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ICHTHYOPLANKTON AND STATION DATA FOR CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS SURVEY CRUISES IN 1998

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

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ABSTRACT

This report provides ichthyoplankton data and associated station and tow data from California Cooperative Oceanic Fisheries Investigations (CalCOFI) cruises conducted in the Southern California Bight region in 1998. It is the 38th report in a series that presents these data for all biological-oceanographic CalCOFI surveys from 1951 to the present. A total of 283 stations was occupied during quarterly cruises over the survey area which extended from Avila Beach (one cruise as far north as Monterey) to San Diego, California. Transects extended seaward in a southwesterly direction to a maximum of approximately 330 n. mi. The most seaward station, 90.0 120.0, was approximately 400 n. mi. west of Punta Baja, Baja California, Mexico. The data are listed in a series of four tables; the background, methodology, and information necessary for interpretation of the data are presented in an accompanying text. All pertinent station and tow data, including volumes of water strained and standard haul factors, are listed in the first table. Another table lists, by station and month, standardized counts of each of the 153 larval fish categories identified from survey samples. This series of reports makes the CalCOFI ichthyoplankton and station data available to all investigators and serves as a guide to the computer data base.

INTRODUCTION

This report, the 38th in the series, provides ichthyoplankton and associated station and tow data from California Cooperative Oceanic Fisheries Investigations (CalCOFI) joint biological-oceanographic survey cruises conducted in 1998. This program was initiated in 1949, under the sponsorship of the Marine Research Committee of the State of California, to study the population fluctuations of the Pacific sardine (*Sardinops sagax*) and the environmental factors that may play a role in these fluctuations. CalCOFI is a partnership among the Southwest Fisheries Science Center of the National Marine Fisheries Service (NMFS), the Scripps Institution of Oceanography (SIO), and the California Department of Fish and Game (CDFG). NMFS and SIO supply ships and personnel to conduct the sea surveys, NMFS processes the plankton samples and analyzes the ichthyoplankton from them. SIO processes and analyzes hydrographic and biological samples and analyzes invertebrate groups from the plankton samples.

The boundaries, station placement, and sampling frequency for the CalCOFI surveys were based on the results of joint biological-oceanographic cruises conducted by NMFS and SIO during 1939–41. Originally, CalCOFI cruises were designed to collect sardine eggs and larvae and associated hydrographic data over the entire areal and seasonal spawning range of the species. From 1951 to 1960 the surveys were annual with cruises conducted monthly. The survey area was occupied quarterly during 1961–1965 and in 1966 the surveys became triennial with monthly cruises. Beginning in 1985 annual surveys were resumed, with quarterly cruises occupying only the Southern California Bight region (see Hewitt 1988 and Moser et al. 1993, 1994 for summaries of CalCOFI historical sampling effort).

Hydrographic and biological data from CalCOFI surveys in 1998 have been published by the Scripps Institution of Oceanography (Univ. of Calif., SIO 1999). All available records for all four 1998 CalCOFI surveys were verified and edited to produce this ichthyoplankton data report. These reports make the CalCOFI ichthyoplankton and station data available to all investigators and serve as guides to the computer data base. They are the basic documents against which changes in the data base can be compared as it is modified to correct errors and update earlier identifications. Citations for previous reports in this series are:

Survey	Report	Survey	Report
1951	Ambrose et al. 1987a	1972	Sumida et al. 1988c
1952	Sandknop et al. 1987a	1975	Ambrose et al. 1988c
1953	Stevens et al. 1987a	1978	Sandknop et al. 1988d
1954	Sumida et al. 1987a	1981	Ambrose et al. 1988d
1955	Ambrose et al. 1987b	1984	Stevens et al. 1990
1956	Stevens et al. 1987b	1985	Ambrose et al. 1999a
1957	Sumida et al. 1987b	1986	Charter et al. 1999a
1958	Sandknop et al. 1987b	1987	Sandknop et al. 1999a
1959	Stevens et al. 1987c	1988	Watson et al. 1999a
1960	Ambrose et al. 1987c	1989	Ambrose et al. 1999b
1961	Sandknop et al. 1988a	1990	Charter et al. 1999b
1962	Sumida et al. 1988a	1991	Sandknop et al. 1999b
1963	Ambrose et al. 1988a	1992	Watson et al. 1999b
1964	Sandknop et al. 1988b	1993	Ambrose et al. 1999c
1965	Stevens et al. 1988a	1994	Charter et al. 1999c
1966	Sumida et al. 1988b	1995	Sandknop et al. 1999c
1967	Ambrose et al. 1988b	1996	Watson et al. 1999c
1968	Sandknop et al. 1988c	1997	Ambrose et al. 1999d
1969	Stevens et al. 1988b		

