	4.23
58	EN		3	1	9.23
61	M4	4-118	5	1	5.97
63	EN	4-135	8	1	8.88
64	EN	4-137	9	1	8.74
64	M4	4-124	5	1	7.24
65	EN	4-139	9	2	16.53
66	EN	4-141	9	1	5.83
66	M4	4-128	5	2	7.46
67	M4	4-130	2	4	16.84
68	M4	4-132	2	2	9.84
69	M4	4-134	2	5	20.15
70	M4	4-136	2	7	29.19
71	EN	4-155	8	9	66.86
74	M4	4-146	2	1	3.86
87	M4	5-172	6	1	9.85
88	M4	5-174	6	4	15.72
91	M4	5-180	6	1	4.10

Diplophos proximus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	3	14.25
4	M4	1-007	2	1	4.80
6	M4	1-011	5	3	13.83
10	M4	1-018	4	2	10.14
13	M4	1-024	4	1	5.09
16	M4	2-030	3	1	9.25

Diplophos proximus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	2-034	4	2	16.64
22	M4	2-042	4	1	5.04
24	M4	2-046	3	1	9.45
27	M4		3	1	10.47
38	EN	2-083	2	3	15.84
39	EN	2-085	1	1	9.86
40	EN	2-087	1	1	5.39
42	EN	3-089	1	1	6.10
43	EN	3-094	2	4	23.33
44	EN	3-096	2	8	33.92
53	M4	4-102	1	2	7.50
56	M4	4-108	5	1	3.88
60	JD	4-120	4	1	8.89
66	M4	4-128	5	3	11.19
68	M4	4-132	2	1	4.92
70	M4	4-136	2	1	4.17
74	M4	4-146	2	1	3.86
76	M4	4-150	1	3	12.51
77	M4	4-152	1	1	4.33
79	M4	5-156	1	3	24.26
88	M4	5-174	6	2	7.86
89	M4	5-176	6	1	4.10

Gonostoma atlanticum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	EN	2-051	7	2	8.50

Argyropelecus affinis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	M4	4-122	5	1	3.31
66	EN	4-141	9	1	5.83

Argyropelecus lychnus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	3	12.09

Argyropelecus sladeni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	1	4.53
10	EN	1-022	10	1	8.84
15	M4	2-028	3	1	8.67
84	M4	5-166	5	1	8.35
84	EN	5-178	8	1	11.34

Sternoptyx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	2	8.06
4	EN	1-007	3	1	7.60

Sternoptyx spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
11	EN	1-024	10	3	37.62
12	EN	1-026	10	1	11.08
16	EN	1-034	6	2	12.67
17	EN	1-036	6	1	7.25
18	EN	1-038	6	1	8.30
19	EN	1-040	7	4	18.92
21	EN	2-049	7	15	64.35
21	M4	2-040	4	1	9.74
22	EN	2-051	7	13	55.25
22	M4	2-042	4	8	40.32
23	M4	2-044	4	8	79.32
24	M4	2-046	3	3	28.34
24	EN	2-055	7	3	22.62
25	EN	2-057	7	4	20.00
26	M4	2-050	3	6	30.24
26	EN	2-059	6	60	273.60
27	M4		3	2	20.94
27	EN	2-061	6	15	80.55
28	EN	2-063	6	2	9.06
28	M4	2-053	3	6	59.39
29	M4	2-054	3	4	29.20
29	EN	2-065	6	7	37.03
31	EN	2-069	6	9	45.81
31	M4		3	1	5.73
32	EN	2-071	6	3	13.77
33	M4	3-062	3	1	10.71
33	EN	2-073	6	1	5.18
34	M4	3-064	3	12	97.56
35	M4	3-066	3	24	220.04
36	M4	3-068	3	20	191.59
38	M4	3-072	4	2	20.80
39	M4	3-074	4	2	21.91
40	M4	3-076	4	15	89.85
41	M4	3-078	4	4	23.32
48	EN	3-104	5	4	20.84
49	EN	3-106	5	9	87.32
50	EN	3-108	5	7	76.12
52	EN	3-114	5	2	8.96
53	JD	4-106	9	1	8.84
54	JD	4-108	9	8	75.28
55	JD	4-110	9	2	17.65
59	EN		3	7	48.30
60	EN		3	12	89.11
61	JD	4-122	3	1	8.66
61	EN	4-131	3	1	7.88
63	M4	4-122	5	1	3.31
63	EN	4-135	8	2	17.76
64	EN	4-137	9	2	17.48
64	M4	4-124	5	11	79.61

Sternoptyx spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
65	M4	4-126	5	11	42.46
65	EN	4-139	9	3	24.80
66	EN	4-141	9	46	268.18
67	M4	4-130	2	16	67.36
68	M4	4-132	2	1	4.92
68	EN	4-147	8	2	9.26
69	EN	4-151	8	6	56.13
69	M4	4-134	2	2	8.06
70	M4	4-136	2	3	12.51
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
72	EN	5-156	8	1	10.49
72	M4	4-142	2	2	8.18
83	EN	5-176	8	3	29.81
84	M4	5-166	5	3	25.04
84	EN	5-178	8	2	22.67
85	EN	5-180	8	1	4.36
85	M4	5-168	5	2	16.84
86	EN	5-182	3	1	11.60
86	M4	5-170	6	5	39.44
87	EN	5-184	3	2	31.29
89	M4	5-176	6	6	24.60
90	M4	5-178	6	1	8.39
91	M4	5-180	6	26	106.60

Valenciennellus tripunctulatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	EN	5-180	8	5	21.82

Ichthyococcus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	JD	4-116	9	1	7.75

Vinciguerria lucetia

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	465	2106.4
2	M4	1-003	2	227	914.81
3	M4	1-005	2	315	1496.2
4	M4	1-007	2	217	1041.6
4	EN	1-007	3	107	812.94
5	EN	1-010	4	49	376.38
5	M4	1-009	2	395	3617.6
6	M4	1-011	5	108	497.88
6	EN	1-012	4	4	38.25
7	M4		4	44	421.24
7	EN	1-014	4	10	106.00
8	EN	1-016	9	5	27.20
8	M4	1-014	4	46	445.71

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	EN	1-020	10	16	199.83
10	M4	1-018	4	139	704.73
10	EN	1-022	10	16	141.43
11	EN	1-024	10	8	100.33
12	EN	1-026	10	10	110.76
12	M4	1-022	4	28	226.13
13	EN	1-028	6	7	65.18
13	M4	1-024	4	35	178.15
14	EN	1-030	6	15	134.78
15	EN	1-032	6	4	16.92
15	M4	2-028	3	41	355.65
16	EN	1-034	6	58	367.54
16	M4	2-030	3	33	305.28
17	EN	1-036	6	20	145.01
17	M4	2-032	3	7	61.20
18	M4	2-034	4	27	224.66
18	EN	1-038	6	2	16.60
19	EN	1-040	7	1	4.73
20	EN	1-042	7	2	13.00
20	M4	2-038	4	11	87.44
21	M4	2-040	4	57	555.18
21	EN	2-049	7	2	8.58
22	M4	2-042	4	63	317.52
22	EN	2-051	7	7	29.75
23	M4	2-044	4	12	118.99
23	EN	2-053	7	31	222.36
24	M4	2-046	3	3	28.34
25	EN	2-057	7	2	10.00
25	M4	2-048	3	12	120.70
26	M4	2-050	3	8	40.32
26	EN	2-059	6	12	54.72
27	M4		3	1	10.47
27	EN	2-061	6	1	5.37
28	EN	2-063	6	7	31.71
28	M4	2-053	3	15	148.47
29	EN	2-065	6	7	37.03
29	M4	2-054	3	16	116.78
30	M4	2-056	3	23	215.23
31	EN	2-069	6	15	76.35
31	M4		3	6	34.38
32	M4	3-060	3	21	195.28
32	EN	2-071	6	10	45.90
33	EN	2-073	6	78	404.04
33	M4	3-062	3	15	160.65
34	M4	3-064	3	6	48.78
34	EN	2-075	5	45	220.95
35	M4	3-066	3	18	165.03
35	EN	2-077	5	35	363.29

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	EN	2-079	5	22	241.56
36	M4	3-068	3	7	67.06
37	EN	2-081	5	59	282.02
37	M4	3-070	4	10	113.27
38	EN	2-083	2	87	459.36
38	M4	3-072	4	6	62.40
39	EN	2-085	1	30	295.80
39	M4	3-074	4	4	43.82
40	M4	3-076	4	26	155.74
40	EN	2-087	1	76	409.64
41	EN		1	7	31.50
41	M4	3-078	4	18	104.94
42	M4	3-080	4	9	47.34
42	EN	3-089	1	55	335.76
43	EN	3-094	2	111	647.50
44	EN	3-096	2	119	504.56
45	EN	3-098	2	97	352.11
46	EN	3-100	5	17	141.10
47	EN	3-102	5	6	43.08
48	EN	3-104	5	18	93.78
49	EN	3-106	5	16	155.24
50	EN	3-108	5	7	76.12
51	EN	3-110	5	47	301.37
51	JD	4-102	4	131	921.55
52	JD	4-104	4	5	50.29
52	EN	3-114	5	16	71.68
53	M4	4-102	1	40	150.00
53	JD	4-106	9	120	1060.4
54	EN	3-120	4	16	117.11
54	M4	4-104	1	29	233.74
54	JD	4-108	9	20	188.19
55	M4	4-106	5	15	103.82
55	JD	4-110	9	42	370.64
55	EN	3-122	4	22	189.73
56	JD	4-112	9	30	292.41
56	M4	4-108	5	5	19.40
56	EN	3-124	3	9	93.71
57	M4	4-110	5	172	727.56
57	JD	4-114	9	75	759.20
57	EN	3-126	3	16	99.92
58	EN		3	12	110.71
58	M4	4-112	5	48	168.05
58	JD	4-116	9	7	54.25
59	EN		3	33	227.70
59	M4	4-114	5	25	232.07
59	JD	4-118	4	13	63.03
60	EN		3	12	89.11
60	M4	4-116	5	23	203.44
60	JD	4-120	4	31	275.56