SAMPLING AREA AND PATTERN

A total of 283 standard CalCOFI survey stations was occupied on four cruises in 1998, employing two research vessels:

9802, RV *David Starr Jordan*, 63 stations, January 23–February 10;

9804, RV *David Starr Jordan*, 84 stations, April 2–21;

9807, RV *New Horizon*, 70 stations, July 9–25;

9809, RV *New Horizon*, 66 stations, September 13–27.

The core survey area extended from Avila Beach to San Diego, California and seaward on six survey lines

to approximately 120–330 n. mi (Cruise 9807 occupied seven lines, Cruise 9804 nine lines) (Figures 1and 2).[1] The most seaward station, 90.0 120.0, was approximately 400 n. mi. west of Punta Baja, Baja California, Mexico. On Cruise 9804, CalCOFI lines 66.7, 70.0, and 73.3 extended seaward to station 80.0. Line 70.0 extended to station 65.0 on Cruise 9807. On all cruises, lines 76.7 and 80.0 extended seaward to station 100.0, lines 83.3 and 86.7 extended to station 110.0, and lines 90.0 and 93.3 extended to station 120.0 (Figures 1and 2).

SAMPLING GEAR AND METHODS

In 1978, the standard 1-m ring net with towing bridle was replaced by a bridle-free "bongo" net. The bongo frame (McGowan and Brown 1966; Smith and Richardson 1977) consists of a pair of circular frames connected to a central axle. The axle is free to rotate so that the mouth openings are vertical during the tow. The standard CalCOFI net has 71 cm diameter frames and net material constructed of nylon mesh. Each net consists of a cylindrical section ~ 146 cm long, a truncated conical section ~ 161 cm long, and a detachable cod end. The starboard net, from which the standard sample is taken, is constructed of 0.505 mm mesh. The sample from the port side is used for other purposes; the mesh size is either 0.505 mm or 0.333 mm depending on requirements. The cod end of each net is constructed of 0.333 mm mesh.

The standard tow in 1998 was a double oblique haul to 210 m depth (to 15 m from the bottom in shallow areas) designed to filter a constant amount of water per depth interval (~ 2 m^3/m of depth) over 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 towing cable above a 34 kg weight suspended below the surface. The net was lowered to ~ 210 m depth by paying out 300 m of wire at 50 m/minute (35 m of depth/minute). After fishing at depth for 30 seconds, the net was retrieved at 20 m/minute (14 m of depth/minute). 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 samples preserved in 5% formalin buffered with sodium borate. At the beginning and end of each tow, readings were made from a flow meter suspended in the mouth of the starboard net. Detailed descriptions of gear and methods are given by Kramer et al. (1972) and Smith and Richardson (1977); Ohman and Smith (1995) provided summaries of historical CalCOFI zooplankton methods and calibration factors for the various gear types.

LABORATORY PROCEDURES

We determined a zooplankton displacement volume for each sample (methods described in Staff, SPFI 1953 and Kramer et al. 1972). Samples containing > 25 ml of plankton were fractioned to ~ 50% of their original volume. Aliquot percentages for fractioned samples are listed in Table 1 under the "Percent Sorted" column. Sorting involved the removal of ichthyoplankton from the samples and identification and separation of: eggs and larvae of Pacific sardine, northern anchovy, and Pacific saury and larvae of Pacific hake. Body lengths of sardine, anchovy, and hake larvae were measured to the nearest 0.5 mm.

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[1] Beginning in 1981 we changed our designation of ordinal survey lines (those ending in "3" and "7") to an exact decimal notation. Thus, lines 77, 83, 87, 93, etc. were changed to 76.7, 83.3, 86.7, 93.3, etc. to indicate the spacing between cardinal lines (those ending in "0"). Scripps Institution of Oceanography continues to use the original designation for ordinal lines (Figures 1and 2 and see Univ. of Calif., SIO 1997).