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
61	EN	4-131	3	16	126.11
61	JD	4-122	3	17	147.14
61	M4	4-118	5	7	41.81
62	EN	4-133	3	32	97.10
62	M4	4-120	5	35	191.10
63	M4	4-122	5	27	89.37
63	EN	4-135	8	101	897.09
64	EN	4-137	9	13	113.62
64	M4	4-124	5	18	130.27
65	M4	4-126	5	6	23.16
65	EN	4-139	9	31	256.22
66	EN	4-141	9	2	11.66
66	M4	4-128	5	400	1492.0
67	EN	4-145	8	9	93.42
67	M4	4-130	2	23	96.83
68	EN	4-147	8	15	69.45
68	M4	4-132	2	222	1092.2
69	M4	4-134	2	15	60.45
69	EN	4-151	8	14	130.96
70	EN	4-153	8	45	448.04
70	M4	4-136	2	175	729.75
71	M4	4-138	2	145	561.15
71	EN	4-155	8	159	1181.2
72	EN	5-156	8	1	10.49
72	M4	4-142	2	70	286.30
73	M4	4-144	2	55	206.25
73	EN		8	70	459.42
74	M4	4-146	2	157	606.02
74	EN	5-159	8	159	1434.4
75	EN	5-161	8	70	660.16
75	M4	4-148	2	260	1089.4
76	M4	4-150	1	157	654.69
77	M4	4-152	1	52	225.16
78	M4	5-154	1	34	288.20
79	M4	5-156	1	71	574.07
80	M4	5-158	2	54	233.82
81	EN	5-172	8	86	667.21
81	M4	5-160	5	26	250.37
82	EN	5-174	8	30	132.90
82	M4	5-162	5	42	200.76
83	M4	5-164	5	71	569.07
83	EN	5-176	8	92	914.31
84	M4	5-166	5	173	1444.0
84	EN	5-178	8	33	374.14
85	M4	5-168	5	42	353.64
85	EN	5-180	8	116	506.22
86	M4	5-170	6	48	378.63
86	EN	5-182	3	46	533.83

Vinciguerria lucetia (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
87	EN	5-184	3	21	328.58
87	M4	5-172	6	86	847.48
88	M4	5-174	6	251	986.43
89	M4	5-176	6	18	73.80
90	M4	5-178	6	162	1359.4
91	M4	5-180	6	7	28.70

Woodsia nonsuchae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
60	JD	4-120	4	1	8.89

Chauliodus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
16	EN	1-034	6	1	6.34
24	EN	2-055	7	1	7.54
26	EN	2-059	6	1	4.56
35	M4	3-066	3	1	9.17
54	JD	4-108	9	2	18.82
86	M4	5-170	6	1	7.89
88	M4	5-174	6	1	3.93

Stomias spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	2	9.60
6	M4	1-011	5	2	9.22
8	EN	1-016	9	3	16.32
15	EN	1-032	6	1	4.23
66	M4	4-128	5	1	3.73
66	EN	4-141	9	1	5.83
67	M4	4-130	2	1	4.21
68	EN	4-147	8	3	13.89
68	M4	4-132	2	1	4.92
70	M4	4-136	2	3	12.51
71	EN	4-155	8	1	7.43
74	EN	5-159	8	2	18.04
74	M4	4-146	2	1	3.86
85	EN	5-180	8	1	4.36

Stomias atriventer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03

Astronesthinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	M4	2-042	4	1	5.04
27	EN	2-061	6	1	5.37

Astronesthes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
7	EN	1-014	4	1	10.60
64	M4	4-124	5	1	7.24

Borostomias panamensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	EN	1-016	9	2	10.88

Melanostomiinae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
30	M4	2-056	3	1	9.36
51	JD	4-102	4	1	7.03
59	EN		3	1	6.90
60	EN		3	1	7.43
62	EN	4-133	3	2	6.07
66	M4	4-128	5	1	3.73
86	M4	5-170	6	1	7.89
88	M4	5-174	6	1	3.93
89	M4	5-176	6	1	4.10

Bathophilus filifer

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-054	3	3	21.90
31	EN	2-069	6	1	5.09
36	M4	3-068	3	1	9.58
37	EN	2-081	5	1	4.78
38	EN	2-083	2	2	10.56
40	M4	3-076	4	1	5.99
42	EN	3-089	1	1	6.10
54	M4	4-104	1	1	8.06
59	JD	4-118	4	1	4.85
65	M4	4-126	5	7	27.02
66	M4	4-128	5	1	3.73
67	M4	4-130	2	2	8.42
68	M4	4-132	2	4	19.68
70	M4	4-136	2	2	8.34
71	EN	4-155	8	4	29.72
75	EN	5-161	8	1	9.43
78	M4	5-154	1	1	8.48
82	M4	5-162	5	1	4.78
85	M4	5-168	5	1	8.42
91	M4	5-180	6	4	16.40

Eustomias spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
68	M4	4-132	2	2	9.84
86	M4	5-170	6	1	7.89

Idiacanthus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
6	M4	1-011	5	2	9.22
7	M4		4	2	19.15
8	M4	1-014	4	1	9.69
10	M4	1-018	4	3	15.21
13	M4	1-024	4	11	55.99
18	M4	2-034	4	4	33.28
23	M4	2-044	4	2	19.83
24	M4	2-046	3	1	9.45
26	EN	2-059	6	3	13.68
27	M4		3	1	10.47
27	EN	2-061	6	6	32.22
28	M4	2-053	3	1	9.90
28	EN	2-063	6	1	4.53
29	M4	2-054	3	2	14.60
30	M4	2-056	3	3	28.07
34	EN	2-075	5	2	9.82
35	M4	3-066	3	1	9.17
35	EN	2-077	5	1	10.38
36	EN	2-079	5	1	10.98
37	EN	2-081	5	1	4.78
39	M4	3-074	4	2	21.91
41	M4	3-078	4	1	5.83
47	EN	3-102	5	2	14.36
48	EN	3-104	5	1	5.21
50	EN	3-108	5	1	10.87
53	M4	4-102	1	1	3.75
54	EN	3-120	4	3	21.96
54	M4	4-104	1	1	8.06
55	EN	3-122	4	6	51.75
55	M4	4-106	5	3	20.76
56	EN	3-124	3	1	10.41
56	M4	4-108	5	7	27.16
59	EN		3	2	13.80
60	EN		3	1	7.43
64	M4	4-124	5	1	7.24
65	M4	4-126	5	1	3.86
65	EN	4-139	9	1	8.27
66	M4	4-128	5	5	18.65
67	EN	4-145	8	1	10.38
69	M4	4-134	2	3	12.09
70	M4	4-136	2	1	4.17
72	M4	4-142	2	1	4.09
79	M4	5-156	1	2	16.17
83	M4	5-164	5	1	8.02
86	EN	5-182	3	1	11.60
87	EN	5-184	3	1	15.65
90	M4	5-178	6	1	8.39
91	M4	5-180	6	3	12.30

Chloropthalmus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
6	EN	1-012	4	2	19.13
87	EN	5-184	3	1	15.65

Rosenblattichthys volucris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
9	EN	1-020	10	1	12.49
16	EN	1-034	6	1	6.34
26	M4	2-050	3	1	5.04
27	EN	2-061	6	1	5.37
51	JD	4-102	4	1	7.03
56	JD	4-112	9	1	9.75
57	M4	4-110	5	1	4.23
61	EN	4-131	3	1	7.88

Scopelarchoides nicholsi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	2	9.50
5	M4	1-009	2	2	18.32
6	M4	1-011	5	2	9.22
7	M4		4	3	28.72
8	M4	1-014	4	1	9.69
10	EN	1-022	10	1	8.84
10	M4	1-018	4	3	15.21
13	M4	1-024	4	1	5.09
15	M4	2-028	3	3	26.02
16	M4	2-030	3	1	9.25
18	M4	2-034	4	3	24.96
19	EN	1-040	7	1	4.73
26	EN	2-059	6	1	4.56
28	EN	2-063	6	6	27.18
28	M4	2-053	3	1	9.90
29	M4	2-054	3	1	7.30
32	EN	2-071	6	2	9.18
33	EN	2-073	6	1	5.18
33	M4	3-062	3	3	32.13
34	EN	2-075	5	1	4.91
35	EN	2-077	5	1	10.38
36	EN	2-079	5	2	21.96
38	EN	2-083	2	4	21.12
39	EN	2-085	1	1	9.86
41	EN		1	1	4.50
41	M4	3-078	4	1	5.83
42	EN	3-089	1	2	12.21
43	EN	3-094	2	2	11.67
44	EN	3-096	2	3	12.72
46	EN	3-100	5	1	8.30
47	EN	3-102	5	2	14.36

Scopelarchoides nicholsi (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	EN	3-110	5	1	6.41
54	M4	4-104	1	3	24.18
55	M4	4-106	5	4	27.69
55	EN	3-122	4	1	8.62
57	EN	3-126	3	1	6.25
59	EN		3	2	13.80
65	EN	4-139	9	2	16.53
66	M4	4-128	5	2	7.46
71	EN	4-155	8	1	7.43
76	M4	4-150	1	3	12.51
80	M4	5-158	2	1	4.33
80	EN	5-170	8	1	10.70
83	M4	5-164	5	2	16.03
83	EN	5-176	8	6	59.63
84	EN	5-178	8	1	11.34
89	M4	5-176	6	5	20.50
90	M4	5-178	6	1	8.39
91	M4	5-180	6	1	4.10

Scopelarchus analis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	EN	2-063	6	1	4.53

Scopelarchus guentheri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03
69	M4	4-134	2	1	4.03

Scopelosaurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
62	EN	4-133	3	1	3.03
85	EN	5-180	8	1	4.36

Synodus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	2	9.00

Paralepididae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	EN	2-059	6	1	4.56
57	JD	4-114	9	1	10.12

Lestidiops spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	EN	1-010	4	1	7.68
14	EN	1-030	6	1	8.99
20	M4	2-038	4	1	7.95
51	JD	4-102	4	1	7.03

Lestidiops spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
53	JD	4-106	9	2	17.67
60	JD	4-120	4	1	8.89
61	EN	4-131	3	1	7.88
62	EN	4-133	3	2	6.07
63	EN	4-135	8	9	79.94
69	EN	4-151	8	1	9.35
85	EN	5-180	8	10	43.64
86	EN	5-182	3	2	23.21
86	M4	5-170	6	1	7.89

Lestidiops neles

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	1	4.75
5	M4	1-009	2	10	91.59
6	M4	1-011	5	1	4.61
7	M4		4	2	19.15
8	M4	1-014	4	4	38.76
10	M4	1-018	4	4	20.28
12	M4	1-022	4	3	24.23
13	M4	1-024	4	1	5.09
15	M4	2-028	3	4	34.70
16	M4	2-030	3	3	27.75
17	M4	2-032	3	1	8.74
18	M4	2-034	4	1	8.32
30	M4	2-056	3	2	18.72
32	M4	3-060	3	2	18.60
36	EN	2-079	5	1	10.98
37	M4	3-070	4	1	11.33
37	EN	2-081	5	2	9.56
38	EN	2-083	2	1	5.28
39	EN	2-085	1	2	19.72
40	EN	2-087	1	1	5.39
42	EN	3-089	1	3	18.31
43	EN	3-094	2	2	11.67
44	EN	3-096	2	5	21.20
53	M4	4-102	1	4	15.00
54	M4	4-104	1	18	145.08
54	EN	3-120	4	1	7.32
55	EN	3-122	4	1	8.62
55	M4	4-106	5	4	27.69
66	M4	4-128	5	4	14.92
71	M4	4-138	2	2	7.74
74	M4	4-146	2	3	11.58
76	M4	4-150	1	9	37.53
77	M4	4-152	1	3	12.99
78	M4	5-154	1	1	8.48
79	M4	5-156	1	9	72.77
80	M4	5-158	2	1	4.33

Lestidiops neles (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
82	M4	5-162	5	3	14.34
83	M4	5-164	5	1	8.02
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
86	M4	5-170	6	2	15.78
87	M4	5-172	6	2	19.71
88	M4	5-174	6	5	19.65

Lestidium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	4	30.39
16	M4	2-030	3	3	27.75
16	EN	1-034	6	1	6.34
20	M4	2-038	4	1	7.95
21	M4	2-040	4	1	9.74
22	M4	2-042	4	5	25.20
23	M4	2-044	4	2	19.83
24	M4	2-046	3	1	9.45
25	M4	2-048	3	1	10.06
26	EN	2-059	6	1	4.56
26	M4	2-050	3	1	5.04
27	EN	2-061	6	5	26.85
28	EN	2-063	6	1	4.53
29	M4	2-054	3	1	7.30
29	EN	2-065	6	4	21.16
31	EN	2-069	6	1	5.09
33	M4	3-062	3	2	21.42
39	M4	3-074	4	2	21.91
40	M4	3-076	4	5	29.95
41	M4	3-078	4	3	17.49
50	EN	3-108	5	2	21.75
52	EN	3-114	5	2	8.96
56	M4	4-108	5	2	7.76
57	M4	4-110	5	7	29.61
60	EN		3	2	14.85
61	JD	4-122	3	2	17.31
63	M4	4-122	5	1	3.31
64	M4	4-124	5	4	28.95
65	M4	4-126	5	1	3.86
65	EN	4-139	9	1	8.27
67	M4	4-130	2	4	16.84
68	M4	4-132	2	1	4.92
85	M4	5-168	5	4	33.68
87	M4	5-172	6	3	29.56
88	M4	5-174	6	1	3.93
89	M4	5-176	6	2	8.20
91	M4	5-180	6	1	4.10

Stemonosudis macrura

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	2-038	4	1	7.95
20	EN	1-042	7	1	6.50
25	M4	2-048	3	1	10.06
26	EN	2-059	6	1	4.56
31	EN	2-069	6	1	5.09
33	M4	3-062	3	1	10.71
35	M4	3-066	3	1	9.17
37	M4	3-070	4	1	11.33
39	M4	3-074	4	2	21.91
55	JD	4-110	9	1	8.82
63	M4	4-122	5	1	3.31
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	6	29.52
70	M4	4-136	2	4	16.68
71	EN	4-155	8	1	7.43
83	EN	5-176	8	1	9.94
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42
88	M4	5-174	6	3	11.79
91	M4	5-180	6	1	4.10

Uncisudis advena

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
64	M4	4-124	5	1	7.24

Uncisudis quadrimaculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
21	EN	2-049	7	1	4.29

Evermannella ahlstromi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
20	EN	1-042	7	1	6.50
24	EN	2-055	7	1	7.54
26	EN	2-059	6	1	4.56
29	EN	2-065	6	1	5.29
31	EN	2-069	6	1	5.09
54	JD	4-108	9	1	9.41
64	M4	4-124	5	2	14.47
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	2	9.84
70	M4	4-136	2	1	4.17
77	M4	4-152	1	1	4.33
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85
88	M4	5-174	6	2	7.86

Evermannella ahlstromi (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
91	M4	5-180	6	3	12.30

Myctophiformes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
87	M4	5-172	6	1	9.85

Scopelengys tristis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
23	M4	2-044	4	1	9.92
26	EN	2-059	6	1	4.56
60	JD	4-120	4	1	8.89
65	EN	4-139	9	1	8.27

Myctophidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	EN	1-020	10	1	12.49
10	M4	1-018	4	2	10.14
24	M4	2-046	3	3	28.34
28	EN	2-063	6	2	9.06
31	EN	2-069	6	1	5.09
34	M4	3-064	3	4	32.52
55	JD	4-110	9	1	8.82
56	JD	4-112	9	1	9.75
61	EN	4-131	3	2	15.76
68	M4	4-132	2	1	4.92
69	EN	4-151	8	1	9.35
71	EN	4-155	8	1	7.43
86	M4	5-170	6	2	15.78
90	M4	5-178	6	1	8.39

Bolinichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	5	24.00
5	M4	1-009	2	10	91.59
11	EN	1-024	10	2	25.08
16	EN	1-034	6	1	6.34
22	EN	2-051	7	1	4.25
23	EN	2-053	7	1	7.17

Bolinichthys longipes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03
31	EN	2-069	6	2	10.18
37	EN	2-081	5	1	4.78
50	EN	3-108	5	4	43.50
51	JD	4-102	4	1	7.03
60	JD	4-120	4	1	8.89
61	JD	4-122	3	3	25.97

Bolinichthys longipes (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
65	EN	4-139	9	7	57.86
67	EN	4-145	8	1	10.38
68	EN	4-147	8	4	18.52
70	M4	4-136	2	4	16.68
72	M4	4-142	2	3	12.27
73	M4	4-144	2	1	3.75
74	M4	4-146	2	1	3.86
76	M4	4-150	1	1	4.17
77	M4	4-152	1	1	4.33
89	M4	5-176	6	1	4.10

Ceratoscopelus townsendi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	59	267.27
2	M4	1-003	2	42	169.26
3	M4	1-005	2	3	14.25
73	M4	4-144	2	3	11.25

Ceratoscopelus warmingii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	3	14.40
5	M4	1-009	2	1	9.16
22	EN	2-051	7	1	4.25
23	EN	2-053	7	1	7.17
44	EN	3-096	2	2	8.48
49	EN	3-106	5	1	9.70
52	EN	3-114	5	4	17.92
65	EN	4-139	9	1	8.27
66	EN	4-141	9	9	52.47
67	EN	4-145	8	1	10.38
69	M4	4-134	2	2	8.06
69	EN	4-151	8	9	84.19
70	M4	4-136	2	5	20.85
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
71	EN	4-155	8	26	193.16
73	EN		8	1	6.56
82	EN	5-174	8	2	8.86

Diaphus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	11	52.80
4	EN	1-007	3	27	205.13
5	EN	1-010	4	3	23.04
5	M4	1-009	2	10	91.59
6	M4	1-011	5	11	50.71
6	EN	1-012	4	1	9.56
7	M4		4	36	344.65

Diaphus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
7	EN	1-014	4	2	21.20
8	M4	1-014	4	15	145.34
10	M4	1-018	4	17	86.19
11	EN	1-024	10	1	12.54
12	M4	1-022	4	9	72.69
13	M4	1-024	4	22	111.98
13	EN	1-028	6	1	9.31
15	M4	2-028	3	43	373.00
16	M4	2-030	3	10	92.51
17	M4	2-032	3	2	17.49
18	M4	2-034	4	19	158.09
20	M4	2-038	4	2	15.90
21	M4	2-040	4	11	107.14
21	EN	2-049	7	2	8.58
22	EN	2-051	7	3	12.75
22	M4	2-042	4	13	65.52
23	M4	2-044	4	4	39.66
23	EN	2-053	7	2	14.35
24	M4	2-046	3	23	217.25
25	M4	2-048	3	5	50.29
26	EN	2-059	6	2	9.12
26	M4	2-050	3	27	136.08
27	EN	2-061	6	8	42.96
27	M4		3	3	31.41
28	M4	2-053	3	5	49.49
28	EN	2-063	6	1	4.53
29	EN	2-065	6	2	10.58
29	M4	2-054	3	21	153.28
30	M4	2-056	3	16	149.72
31	M4		3	29	166.17
32	M4	3-060	3	5	46.50
33	EN	2-073	6	7	36.26
33	M4	3-062	3	8	85.68
34	EN	2-075	5	15	73.65
34	M4	3-064	3	9	73.17
35	EN	2-077	5	11	114.18
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
36	M4	3-068	3	2	19.16
37	EN	2-081	5	3	14.34
37	M4	3-070	4	3	33.98
38	M4	3-072	4	2	20.80
38	EN	2-083	2	12	63.36
39	EN	2-085	1	5	49.30
40	M4	3-076	4	15	89.85
40	EN	2-087	1	4	21.56
41	EN		1	4	18.00
41	M4	3-078	4	6	34.98

Diaphus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
42	EN	3-089	1	5	30.52
43	EN	3-094	2	9	52.50
44	EN	3-096	2	10	42.40
45	EN	3-098	2	11	39.93
47	EN	3-102	5	2	14.36
49	EN	3-106	5	2	19.41
51	JD	4-102	4	1	7.03
52	EN	3-114	5	10	44.80
53	M4	4-102	1	9	33.75
54	M4	4-104	1	18	145.08
54	EN	3-120	4	10	73.19
55	EN	3-122	4	17	146.61
55	M4	4-106	5	5	34.61
56	M4	4-108	5	1	3.88
57	M4	4-110	5	15	63.45
57	EN	3-126	3	6	37.47
59	EN		3	2	13.80
60	EN		3	6	44.56
60	M4	4-116	5	1	8.85
60	JD	4-120	4	1	8.89
61	EN	4-131	3	6	47.29
61	JD	4-122	3	1	8.66
63	M4	4-122	5	11	36.41
64	M4	4-124	5	15	108.56
64	EN	4-137	9	2	17.48
65	EN	4-139	9	1	8.27
65	M4	4-126	5	11	42.46
66	EN	4-141	9	4	23.32
66	M4	4-128	5	8	29.84
67	EN	4-145	8	4	41.52
68	M4	4-132	2	15	73.80
68	EN	4-147	8	2	9.26
69	EN	4-151	8	1	9.35
70	EN	4-153	8	1	9.96
71	M4	4-138	2	5	19.35
72	M4	4-142	2	1	4.09
73	M4	4-144	2	4	15.00
74	EN	5-159	8	1	9.02
74	M4	4-146	2	3	11.58
75	M4	4-148	2	1	4.19
76	M4	4-150	1	47	195.99
77	M4	4-152	1	14	60.62
78	M4	5-154	1	6	50.86
79	M4	5-156	1	19	153.62
80	M4	5-158	2	15	64.95
82	M4	5-162	5	6	28.68
83	M4	5-164	5	3	24.05
84	M4	5-166	5	17	141.90

Diaphus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-168	5	14	117.88
85	EN	5-180	8	1	4.36
86	M4	5-170	6	22	173.54
87	M4	5-172	6	12	118.25
87	EN	5-184	3	32	500.70
88	M4	5-174	6	22	86.46
89	M4	5-176	6	2	8.20
91	M4	5-180	6	9	36.90

Lampadena luminosa

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
66	EN	4-141	9	1	5.83

Lampadena urophaos

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	1	4.53
63	M4	4-122	5	1	3.31
68	M4	4-132	2	1	4.92
88	M4	5-174	6	3	11.79