A standard haul factor (SHF) was calculated for each 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 produce one revolution of the current meter

Tow depth, volume of water strained, and standard haul factor are listed in Table 1 for each tow taken during 1998. Detailed descriptions of factors involved in calculating these values are presented in Ahlstrom (1948), Kramer et al. (1972), and Smith and Richardson (1977).

IDENTIFICATION

Identification of ichthyoplankton species beyond those separated during the sorting process was done by a separate group of specialists. Early ontogenetic stages of fishes are inherently difficult to identify and this is further complicated by the large number and diversity of species which contribute to the ichthyoplankton of the California Current region. Most identifications were accomplished 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). Our ability to identify larvae in the California Current region improved greatly during 1988–1995 as a result of an intensive research project aimed at producing a taxonomic monograph on the ontogenetic stages of fishes of this region (Moser 1996). Except for damaged specimens, most larvae in the 1998 surveys could be identified to species. A total of 153 larval fish categories (including unidentified and disintegrated) was identified for 1998:124 to species, 21 to genus, and 5 to family or subfamily, and 1 to order. Identifications were done in the Ichthyoplankton Ecology Laboratory of the Coastal Fisheries Resources Division by larval fish identification experts.

With few exceptions, taxonomic categories above species represent small specimens which were damaged and partly disintegrated during capture. The following taxonomic categories in Tables 2–4 require special explanation:

Cyclothone spp. – Small or damaged larvae, mostly *C. acclinidens* and/or *C. pseudopallida* lacking diagnostic characters.

Cyclothone acclinidens, C. pseudopallida – Larger larvae (primarily postflexion stage) having diagnostic pigmentation characters.

Diaphus spp. - *Diaphus theta* is the dominant *Diaphus* species in the survey area and most, if not all, of the larvae from the Southern California Bight region are this species; the generic category is used because a small proportion of the *Diaphus* larvae captured at the outer margin of the survey pattern may represent other species whose larvae are identical to those of *D. theta.*

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.

Howella spp. - larvae represent a single species, either *H. brodiei* or *H. sherborni*; taxonomy of the adult is unresolved.

Lampanyctus spp. - primarily small (< 5.0 mm) larvae of *L. ritteri* and *L. regalis*; Zahuranec (In Press) placed 17 species of *Lampanyctus* with small or absent pectoral fins in the genus *Nannobrachium*; four of these species occur in the current CalCOFI survey area (*L. regalis*, *L. ritteri*, and two undescribed species designated here by the descriptive names *Lampanyctus* "no pectorals" and *Lampanyctus* "niger").

Lyopsetta exilis - see comment for Pleuronectidae.

Microstoma spp. - larvae of a distinct but undescribed microstomatid species.

Paralepididae - small or damaged larvae, probably *Lestidiops ringens* lacking diagnostic characters.

Parophrys vetulus - see comment for Pleuronectidae.

Pleuronectidae - Sakamoto (1984) changed pleuronectid generic designations for species in the CalCOFI area as follows: 1) *Glyptocephalus zachirus* was changed to *Errex zachirus*; 2) *Isopsetta isolepis*, *Lepidopsetta bilineata*, and *Parophrys vetulus* were transferred into *Pleuronectes* and 3) *Lyopsetta exilis* was changed to *Eopsetta exilis*; although these changes were incorporated in the lists of Robins et al. (1991) and Eschmeyer (1998) we follow Nelson (1994) in retaining the older nomenclature because Sakamoto's (1984) changes were based on a phenetic study; also, the older names are used in the major identification guides to fishes of our region (Miller and Lea 1972, Eschmeyer et al. 1983, Matarese et al. 1989, and Moser 1996).

Sebastolobus spp. - larvae of this genus < 10 mm in length are not identifiable to species; larvae > 10 mm are identified as *S. alascanus* or *S. altivelis*.

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*, an eastern tropical Pacific species, is common in the present CalCOFI region whereas the central water mass species *V. poweriae* is encountered rarely, usually only at the most seaward CalCOFI stations; a small percentage of *V. poweriae* larvae may have been included in the *V. lucetia* category because of the difficulty in separating early larvae which often are virtually identical.