Lampanyctus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03
4	EN	1-007	3	19	144.35
5	EN	1-010	4	2	15.36
7	M4		4	1	9.57
9	EN	1-020	10	3	37.47
10	EN	1-022	10	4	35.36
11	EN	1-024	10	3	37.62
18	EN	1-038	6	1	8.30
19	EN	1-040	7	1	4.73
20	M4	2-038	4	16	127.19
20	EN	1-042	7	4	26.00
21	M4	2-040	4	1	9.74
22	M4	2-042	4	3	15.12
23	M4	2-044	4	1	9.92
23	EN	2-053	7	1	7.17
24	M4	2-046	3	6	56.67
25	M4	2-048	3	5	50.29
25	EN	2-057	7	2	10.00
27	M4		3	3	31.41
27	EN	2-061	6	5	26.85
28	M4	2-053	3	1	9.90
28	EN	2-063	6	4	18.12
29	EN	2-065	6	11	58.19
29	M4	2-054	3	1	7.30
30	M4	2-056	3	1	9.36
31	EN	2-069	6	4	20.36

Lampanyctus spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	1	5.73
32	EN	2-071	6	6	27.54
33	M4	3-062	3	1	10.71
33	EN	2-073	6	4	20.72
34	M4	3-064	3	4	32.52
35	M4	3-066	3	2	18.34
36	M4	3-068	3	4	38.32
40	M4	3-076	4	6	35.94
41	M4	3-078	4	4	23.32
45	EN	3-098	2	4	14.52
48	EN	3-104	5	2	10.42
51	JD	4-102	4	1	7.03
52	EN	3-114	5	2	8.96
53	M4	4-102	1	1	3.75
53	JD	4-106	9	1	8.84
54	JD	4-108	9	3	28.23
55	JD	4-110	9	2	17.65
56	JD	4-112	9	1	9.75
57	JD	4-114	9	2	20.25
57	M4	4-110	5	5	21.15
58	JD	4-116	9	1	7.75
58	M4	4-112	5	2	7.00
59	M4	4-114	5	1	9.28
59	EN		3	2	13.80
60	EN		3	5	37.13
60	JD	4-120	4	3	26.67
61	JD	4-122	3	3	25.97
62	EN	4-133	3	10	30.34
64	M4	4-124	5	6	43.42
65	M4	4-126	5	1	3.86
66	EN	4-141	9	1	5.83
67	M4	4-130	2	14	58.94
67	EN	4-145	8	3	31.14
68	EN	4-147	8	1	4.63
68	M4	4-132	2	20	98.40
69	M4	4-134	2	3	12.09
70	M4	4-136	2	32	133.44
71	M4	4-138	2	5	19.35
71	EN	4-155	8	3	22.29
74	M4	4-146	2	1	3.86
84	M4	5-166	5	2	16.69
85	M4	5-168	5	2	16.84
85	EN	5-180	8	2	8.73
87	M4	5-172	6	2	19.71
87	EN	5-184	3	2	31.29
88	M4	5-174	6	11	43.23
89	M4	5-176	6	3	12.30
91	M4	5-180	6	6	24.60

Lampanyctus omostigma

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	2	9.60

Lampanyctus parvicauda

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	1	4.75
5	M4	1-009	2	1	9.16
5	EN	1-010	4	3	23.04
8	EN	1-016	9	1	5.44
8	M4	1-014	4	1	9.69
9	EN	1-020	10	1	12.49
10	M4	1-018	4	5	25.35
13	M4	1-024	4	1	5.09
15	M4	2-028	3	1	8.67
17	M4	2-032	3	2	17.49
18	M4	2-034	4	1	8.32
21	M4	2-040	4	2	19.48
22	M4	2-042	4	2	10.08
33	M4	3-062	3	7	74.97
34	EN	2-075	5	2	9.82
34	M4	3-064	3	1	8.13
35	EN	2-077	5	3	31.14
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
39	M4	3-074	4	2	21.91
40	EN	2-087	1	2	10.78
41	M4	3-078	4	1	5.83
51	EN	3-110	5	1	6.41
54	JD	4-108	9	1	9.41
55	M4	4-106	5	2	13.84
55	JD	4-110	9	1	8.82
56	EN	3-124	3	1	10.41
57	JD	4-114	9	1	10.12
58	JD	4-116	9	2	15.50
58	EN		3	1	9.23
59	M4	4-114	5	1	9.28
59	EN		3	9	62.10
60	EN		3	2	14.85
60	JD	4-120	4	5	44.44
61	EN	4-131	3	1	7.88
63	EN	4-135	8	2	17.76
64	EN	4-137	9	1	8.74
64	M4	4-124	5	1	7.24
65	M4	4-126	5	1	3.86
66	M4	4-128	5	1	3.73
67	EN	4-145	8	1	10.38
69	EN	4-151	8	1	9.35
70	EN	4-153	8	5	49.78
71	EN	4-155	8	1	7.43

Lampanyctus parvicauda (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
73	EN		8	3	19.69
74	EN	5-159	8	2	18.04
74	M4	4-146	2	1	3.86
75	EN	5-161	8	11	103.74
75	M4	4-148	2	1	4.19
76	M4	4-150	1	2	8.34
78	M4	5-154	1	1	8.48
80	M4	5-158	2	3	12.99
81	EN	5-172	8	3	23.27
82	EN	5-174	8	1	4.43
83	M4	5-164	5	1	8.02
85	EN	5-180	8	2	8.73
86	EN	5-182	3	1	11.60
86	M4	5-170	6	1	7.89
87	EN	5-184	3	1	15.65
88	M4	5-174	6	1	3.93

Lampanyctus tenuiformis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
27	EN	2-061	6	5	26.85
67	EN	4-145	8	1	10.38

Lobianchia gemellarii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	EN	1-010	4	1	7.68
66	EN	4-141	9	1	5.83

Nannobrachium achirus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
69	EN	4-151	8	1	9.35

Nannobrachium bristori

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	EN	2-051	7	1	4.25
55	JD	4-110	9	1	8.82

Nannobrachium hawaiiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	EN	1-022	10	1	8.84
54	JD	4-108	9	1	9.41
58	JD	4-116	9	1	7.75
60	JD	4-120	4	1	8.89

Nannobrachium idostigma

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	10	47.50
21	EN	2-049	7	1	4.29
22	M4	2-042	4	6	30.24

Nannobrachium idostigma (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
23	M4	2-044	4	4	39.66
24	M4	2-046	3	2	18.89
25	M4	2-048	3	2	20.12
28	M4	2-053	3	2	19.80
29	M4	2-054	3	1	7.30
63	EN	4-135	8	1	8.88
70	M4	4-136	2	4	16.68
70	EN	4-153	8	1	9.96
71	M4	4-138	2	1	3.87
71	EN	4-155	8	2	14.86
72	M4	4-142	2	3	12.27
73	M4	4-144	2	1	3.75
77	M4	4-152	1	1	4.33
87	EN	5-184	3	1	15.65

Notolychnus valdiviae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	2	8.06
4	EN	1-007	3	32	243.12
11	EN	1-024	10	1	12.54
22	M4	2-042	4	11	55.44
24	M4	2-046	3	11	103.90
29	EN	2-065	6	2	10.58
35	M4	3-066	3	1	9.17
38	M4	3-072	4	1	10.40
40	M4	3-076	4	1	5.99
44	EN	3-096	2	2	8.48
50	EN	3-108	5	1	10.87
57	M4	4-110	5	2	8.46
58	M4	4-112	5	1	3.50
60	JD	4-120	4	2	17.78
62	EN	4-133	3	3	9.10
64	M4	4-124	5	1	7.24
67	EN	4-145	8	3	31.14
67	M4	4-130	2	10	42.10
68	EN	4-147	8	1	4.63
69	M4	4-134	2	2	8.06
70	M4	4-136	2	1	4.17
75	M4	4-148	2	1	4.19
85	M4	5-168	5	2	16.84
86	M4	5-170	6	4	31.55

Notoscopelus resplendens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	3	13.59
2	M4	1-003	2	6	24.18
4	EN	1-007	3	1	7.60
9	EN	1-020	10	1	12.49

Notoscopelus resplendens (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	M4	2-042	4	1	5.04
26	EN	2-059	6	1	4.56
27	EN	2-061	6	3	16.11
51	JD	4-102	4	2	14.07
58	JD	4-116	9	3	23.25
59	JD	4-118	4	2	9.70
61	EN	4-131	3	1	7.88
63	EN	4-135	8	1	8.88
68	EN	4-147	8	3	13.89
69	EN	4-151	8	5	46.77
70	EN	4-153	8	3	29.87
71	EN	4-155	8	2	14.86
85	EN	5-180	8	1	4.36

Triphoturus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	5	37.99
5	EN	1-010	4	1	7.68
62	EN	4-133	3	3	9.10
63	EN	4-135	8	5	44.41
66	EN	4-141	9	4	23.32
68	EN	4-147	8	1	4.63
69	EN	4-151	8	3	28.06
70	EN	4-153	8	2	19.91
71	EN	4-155	8	3	22.29
73	EN		8	6	39.38
74	EN	5-159	8	2	18.04
75	EN	5-161	8	1	9.43
84	EN	5-178	8	1	11.34
85	EN	5-180	8	6	26.18
86	EN	5-182	3	1	11.60
87	EN	5-184	3	2	31.29

Triphoturus mexicanus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	46	208.38
3	M4	1-005	2	3	14.25
73	M4	4-144	2	1	3.75
76	M4	4-150	1	1	4.17
83	M4	5-164	5	1	8.02

Triphoturus nigrescens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03
28	M4	2-053	3	1	9.90
29	M4	2-054	3	2	14.60
31	M4		3	1	5.73
51	JD	4-102	4	3	21.10

Triphoturus nigrescens (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
59	M4	4-114	5	1	9.28
59	JD	4-118	4	3	14.55

Benthosema suborbitale

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	JD	4-116	9	1	7.75
69	EN	4-151	8	4	37.42

Diogenichthys atlanticus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	3	12.09
4	M4	1-007	2	4	19.20
17	EN	1-036	6	1	7.25
54	JD	4-108	9	4	37.64
69	EN	4-151	8	2	18.71

Diogenichthys laternatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	11	49.83
2	M4	1-003	2	10	40.30
3	M4	1-005	2	9	42.75
4	EN	1-007	3	60	455.85
5	EN	1-010	4	19	145.94
5	M4	1-009	2	146	1337.1
6	EN	1-012	4	3	28.69
7	M4		4	46	440.38
7	EN	1-014	4	6	63.60
8	EN	1-016	9	1	5.44
8	M4	1-014	4	3	29.07
9	EN	1-020	10	3	37.47
10	EN	1-022	10	1	8.84
10	M4	1-018	4	3	15.21
11	EN	1-024	10	2	25.08
12	M4	1-022	4	1	8.08
13	M4	1-024	4	2	10.18
14	EN	1-030	6	6	53.91
15	M4	2-028	3	37	320.96
16	M4	2-030	3	30	277.53
18	M4	2-034	4	23	191.37
18	EN	1-038	6	1	8.30
19	EN	1-040	7	11	52.03
20	EN	1-042	7	15	97.50
20	M4	2-038	4	11	87.44
21	M4	2-040	4	19	185.06
21	EN	2-049	7	15	64.35
22	M4	2-042	4	22	110.88
22	EN	2-051	7	6	25.50
23	M4	2-044	4	8	79.32

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
24	M4	2-046	3	44	415.61
24	EN	2-055	7	32	241.28
25	M4	2-048	3	22	221.29
25	EN	2-057	7	28	140.00
26	M4	2-050	3	41	206.64
26	EN	2-059	6	42	191.52
27	EN	2-061	6	2	10.74
27	M4		3	26	272.25
28	M4	2-053	3	54	534.49
28	EN	2-063	6	44	199.32
29	EN	2-065	6	19	100.51
29	M4	2-054	3	128	934.25
30	M4	2-056	3	20	187.16
31	M4		3	39	223.47
31	EN	2-069	6	52	264.68
32	M4	3-060	3	29	269.68
32	EN	2-071	6	16	73.44
33	M4	3-062	3	108	1156.7
33	EN	2-073	6	3	15.54
34	EN	2-075	5	14	68.74
34	M4	3-064	3	56	455.27
35	EN	2-077	5	5	51.90
35	M4	3-066	3	129	1182.7
36	EN	2-079	5	7	76.86
36	M4	3-068	3	107	1024.9
37	M4	3-070	4	65	736.26
37	EN	2-081	5	2	9.56
38	EN	2-083	2	57	300.96
38	M4	3-072	4	66	686.35
39	M4	3-074	4	21	230.06
39	EN	2-085	1	9	88.74
40	EN	2-087	1	16	86.24
40	M4	3-076	4	70	419.30
41	EN		1	31	139.50
41	M4	3-078	4	30	174.90
42	EN	3-089	1	14	85.47
42	M4	3-080	4	5	26.30
43	EN	3-094	2	13	75.83
44	EN	3-096	2	18	76.32
45	EN	3-098	2	18	65.34
46	EN	3-100	5	5	41.50
47	EN	3-102	5	2	14.36
48	EN	3-104	5	10	52.10
49	EN	3-106	5	2	19.41
52	EN	3-114	5	16	71.68
52	JD	4-104	4	7	70.41
53	JD	4-106	9	61	539.07
53	M4	4-102	1	9	33.75

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	4-104	1	7	56.42
54	EN	3-120	4	1	7.32
55	EN	3-122	4	6	51.75
55	M4	4-106	5	6	41.53
56	JD	4-112	9	10	97.47
56	M4	4-108	5	7	27.16
56	EN	3-124	3	14	145.76
57	EN	3-126	3	12	74.94
57	M4	4-110	5	9	38.07
57	JD	4-114	9	8	80.98
58	M4	4-112	5	1	3.50
58	EN		3	34	313.68
58	JD	4-116	9	6	46.50
59	JD	4-118	4	10	48.48
59	EN		3	230	1587.0
59	M4	4-114	5	1	9.28
60	M4	4-116	5	1	8.85
60	JD	4-120	4	18	160.00
60	EN		3	38	282.19
61	JD	4-122	3	13	112.52
61	EN	4-131	3	18	141.87
61	M4	4-118	5	3	17.92
62	EN	4-133	3	31	94.06
63	EN	4-135	8	14	124.35
64	EN	4-137	9	19	166.05
64	M4	4-124	5	9	65.14
65	M4	4-126	5	33	127.38
65	EN	4-139	9	39	322.35
66	EN	4-141	9	2	11.66
66	M4	4-128	5	65	242.45
67	M4	4-130	2	18	75.78
68	EN	4-147	8	1	4.63
68	M4	4-132	2	9	44.28
69	M4	4-134	2	13	52.39
69	EN	4-151	8	2	18.71
70	EN	4-153	8	11	109.52
70	M4	4-136	2	12	50.04
71	EN	4-155	8	22	163.44
71	M4	4-138	2	17	65.79
72	EN	5-156	8	19	199.30
72	M4	4-142	2	19	77.71
73	M4	4-144	2	5	18.75
73	EN		8	14	91.88
74	M4	4-146	2	1	3.86
74	EN	5-159	8	49	442.05
75	EN	5-161	8	16	150.89
75	M4	4-148	2	11	46.09
76	M4	4-150	1	44	183.48

Diogenichthys laternatus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
77	M4	4-152	1	21	90.93
78	M4	5-154	1	4	33.91
79	EN	5-168	8	5	48.13
79	M4	5-156	1	9	72.77
80	M4	5-158	2	1	4.33
81	M4	5-160	5	3	28.89
81	EN	5-172	8	10	77.58
82	EN	5-174	8	5	22.15
82	M4	5-162	5	23	109.94
83	M4	5-164	5	14	112.21
83	EN	5-176	8	12	119.26
84	EN	5-178	8	48	544.20
84	M4	5-166	5	8	66.78
85	M4	5-168	5	10	84.20
85	EN	5-180	8	23	100.37
86	EN	5-182	3	33	382.96
86	M4	5-170	6	8	63.11
87	EN	5-184	3	21	328.58
88	M4	5-174	6	16	62.88
89	M4	5-176	6	50	205.00
90	M4	5-178	6	4	33.57
91	M4	5-180	6	9	36.90

Gonichthys tenuiculus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	1	4.53
3	M4	1-005	2	2	9.50
4	EN	1-007	3	3	22.79
4	M4	1-007	2	1	4.80
6	M4	1-011	5	2	9.22
7	M4		4	2	19.15
28	EN	2-063	6	3	13.59
29	M4	2-054	3	1	7.30
52	EN	3-114	5	2	8.96
59	JD	4-118	4	1	4.85
61	EN	4-131	3	1	7.88
62	EN	4-133	3	3	9.10
64	M4	4-124	5	1	7.24
68	EN	4-147	8	1	4.63
69	EN	4-151	8	1	9.35
70	M4	4-136	2	2	8.34
71	EN	4-155	8	1	7.43
72	M4	4-142	2	1	4.09
74	EN	5-159	8	1	9.02
86	M4	5-170	6	1	7.89
91	M4	5-180	6	1	4.10

Hygophum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
38	EN	2-083	2	4	21.12
71	EN	4-155	8	4	29.72
73	EN		8	4	26.25

Hygophum atratum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	2	9.06
3	M4	1-005	2	46	218.50
4	M4	1-007	2	17	81.60
5	M4	1-009	2	22	201.49
22	M4	2-042	4	3	15.12
38	EN	2-083	2	3	15.84
43	EN	3-094	2	6	35.00
55	EN	3-122	4	1	8.62
58	JD	4-116	9	1	7.75
66	M4	4-128	5	1	3.73
68	M4	4-132	2	8	39.36
70	M4	4-136	2	12	50.04
70	EN	4-153	8	1	9.96
71	M4	4-138	2	36	139.32
71	EN	4-155	8	1	7.43
72	M4	4-142	2	21	85.89
73	M4	4-144	2	25	93.75
74	M4	4-146	2	12	46.32
74	EN	5-159	8	1	9.02
75	M4	4-148	2	12	50.28
76	M4	4-150	1	4	16.68
77	M4	4-152	1	14	60.62
82	M4	5-162	5	2	9.56

Hygophum proximum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	11	83.57
11	EN	1-024	10	2	25.08
18	EN	1-038	6	1	8.30
20	EN	1-042	7	4	26.00
21	EN	2-049	7	6	25.74
22	EN	2-051	7	21	89.25
23	EN	2-053	7	3	21.52
24	M4	2-046	3	3	28.34
24	EN	2-055	7	1	7.54
26	M4	2-050	3	4	20.16
26	EN	2-059	6	2	9.12
27	EN	2-061	6	13	69.81
29	EN	2-065	6	5	26.45
31	EN	2-069	6	2	10.18
34	M4	3-064	3	2	16.26
35	M4	3-066	3	2	18.34

Hygophum proximum (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	M4	3-068	3	1	9.58
41	M4	3-078	4	4	23.32
51	JD	4-102	4	3	21.10
55	JD	4-110	9	1	8.82
60	EN		3	1	7.43
60	JD	4-120	4	1	8.89
61	EN	4-131	3	7	55.17
61	JD	4-122	3	2	17.31
62	M4	4-120	5	2	10.92
62	EN	4-133	3	1	3.03
64	M4	4-124	5	6	43.42
65	EN	4-139	9	2	16.53
66	EN	4-141	9	3	17.49
67	M4	4-130	2	2	8.42
68	EN	4-147	8	1	4.63
70	M4	4-136	2	1	4.17
73	M4	4-144	2	1	3.75
85	M4	5-168	5	6	50.52
86	M4	5-170	6	5	39.44
87	M4	5-172	6	4	39.42
88	M4	5-174	6	16	62.88
89	M4	5-176	6	1	4.10
91	M4	5-180	6	23	94.30

Hygophum reinhardtii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	EN	1-036	6	1	7.25
37	EN	2-081	5	3	14.34
44	EN	3-096	2	5	21.20
45	EN	3-098	2	11	39.93
65	EN	4-139	9	1	8.27
67	EN	4-145	8	1	10.38
68	EN	4-147	8	8	37.04
69	EN	4-151	8	3	28.06
70	EN	4-153	8	3	29.87
71	EN	4-155	8	11	81.72

Loweina rara

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
68	M4	4-132	2	1	4.92
68	EN	4-147	8	1	4.63
69	EN	4-151	8	1	9.35
84	M4	5-166	5	1	8.35

Myctophum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	M4	3-078	4	1	5.83
69	M4	4-134	2	1	4.03

Myctophum spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
87	M4	5-172	6	1	9.85
88	M4	5-174	6	6	23.58

Myctophum asperum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
21	M4	2-040	4	1	9.74
22	M4	2-042	4	2	10.08
41	M4	3-078	4	2	11.66
50	EN	3-108	5	1	10.87
57	M4	4-110	5	4	16.92
64	M4	4-124	5	4	28.95
86	M4	5-170	6	2	15.78
88	M4	5-174	6	15	58.95