SPECIES SUMMARY

Of the five most abundant larvae in 1998, the Panama lightfish (*Vinciguerria lucetia*) ranked first in abundance and occurrence with 32.8% of the total larvae and 50.9% positive tows (Tables 2 and 3). The Pacific sardine (*Sardinops sagax*) ranked second in abundance with 22.6% of the total larvae and thirteenth in occurrence (25.8% of the samples). Northern anchovy (*Engraulis mordax*) ranked third with 15.9% of the larvae and fifth in occurrence (38.2% of the stations). The dogtooth lampfish (*Ceratoscopelus townsendi*) ranked fourth in abundance with 2.7% of the total larvae and ninth in frequency of occurrence with 33.6% positive tows. The northern lampfish (*Stenobrachius leucopsarus*) ranked fifth in abundance (2.2% of total larvae) and seventh in occurrence (35.0% positive tows). The next five most abundant taxa were the rockfish genus *Sebastes* (2.2% of total larvae), the Mexican lampfish *Triphoturus mexicanus* (2.0%), the snubnose blacksmelt *Bathylagus wesethi* (1.8%), the California smoothtongue *Leuroglossus stilbius* (1.7%), and the showy bristlemouth *Cyclothone signata* (1.4%). These species ranked 11th, 4th, 7th, 15th, and 6th in frequency of occurrence, respectively. The ten most abundant taxa comprised 85.3% of all the larvae collected on CalCOFI cruises in 1998. The remaining 14.7% was distributed among 146 other taxa (including the "disintegrated" and "unidentified" categories). Of the ten most abundant taxa, seven are midwater species, two are coastal pelagic species, and one is a coastal demersal taxon.

EXPLANATION OF TABLES

Table 1. This table lists for each tow the pertinent station and tow data, the volume of water filtered, the standard haul factor, the plankton volume, the percentage of sample sorted, and the total number of fish eggs and larvae. CalCOFI cruises are designated by four digits; the first two indicate the year and the second two the month. Within each cruise the data are listed in order of increasing line and station number (southerly and seaward directions); the order of station occupancy is shown on the station charts (Figures 1and 2). Stations are designated by two groups of numbers; the first set indicates the line and decimal fraction and the second set indicates the station and decimal fraction. Plankton displacement volumes were determined after removal of large organisms (those with individual displacement volumes > 5 ml) and expressed as ml per 1000 m^3 of water filtered. Time is listed as Pacific Standard Time at the start of each tow in 24-hour designation. The values for total fish eggs and larvae are raw counts (unadjusted for percent of sample sorted or standard haul factor). Ship codes are as follows: JD, *David Starr Jordan*; NH, *New Horizon*. The listings for station latitude and longitude in this table may differ from values given for the same station in the SIO data reports, reflecting the slight difference in position of the net tow and hydrocast. Dates given here and in Figures 1and 2 for the beginning and end of each cruise are based on Pacific Standard time at the first and last net tow station of the cruise and do not include transit time from port to the first station and to port after the last station. Thus, our cruise dates may differ slightly from those in SIO reports which are based on GMT prior to 1990 and include transit time to the first station and from the last station.

Table 2. Pooled occurrences of all larval fish taxa taken on CalCOFI survey cruises in 1998 listed in rank order.

Table 3. Pooled counts of all larval fish taxa taken on CalCOFI survey cruises in 1998 listed in rank order. Numbers are adjusted for percent sorted and standard haul factors.

Table 4. Numbers of fish larvae for each taxon, listed by station and calendar month of the tow. Counts are adjusted for percentage of sample sorted and standard haul factor. The orders are listed in phylogenetic sequence (Eschmeyer 1998).

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LITERATURE CITED

Ahlstrom, E. H. 1948. A record of pilchard eggs and larvae collected during surveys made in 1939 to 1941. U.S. Wildl. Serv. Spec. Sci. Rep. Fish. SSRF-54. 82 pp.

Ambrose, D. A., R. L. Charter, H. G. Moser, and C. R. Santos Methot. 1987a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1951. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-79. 196 pp.

Ambrose, D. A., R. L. Charter, H. G. Moser, and C. R. Santos Methot. 1987b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1955. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-83. 185 pp.

Ambrose, D. A., R. L. Charter, H. G.Moser, and C. R. Santos Methot. 1987c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1960. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-88. 253 pp.

Ambrose, D. A., R. L. Charter, H. G. Moser, and B. S. Earhart. 1988a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1963. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-94. 209 pp.