Myctophum aurolaternatum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
5	EN	1-010	4	1	7.68
6	M4	1-011	5	8	36.88
7	M4		4	1	9.57
10	M4	1-018	4	1	5.07
13	M4	1-024	4	1	5.09
16	EN	1-034	6	1	6.34
25	M4	2-048	3	1	10.06
29	M4	2-054	3	1	7.30
29	EN	2-065	6	1	5.29
30	M4	2-056	3	1	9.36
32	M4	3-060	3	1	9.30
32	EN	2-071	6	1	4.59
34	M4	3-064	3	1	8.13
36	M4	3-068	3	1	9.58
38	EN	2-083	2	1	5.28
46	EN	3-100	5	1	8.30
47	EN	3-102	5	1	7.18
53	M4	4-102	1	3	11.25
54	M4	4-104	1	5	40.30
56	M4	4-108	5	1	3.88
57	JD	4-114	9	1	10.12
65	EN	4-139	9	2	16.53
67	M4	4-130	2	1	4.21
71	M4	4-138	2	1	3.87
76	M4	4-150	1	1	4.17
79	M4	5-156	1	2	16.17
88	M4	5-174	6	1	3.93
89	M4	5-176	6	6	24.60
91	M4	5-180	6	1	4.10

Myctophum lychnobium

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85

Myctophum nitidulum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	2	9.50
4	EN	1-007	3	5	37.99
18	EN	1-038	6	1	8.30
22	M4	2-042	4	1	5.04
26	M4	2-050	3	3	15.12
30	M4	2-056	3	1	9.36
53	JD	4-106	9	3	26.51
57	JD	4-114	9	2	20.25
58	M4	4-112	5	1	3.50
61	JD	4-122	3	1	8.66
62	EN	4-133	3	2	6.07
69	EN	4-151	8	1	9.35
70	EN	4-153	8	2	19.91
71	EN	4-155	8	4	29.72
87	EN	5-184	3	1	15.65
88	M4	5-174	6	2	7.86
91	M4	5-180	6	3	12.30

Myctophum selenops

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
65	EN	4-139	9	1	8.27

Protomyctophum crockeri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	2	9.06
2	M4	1-003	2	2	8.06

Symbolophorus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
71	EN	4-155	8	7	52.00

Symbolophorus californiensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
2	M4	1-003	2	1	4.03

Symbolophorus evermanni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	14	106.37
16	EN	1-034	6	1	6.34
17	EN	1-036	6	1	7.25
18	EN	1-038	6	1	8.30
20	EN	1-042	7	1	6.50
21	M4	2-040	4	3	29.22

Symbolophorus evermanni (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
21	EN	2-049	7	9	38.61
22	M4	2-042	4	6	30.24
22	EN	2-051	7	1	4.25
24	M4	2-046	3	6	56.67
25	EN	2-057	7	1	5.00
26	EN	2-059	6	2	9.12
27	EN	2-061	6	18	96.66
28	EN	2-063	6	1	4.53
29	M4	2-054	3	1	7.30
29	EN	2-065	6	1	5.29
31	EN	2-069	6	5	25.45
32	M4	3-060	3	1	9.30
32	EN	2-071	6	1	4.59
33	M4	3-062	3	2	21.42
34	M4	3-064	3	1	8.13
35	M4	3-066	3	3	27.50
40	M4	3-076	4	3	17.97
49	EN	3-106	5	1	9.70
55	JD	4-110	9	1	8.82
56	M4	4-108	5	1	3.88
60	JD	4-120	4	1	8.89
61	JD	4-122	3	1	8.66
62	M4	4-120	5	2	10.92
64	M4	4-124	5	16	115.80
65	EN	4-139	9	3	24.80
66	M4	4-128	5	1	3.73
67	M4	4-130	2	2	8.42
67	EN	4-145	8	1	10.38
68	M4	4-132	2	3	14.76
68	EN	4-147	8	1	4.63
69	EN	4-151	8	1	9.35
70	EN	4-153	8	1	9.96
71	EN	4-155	8	8	59.43
71	M4	4-138	2	1	3.87
84	EN	5-178	8	1	11.34
84	M4	5-166	5	8	66.78
85	EN	5-180	8	1	4.36
85	M4	5-168	5	6	50.52
86	M4	5-170	6	3	23.66
87	EN	5-184	3	1	15.65
88	M4	5-174	6	3	11.79
89	M4	5-176	6	5	20.50
91	M4	5-180	6	8	32.80

Desmodema lorum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
65	M4	4-126	5	1	3.86

Trachipterus altivelis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	EN	2-051	7	1	4.25

Trachipterus fukuzakii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
60	JD	4-120	4	1	8.89
64	M4	4-124	5	1	7.24
84	M4	5-166	5	1	8.35
88	M4	5-174	6	1	3.93

Zu cristatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
55	JD	4-110	9	1	8.82
86	EN	5-182	3	1	11.60

Bregmaceros spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	3	22.79
4	M4	1-007	2	4	19.20
5	M4	1-009	2	6	54.95
6	M4	1-011	5	1	4.61
7	M4		4	2	19.15
8	M4	1-014	4	2	19.38
10	M4	1-018	4	2	10.14
14	EN	1-030	6	1	8.99
15	M4	2-028	3	2	17.35
16	M4	2-030	3	3	27.75
16	EN	1-034	6	1	6.34
18	M4	2-034	4	3	24.96
18	EN	1-038	6	4	33.20
19	EN	1-040	7	1	4.73
20	M4	2-038	4	1	7.95
21	M4	2-040	4	2	19.48
21	EN	2-049	7	1	4.29
22	M4	2-042	4	7	35.28
23	M4	2-044	4	1	9.92
24	M4	2-046	3	1	9.45
24	EN	2-055	7	4	30.16
25	M4	2-048	3	6	60.35
26	M4	2-050	3	4	20.16
26	EN	2-059	6	3	13.68
27	M4		3	4	41.89
27	EN	2-061	6	7	37.59
28	EN	2-063	6	3	13.59
28	M4	2-053	3	9	89.08
29	EN	2-065	6	11	58.19
30	M4	2-056	3	2	18.72
31	EN	2-069	6	8	40.72
31	M4		3	1	5.73

Bregmaceros spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
32	M4	3-060	3	1	9.30
34	EN	2-075	5	5	24.55
34	M4	3-064	3	5	40.65
37	M4	3-070	4	2	22.65
38	EN	2-083	2	2	10.56
39	EN	2-085	1	3	29.58
41	EN		1	1	4.50
41	M4	3-078	4	1	5.83
42	EN	3-089	1	2	12.21
43	EN	3-094	2	2	11.67
44	EN	3-096	2	1	4.24
45	EN	3-098	2	4	14.52
48	EN	3-104	5	1	5.21
49	EN	3-106	5	7	67.92
50	EN	3-108	5	4	43.50
51	JD	4-102	4	1	7.03
52	EN	3-114	5	3	13.44
53	M4	4-102	1	1	3.75
54	EN	3-120	4	1	7.32
54	M4	4-104	1	4	32.24
55	EN	3-122	4	1	8.62
57	EN	3-126	3	1	6.25
57	M4	4-110	5	4	16.92
58	EN		3	1	9.23
59	EN		3	5	34.50
60	EN		3	1	7.43
60	JD	4-120	4	1	8.89
63	M4	4-122	5	2	6.62
64	EN	4-137	9	2	17.48
64	M4	4-124	5	20	144.75
65	M4	4-126	5	2	7.72
66	M4	4-128	5	1	3.73
67	EN	4-145	8	2	20.76
67	M4	4-130	2	1	4.21
68	EN	4-147	8	1	4.63
68	M4	4-132	2	3	14.76
69	M4	4-134	2	4	16.12
71	M4	4-138	2	6	23.22
71	EN	4-155	8	6	44.57
73	M4	4-144	2	1	3.75
74	M4	4-146	2	4	15.44
75	M4	4-148	2	1	4.19
76	M4	4-150	1	1	4.17
77	M4	4-152	1	2	8.66
79	M4	5-156	1	1	8.09
80	M4	5-158	2	1	4.33
81	M4	5-160	5	1	9.63
84	M4	5-166	5	1	8.35

Bregmaceros spp. (cont)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
85	M4	5-168	5	4	33.68
86	M4	5-170	6	9	70.99
87	M4	5-172	6	2	19.71
87	EN	5-184	3	1	15.65
88	M4	5-174	6	11	43.23
89	M4	5-176	6	2	8.20
90	M4	5-178	6	1	8.39
91	M4	5-180	6	11	45.10

Bregmaceros bathymaster

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	3	17.19
33	M4	3-062	3	1	10.71
39	M4	3-074	4	2	21.91
40	M4	3-076	4	1	5.99
41	EN		1	40	180.00
42	EN	3-089	1	11	67.15
52	EN	3-114	5	1	4.48
55	EN	3-122	4	1	8.62
73	EN		8	20	131.26
74	EN	5-159	8	17	153.37
75	EN	5-161	8	5	47.15
80	EN	5-170	8	1	10.70
81	EN	5-172	8	2	15.52

Macrouridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
8	EN	1-016	9	1	5.44
27	EN	2-061	6	1	5.37
33	M4	3-062	3	1	10.71

Moridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	M4	3-078	4	1	5.83

Merluccius gayi

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	EN	5-170	8	5	53.52

Ophidiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	1	5.73

Echiodon exsilium

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
60	JD	4-120	4	1	8.89

Antennarius spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	1	8.67

Melanocetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	M4	2-042	4	2	10.08

Melanocetus johnsoni

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
76	M4	4-150	1	1	4.17

Chaenophryne spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	EN	1-020	10	1	12.49

Dolopichthys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
6	EN	1-012	4	1	9.56
19	EN	1-040	7	1	4.73
22	M4	2-042	4	1	5.04

Oneirodes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	3	22.79
20	M4	2-038	4	1	7.95
26	M4	2-050	3	1	5.04
27	M4		3	1	10.47
32	EN	2-071	6	1	4.59
63	EN	4-135	8	1	8.88
67	M4	4-130	2	1	4.21
84	M4	5-166	5	1	8.35
85	M4	5-168	5	1	8.42

Gigantactis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
67	M4	4-130	2	1	4.21
82	M4	5-162	5	3	14.34

Borophryne spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	2-034	4	1	8.32

Cheilopogon xenopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	EN	2-065	6	1	5.29

Exocoetus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
86	EN	5-182	3	1	11.60
90	M4	5-178	6	1	8.39

Oxyporhamphus micropterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	EN	1-010	4	1	7.68
7	M4		4	1	9.57
12	M4	1-022	4	1	8.08
17	M4	2-032	3	1	8.74
18	M4	2-034	4	1	8.32
34	M4	3-064	3	1	8.13
35	M4	3-066	3	1	9.17
40	EN	2-087	1	1	5.39
43	EN	3-094	2	1	5.83
54	M4	4-104	1	1	8.06
55	M4	4-106	5	1	6.92
55	EN	3-122	4	1	8.62
58	EN		3	1	9.23
59	EN		3	1	6.90
71	M4	4-138	2	1	3.87
76	M4	4-150	1	2	8.34
77	M4	4-152	1	4	17.32
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
81	M4	5-160	5	2	19.26
82	M4	5-162	5	1	4.78
85	EN	5-180	8	1	4.36
86	EN	5-182	3	2	23.21

Melamphaidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	EN	1-042	7	1	6.50
32	EN	2-071	6	1	4.59
43	EN	3-094	2	2	11.67

Melamphaes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
5	M4	1-009	2	2	18.32
13	M4	1-024	4	1	5.09
16	M4	2-030	3	1	9.25
21	EN	2-049	7	1	4.29
22	M4	2-042	4	1	5.04
24	M4	2-046	3	3	28.34
24	EN	2-055	7	1	7.54
25	M4	2-048	3	1	10.06
25	EN	2-057	7	2	10.00
26	M4	2-050	3	5	25.20

Melamphaes spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	EN	2-059	6	4	18.24
28	M4	2-053	3	3	29.69
28	EN	2-063	6	1	4.53
29	EN	2-065	6	1	5.29
29	M4	2-054	3	9	65.69
30	M4	2-056	3	4	37.43
31	EN	2-069	6	2	10.18
31	M4		3	2	11.46
32	EN	2-071	6	1	4.59
33	M4	3-062	3	2	21.42
34	EN	2-075	5	2	9.82
34	M4	3-064	3	2	16.26
35	M4	3-066	3	2	18.34
35	EN	2-077	5	1	10.38
36	M4	3-068	3	3	28.74
37	M4	3-070	4	1	11.33
38	M4	3-072	4	1	10.40
41	EN		1	1	4.50
41	M4	3-078	4	2	11.66
46	EN	3-100	5	2	16.60
53	M4	4-102	1	4	15.00
55	EN	3-122	4	1	8.62
55	JD	4-110	9	1	8.82
56	JD	4-112	9	1	9.75
57	JD	4-114	9	1	10.12
57	M4	4-110	5	1	4.23
58	EN		3	1	9.23
60	JD	4-120	4	1	8.89
65	M4	4-126	5	2	7.72
66	EN	4-141	9	1	5.83
67	M4	4-130	2	3	12.63
70	M4	4-136	2	1	4.17
71	EN	4-155	8	1	7.43
72	M4	4-142	2	2	8.18
72	EN	5-156	8	2	20.98
74	EN	5-159	8	1	9.02
85	EN	5-180	8	1	4.36
86	M4	5-170	6	1	7.89
86	EN	5-182	3	1	11.60
89	M4	5-176	6	2	8.20
90	M4	5-178	6	1	8.39

Melamphaes lugubris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	2	9.06
3	M4	1-005	2	1	4.75

Poromitra crassiceps

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-018	4	1	5.07
15	M4	2-028	3	1	8.67
37	EN	2-081	5	2	9.56
47	EN	3-102	5	1	7.18
61	EN	4-131	3	1	7.88
87	EN	5-184	3	1	15.65

Scopeloberyx robustus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	EN	2-079	5	1	10.98

Scopelogadus bispinosus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-009	2	3	27.48
8	EN	1-016	9	1	5.44
12	M4	1-022	4	1	8.08
13	M4	1-024	4	3	15.27
17	M4	2-032	3	2	17.49
18	M4	2-034	4	1	8.32
24	EN	2-055	7	1	7.54
25	EN	2-057	7	2	10.00
26	EN	2-059	6	5	22.80
27	EN	2-061	6	2	10.74
27	M4		3	1	10.47
29	EN	2-065	6	1	5.29
29	M4	2-054	3	5	36.49
31	EN	2-069	6	2	10.18
32	M4	3-060	3	1	9.30
32	EN	2-071	6	2	9.18
33	EN	2-073	6	1	5.18
34	M4	3-064	3	2	16.26
34	EN	2-075	5	7	34.37
35	EN	2-077	5	1	10.38
35	M4	3-066	3	1	9.17
36	EN	2-079	5	1	10.98
37	EN	2-081	5	4	19.12
38	EN	2-083	2	3	15.84
38	M4	3-072	4	1	10.40
40	EN	2-087	1	1	5.39
41	EN		1	2	9.00
41	M4	3-078	4	2	11.66
45	EN	3-098	2	1	3.63
49	EN	3-106	5	1	9.70
52	JD	4-104	4	1	10.06
53	M4	4-102	1	1	3.75
55	M4	4-106	5	1	6.92
57	EN	3-126	3	4	24.98
57	M4	4-110	5	1	4.23

Scopelogadus bispinosus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
58	EN	3	2	18.45	
60	EN	3	4	29.70	
61	EN	4-131	3	2	15.76
62	EN	4-133	3	2	6.07
63	EN	4-135	8	1	8.88
65	EN	4-139	9	2	16.53
66	M4	4-128	5	2	7.46
67	M4	4-130	2	1	4.21
68	EN	4-147	8	1	4.63
70	EN	4-153	8	2	19.91
74	EN	5-159	8	1	9.02
76	M4	4-150	1	1	4.17
77	M4	4-152	1	1	4.33
78	M4	5-154	1	1	8.48
79	EN	5-168	8	1	9.63
81	M4	5-160	5	1	9.63
82	M4	5-162	5	1	4.78
87	EN	5-184	3	1	15.65

Sargocentron suborbitalis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
32	M4	3-060	3	1	9.30

Scorpaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	EN	2-069	6	1	5.09
38	EN	2-083	2	1	5.28

Pontinus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	4	34.70
85	EN	5-180	8	1	4.36

Pontinus sierra

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
36	M4	3-068	3	1	9.58

Scorpaenodes xyris

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
13	M4	1-024	4	1	5.09
59	JD	4-118	4	1	4.85
74	M4	4-146	2	1	3.86

Triglidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
80	EN	5-170	8	1	10.70

Howella spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
24	EN	2-055	7	1	7.54
63	M4	4-122	5	3	9.93
64	M4	4-124	5	2	14.47
86	M4	5-170	6	1	7.89
87	M4	5-172	6	1	9.85
88	M4	5-174	6	2	7.86

Howella pammelas

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	EN	1-032	6	1	4.23
16	EN	1-034	6	1	6.34
21	M4	2-040	4	1	9.74
22	M4	2-042	4	1	5.04
23	EN	2-053	7	1	7.17
24	M4	2-046	3	2	18.89
27	M4		3	1	10.47
31	EN	2-069	6	2	10.18
34	M4	3-064	3	1	8.13
41	M4	3-078	4	2	11.66
48	EN	3-104	5	1	5.21
49	EN	3-106	5	1	9.70
56	JD	4-112	9	1	9.75
56	M4	4-108	5	1	3.88
60	JD	4-120	4	6	53.33
61	JD	4-122	3	1	8.66
65	EN	4-139	9	1	8.27
66	EN	4-141	9	1	5.83
87	M4	5-172	6	1	9.85
88	M4	5-174	6	1	3.93

Serraninae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	5	22.50

Diplectrum spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	1	8.67

Hemanthias peruanus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	2	11.46

Pronotogrammus multifasciatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
44	EN	3-096	2	1	4.24

Opisthognathidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
73	EN		8	1	6.56

Apogon spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	EN	1-010	4	1	7.68

Caulolatilus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
27	M4		3	1	10.47

Remora spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	1	8.67

Carangidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	EN	2-063	6	1	4.53
33	M4	3-062	3	1	10.71
41	EN		1	2	9.00
43	EN	3-094	2	1	5.83

Caranx spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	1	5.73
32	M4	3-060	3	1	9.30
39	M4	3-074	4	1	10.96
71	EN	4-155	8	3	22.29

Naucrates ductor

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	M4	1-022	4	1	8.08
41	M4	3-078	4	1	5.83

Coryphaena equiselis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	M4	2-038	4	1	7.95
22	EN	2-051	7	1	4.25
28	M4	2-053	3	1	9.90
55	M4	4-106	5	1	6.92
58	EN		3	1	9.23
63	M4	4-122	5	1	3.31
67	M4	4-130	2	3	12.63

Coryphaena hippurus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
5	M4	1-009	2	1	9.16
10	M4	1-018	4	1	5.07
15	EN	1-032	6	1	4.23

Coryphaena hippurus (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
20	EN	1-042	7	1	6.50
26	M4	2-050	3	1	5.04
40	M4	3-076	4	1	5.99
42	EN	3-089	1	1	6.10
44	EN	3-096	2	1	4.24
54	M4	4-104	1	2	16.12
68	M4	4-132	2	1	4.92
77	M4	4-152	1	1	4.33
79	M4	5-156	1	2	16.17
80	M4	5-158	2	1	4.33
83	M4	5-164	5	1	8.02

Brama spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
16	EN	1-034	6	1	6.34

Brama dussumieri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
22	M4	2-042	4	2	10.08
66	EN	4-141	9	1	5.83
67	M4	4-130	2	1	4.21
67	EN	4-145	8	2	20.76

Taractichthys steindachneri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
63	M4	4-122	5	1	3.31

Caristius maderensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
51	JD	4-102	4	1	7.03
55	JD	4-110	9	1	8.82
64	EN	4-137	9	1	8.74

Lutjanus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	1	4.50

Gerreidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	5	22.50

Haemulidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	1	4.50

Sciaenidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	2	9.00
79	EN	5-168	8	3	28.88

Polydactylus approximans

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	5	22.50

Mugil spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	2	9.00

Pomacentridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
71	EN	4-155	8	1	7.43

Labridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
31	M4		3	1	5.73
41	EN		1	1	4.50

Thalassoma spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
25	M4	2-048	3	1	10.06
53	M4	4-102	1	1	3.75
60	EN		3	1	7.43
77	M4	4-152	1	1	4.33

Xyrichtys spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	1	4.50
54	M4	4-104	1	1	8.06

Xyrichtys mundiceps

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	2	15.20
28	M4	2-053	3	3	29.69
41	EN		1	1	4.50
42	EN	3-089	1	5	30.52
74	M4	4-146	2	1	3.86
77	M4	4-152	1	1	4.33

Chiasmodon niger

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	3	13.59
4	EN	1-007	3	1	7.60
12	EN	1-026	10	1	11.08
20	EN	1-042	7	1	6.50

Chiasmodon niger (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
25	EN	2-057	7	1	5.00
31	EN	2-069	6	1	5.09
34	EN	2-075	5	1	4.91
41	M4	3-078	4	1	5.83
54	EN	3-120	4	1	7.32
58	EN		3	1	9.23
66	M4	4-128	5	1	3.73
67	M4	4-130	2	1	4.21
68	M4	4-132	2	1	4.92
70	M4	4-136	2	1	4.17
77	M4	4-152	1	1	4.33
85	EN	5-180	8	3	13.09

Ammodytoides gilli

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
43	EN	3-094	2	1	5.83

Eleotridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	4	30.39
15	M4	2-028	3	3	26.02
16	M4	2-030	3	1	9.25
17	M4	2-032	3	1	8.74
41	EN		1	45	202.50
42	EN	3-089	1	2	12.21
55	EN	3-122	4	2	17.25
57	EN	3-126	3	3	18.74
77	M4	4-152	1	9	38.97
78	M4	5-154	1	11	93.24
86	EN	5-182	3	1	11.60
87	EN	5-184	3	1	15.65

Gobiidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	13	98.77
12	M4	1-022	4	1	8.08
13	M4	1-024	4	2	10.18
15	M4	2-028	3	5	43.37
17	M4	2-032	3	1	8.74
28	M4	2-053	3	4	39.59
29	M4	2-054	3	2	14.60
30	M4	2-056	3	2	18.72
31	M4		3	2	11.46
32	M4	3-060	3	5	46.50
33	M4	3-062	3	1	10.71
41	EN		1	1	4.50
42	EN	3-089	1	1	6.10
43	EN	3-094	2	1	5.83

Gobiidae (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
53	M4	4-102	1	1	3.75
58	JD	4-116	9	1	7.75
58	EN		3	1	9.23
59	EN		3	7	48.30
79	M4	5-156	1	1	8.09

Acanthurus triostegus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
40	M4	3-076	4	1	5.99

Diplospinus multistriatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
67	M4	4-130	2	4	16.84
68	EN	4-147	8	1	4.63
69	EN	4-151	8	2	18.71
71	EN	4-155	8	5	37.15

Gempylus serpens

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	1	4.80
20	M4	2-038	4	1	7.95
40	M4	3-076	4	1	5.99
41	M4	3-078	4	1	5.83
50	EN	3-108	5	1	10.87
61	JD	4-122	3	1	8.66
66	M4	4-128	5	3	11.19
67	M4	4-130	2	2	8.42
68	M4	4-132	2	1	4.92
69	M4	4-134	2	1	4.03
74	M4	4-146	2	1	3.86
76	M4	4-150	1	1	4.17
79	M4	5-156	1	1	8.09
80	M4	5-158	2	1	4.33
84	M4	5-166	5	1	8.35
85	EN	5-180	8	2	8.73
88	M4	5-174	6	1	3.93

Lepidocybium flavobrunneum

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
21	EN	2-049	7	1	4.29
89	M4	5-176	6	1	4.10

Nealotus tripes

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	3	22.79
7	EN	1-014	4	1	10.60
15	M4	2-028	3	3	26.02
24	EN	2-055	7	1	7.54

Nealotus tripes (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
26	M4	2-050	3	1	5.04
26	EN	2-059	6	1	4.56
28	M4	2-053	3	1	9.90
29	M4	2-054	3	5	36.49
30	M4	2-056	3	4	37.43
31	EN	2-069	6	1	5.09
32	M4	3-060	3	3	27.90
32	EN	2-071	6	1	4.59
33	EN	2-073	6	1	5.18
51	JD	4-102	4	1	7.03
52	EN	3-114	5	1	4.48
57	M4	4-110	5	3	12.69
60	JD	4-120	4	1	8.89
61	EN	4-131	3	1	7.88
62	EN	4-133	3	2	6.07
64	M4	4-124	5	1	7.24
85	M4	5-168	5	3	25.26
86	EN	5-182	3	1	11.60
87	EN	5-184	3	2	31.29
91	M4	5-180	6	2	8.20

Trichiurus lepturus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
33	M4	3-062	3	1	10.71

Istiophoridae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
54	M4	4-104	1	1	8.06

Auxis spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
6	EN	1-012	4	1	9.56
8	EN	1-016	9	1	5.44
12	M4	1-022	4	2	16.15
13	M4	1-024	4	2	10.18
28	M4	2-053	3	1	9.90
28	EN	2-063	6	1	4.53
30	M4	2-056	3	1	9.36
32	M4	3-060	3	1	9.30
33	EN	2-073	6	1	5.18
33	M4	3-062	3	4	42.84
40	EN	2-087	1	2	10.78
41	EN		1	5	22.50
42	EN	3-089	1	2	12.21
53	M4	4-102	1	3	11.25
57	EN	3-126	3	2	12.49
59	EN		3	1	6.90
77	M4	4-152	1	1	4.33

Auxis spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
78	M4	5-154	1	2	16.95
82	M4	5-162	5	1	4.78

Euthynnus lineatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
77	M4	4-152	1	1	4.33

Katsuwonus pelamis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
32	EN	2-071	6	1	4.59
62	EN	4-133	3	1	3.03

Scomber japonicus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
71	EN	4-155	8	2	14.86
72	EN	5-156	8	1	10.49
73	EN		8	38	249.40
74	EN	5-159	8	3	27.06
75	EN	5-161	8	1	9.43
82	M4	5-162	5	1	4.78

Scomberomorus sierra

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	1	4.50

Thunnus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	M4	2-034	4	2	16.64
28	EN	2-063	6	1	4.53
61	JD	4-122	3	1	8.66

Nomeidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	3	14.40
30	M4	2-056	3	2	18.72
59	EN		3	1	6.90

Cubiceps baxteri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	EN	1-022	10	1	8.84
55	JD	4-110	9	1	8.82
62	M4	4-120	5	1	5.46
66	EN	4-141	9	1	5.83
69	M4	4-134	2	1	4.03
70	M4	4-136	2	2	8.34
71	EN	4-155	8	1	7.43
91	M4	5-180	6	1	4.10

Cubiceps pauciradiatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
3	M4	1-005	2	6	28.50
4	EN	1-007	3	5	37.99
5	EN	1-010	4	2	15.36
7	M4		4	6	57.44
8	EN	1-016	9	2	10.88
8	M4	1-014	4	2	19.38
10	M4	1-018	4	17	86.19
12	M4	1-022	4	1	8.08
16	EN	1-034	6	3	19.01
20	M4	2-038	4	5	39.75
20	EN	1-042	7	1	6.50
21	M4	2-040	4	2	19.48
29	M4	2-054	3	1	7.30
31	M4		3	1	5.73
32	EN	2-071	6	1	4.59
34	EN	2-075	5	17	83.47
35	EN	2-077	5	6	62.28
36	EN	2-079	5	3	32.94
38	EN	2-083	2	3	15.84
39	EN	2-085	1	1	9.86
40	M4	3-076	4	1	5.99
41	M4	3-078	4	2	11.66
42	EN	3-089	1	6	36.63
45	EN	3-098	2	1	3.63
51	JD	4-102	4	1	7.03
54	M4	4-104	1	1	8.06
54	EN	3-120	4	4	29.28
57	M4	4-110	5	9	38.07
57	EN	3-126	3	1	6.25
59	EN		3	2	13.80
60	JD	4-120	4	4	35.56
61	EN	4-131	3	2	15.76
66	M4	4-128	5	4	14.92
73	M4	4-144	2	1	3.75
74	M4	4-146	2	14	54.04
75	M4	4-148	2	4	16.76
76	M4	4-150	1	7	29.19
77	M4	4-152	1	5	21.65
80	M4	5-158	2	5	21.65
81	M4	5-160	5	14	134.81
82	M4	5-162	5	16	76.48
83	M4	5-164	5	3	24.05
86	M4	5-170	6	1	7.89
86	EN	5-182	3	3	34.81
87	EN	5-184	3	1	15.65

Nomeus gronovii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
9	EN	1-020	10	2	24.98
10	M4	1-018	4	1	5.07

Psenes spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
68	M4	4-132	2	1	4.92

Psenes arafurensis

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
25	EN	2-057	7	1	5.00
86	M4	5-170	6	1	7.89

Psenes cyanophrys

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
38	M4	3-072	4	1	10.40

Psenes maculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
64	M4	4-124	5	1	7.24

Psenes pellucidus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-054	3	1	7.30
59	EN		3	1	6.90
78	M4	5-154	1	2	16.95
81	EN	5-172	8	1	7.76
87	EN	5-184	3	1	15.65

Psenes sio

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
17	M4	2-032	3	1	8.74
28	M4	2-053	3	1	9.90
55	M4	4-106	5	1	6.92
74	EN	5-159	8	2	18.04
75	EN	5-161	8	1	9.43
76	M4	4-150	1	3	12.51
82	EN	5-174	8	1	4.43

Tetragonurus cuvieri

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
1	M4		2	1	4.53

Cyclopsetta spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	M4	2-054	3	1	7.30

Cyclopsetta spp. (cont.)

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
41	EN		1	1	4.50
42	EN	3-089	1	1	6.10

Syacium spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	2	17.35
17	M4	2-032	3	3	26.23
20	M4	2-038	4	1	7.95
32	M4	3-060	3	2	18.60
41	EN		1	11	49.50
53	M4	4-102	1	2	7.50
56	EN	3-124	3	3	31.24
57	EN	3-126	3	7	43.72
58	EN		3	1	9.23
59	EN		3	1	6.90
74	M4	4-146	2	1	3.86
78	M4	5-154	1	1	8.48

Bothus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
12	M4	1-022	4	1	8.08
17	M4	2-032	3	1	8.74
29	M4	2-054	3	1	7.30
41	EN		1	1	4.50
61	M4	4-118	5	1	5.97
75	M4	4-148	2	1	4.19
77	M4	4-152	1	1	4.33

Monolene spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
10	M4	1-018	4	1	5.07
17	M4	2-032	3	2	17.49

Perissias taeniopterus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
28	M4	2-053	3	1	9.90

Symphurus spp.

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	2	17.35
32	M4	3-060	3	1	9.30
41	EN		1	2	9.00
53	M4	4-102	1	1	3.75
59	EN		3	1	6.90
78	M4	5-154	1	1	8.48
85	EN	5-180	8	1	4.36

Balistidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
16	EN	1-034	6	1	6.34

Canthidermis maculatus

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
15	M4	2-028	3	1	8.67

Monacanthidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
29	EN	2-065	6	1	5.29

Ostraciidae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	M4	1-007	2	1	4.80
7	M4		4	1	9.57

Lactoria fornasini

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
44	EN	3-096	2	1	4.24

Diodon eydouxii

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
81	M4	5-160	5	1	9.63

Disintegrated fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
18	EN	1-038	6	1	8.30
41	EN		1	3	13.50
60	EN		3	2	14.85
61	JD	4-122	3	1	8.66
66	EN	4-141	9	1	5.83
84	M4	5-166	5	1	8.35

Unidentified fish larvae

Tow Number	Ship Code	CTD Number	Region	Count	Count per 10m²
4	EN	1-007	3	1	7.60
5	M4	1-009	2	1	9.16
7	M4		4	2	19.15
7	EN	1-014	4	1	10.60
8	EN	1-016	9	1	5.44
8	M4	1-014	4	2	19.38
15	M4	2-028	3	1	8.67
20	M4	2-038	4	1	7.95
24	M4	2-046	3	1	9.45
26	M4	2-050	3	2	10.08
27	EN	2-061	6	1	5.37
29	M4	2-054	3	1	7.30

Unidentified fish larvae (cont.)

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

Unidentified fish larvae (cont.)

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

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

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

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

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

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

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

PHYLOGENETIC INDEX TO TABLES 4, 6, AND 10

ALPHABETICAL INDEX TO TABLES 4, 6, AND 10

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