Ambrose, D. A., R. L. Charter, H. G.Moser, and B. S. Earhart. 1988b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1967. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-98. 103 pp.

Ambrose, D. A., R. L. Charter, H. G. Moser, and B. S. Earhart. 1988c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1975. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-110. 221 pp.

Ambrose, D. A., R. L. Charter, H. G. Moser, and B. S. Earhart. 1988d. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1981. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-112. 170 pp.

Ambrose, D. A., R. L. Charter, and H. G. Moser. 1999a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1985. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-266. 79 pp.

Ambrose, D. A., R. L. Charter, and H. G. Moser. 1999b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1989. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-270. 87 pp.

Ambrose, D. A., R. L. Charter, and H. G. Moser. 1999c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1993. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-274. 88 pp.

Ambrose, D. A., R. L. Charter, and H. G. Moser. 1999d. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1997. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-278. 86 pp.

Charter, S. R., R. L. Charter, and H. G. Moser. 1999a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1986. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-267. 79 pp.

Charter, S. R., R. L. Charter, and H. G. Moser. 1999b. Ichthyoplankton and station data for Calfornia Cooperative Oceanic Fisheries Investigations survey cruises in 1990. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-271. 86 pp.

Charter, S. R., R. L. Charter, and H. G. Moser. 1999c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1994. U. S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-275. 89 pp.

Eschmeyer, W. N. (ed.). 1998. Catalog of fishes. Center for Biodiversity Research and Information. California Academy of Sciences. Spec. Publ. 1. Vols. I-III. 2905 pp.

Eschmeyer, W. N., E. S. Herald, and H. Hammann. 1983. A field guide to Pacific coast fishes of North America. Houghton Mifflin Co. Boston. 336 pp.

Hewitt, R. P. 1988. Historical review of the oceanographic approach to fishery research. Calif. Coop. Oceanic Fish. Invest. Rep. 29:27-41.

Kramer, D., M. Kalin, E. G. Stevens, J. R. Thrailkill, and J. R. Zweifel. 1972. Collecting and processing data on fish eggs and larvae in the California Current Region. NOAA Tech. Rep. NMFS Circ. 370. 38 pp.

Matarese, A. C., A. W. Kendall, Jr., D. M. Blood, and B. M. Vinter. 1989. Laboratory guide to early life history stages of northeast Pacific fishes. U.S. Dep. Commer., NOAA Tech. Rep. NMFS 80. 652 pp.

McGowan, J. S. and D. M. Brown. 1966. A new opening-closing paired zooplankton net. Scripps Inst. Oceanogr. Ref. 66-23. 23 pp.

Miller, D. J. and R. N. Lea. 1972. Guide to the coastal marine fishes of California. Calif. Dep. Fish Game Fish Bull. 157. 235 pp.

Moser, H. G. (ed.). 1996. The early stages of fishes in the California Current region. CalCOFI Atlas 33. 1505 pp.

Moser, H. G., R. L. Charter, P. E. Smith, D. A. Ambrose, S. R. Charter, C. A. Meyer, E. M. Sandknop, and W. Watson. 1993. Distributional atlas of fish larvae and eggs in the California Current region: taxa with 1000 or more total larvae, 1951 through 1984. CalCOFI Atlas 31. 233 pp.

Moser, H. G., R. L. Charter, P. E. Smith, D. A. Ambrose, S. R. Charter, C. A. Meyer, E. M. Sandknop, and W. Watson. 1994. Distributional atlas of fish larvae in the California Current region: taxa with less than 1000 total larvae, 1951 through 1984. CalCOFI Atlas 32. 181 pp.

Nelson, J. S. 1994. Fishes of the world. Third edition. John Wiley and Sons, N.Y. 600 pp.

Ohman, M. D. and P. E. Smith. 1995. A comparison of zooplankton sampling methods in the CalCOFI time series. Calif. Coop. Oceanic Fish. Invest. Rep. 36:153-158.

Powles, H. and D. F. Markle. 1984. Identification of larvae. Pages 31-33 *in* H. G. Moser, W. J. Richards, D. M. Cohen, M. P. Fahay, A. W. Kendall, Jr., and S. L. Richardson, eds. Ontogeny and Systematics of Fishes. Am. Soc. Ichthyol. Herpetol. Spec. Publ. 1. 760 pp.

Robins, C. R., R. M. Bailey, C. E. Bond, J. R. Brooker, E. A. Lachner, R. N. Lea, and W. B. Scott. 1991. Common and scientific names of fishes from the United States and Canada. Fifth edition. Am. Fish. Soc. Spec. Publ. 20. 183 pp.

Sakamoto, K. 1984. Interrelationships of the family Pleuronectidae (Pisces: Pleuronectiformes). Mem. Fac. Fish. Hokkaido Univ. 31:95-215.

Sandknop, E. M., R. L. Charter, H. G. Moser, and J. D. Ryan. 1987a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1952. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-80. 207 pp.

Sandknop, E. M., R. L. Charter, H. G. Moser, and J. D. Ryan. 1987b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1958. U.S. Dep. Commer. NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-86. 248 pp.

Sandknop, E. M., R. L. Charter, H. G. Moser, C. A. Meyer, and A. E. Hays. 1988a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1961. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-92. 167 pp.

Sandknop, E. M., R. L. Charter, H. G. Moser, C. A. Meyer, and A. E. Hays. 1988b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1964. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-95. 222 pp.

Sandknop, E. M., R. L. Charter, H. G. Moser, C. A. Meyer, and A. E. Hays. 1988c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1968. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-99. 112 pp.

Sandknop, E. M., R. L. Charter, H. G. Moser, C. A. Meyer, and A. E. Hays. 1988d. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1978. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-111. 216 pp.

Sandknop, E. M., R. L. Charter, and H. G. Moser. 1999a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1987. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-268. 91 pp.

Sandknop, E. M., R. L. Charter, and H. G. Moser. 1999b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1991. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-272. 90 pp.

Sandknop, E. M., R. L. Charter, and H. G. Moser. 1999c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1995. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-276. 84 pp.

Smith, P. E. and S. L. Richardson. 1977. Standard techniques for pelagic fish egg and larva surveys. FAO Fish. Tech. Pap. 175. 100 pp.

Staff, South Pacific Fisheries Investigations. 1953. Zooplankton volumes off the Pacific Coast, 1952. U.S. Fish. Wildl. Serv. Spec. Sci. Rep. Fish. SSRF-100. 41 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and M. S. Busby. 1987a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1953. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-81. 186 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and M. S. Busby. 1987b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1956. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-84. 189 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and M. S. Busby. 1987c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1959. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-87. 273 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and L. R. Zins. 1988a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1965. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-96. 220 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and L. R. Zins. 1988b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1969. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-100. 265 pp.

Stevens, E. G., R. L. Charter, H. G. Moser, and C. A. Meyer. 1990. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1984. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-141. 157 pp.

Sumida, B. Y., R. L. Charter, H. G. Moser, and D. L. Snow. 1987a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1954. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-82. 207 pp.

Sumida, B. Y., R. L. Charter, H. G. Moser, and D. L. Snow. 1987b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1957. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-85. 225 pp.

Sumida, B. Y., R. L. Charter, H. G. Moser, and D. L. Snow. 1988a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1962. U.S. Dep. Commer., NOAA Tech. Memo, NOAA-TM-NMFS-SWFC-93. 179 pp.

Sumida, B. Y., R. L. Charter, H. G. Moser, and D. L. Snow. 1988b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1966. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-97. 287 pp.

Sumida, B. Y., R. L. Charter, H. G. Moser, and D. L. Snow. 1988c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1972. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-109. 219 pp.

University of California, Scripps Institution of Oceanography. 1999. Data Report. Physical, chemical and biological data. CalCOFI Cruise 9802, 23 January–14 February 1998, CalCOFI Cruise 9803, 11–17 March 1998, CalCOFI Cruise 9804, 2–23 April, 1998, CalCOFI Cruise 9805, 16–22 May 1998, and CalCOFI Cruise 9806, 17–23 June 1998. SIO Ref. 99-9. 160 pp.

Watson, W., R. L. Charter, and H. G. Moser. 1999a. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1988. U. S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-269. 88 pp.

Watson, W., R. L. Charter, and H. G. Moser. 1999b. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1992. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-273. 90 pp.

Watson, W., R. L. Charter, and H. G. Moser. 1999c. Ichthyoplankton and station data for California Cooperative Oceanic Fisheries Investigations survey cruises in 1996. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-277. 91 pp.

Zahuranec, B. J. In Press. Zoogeography and systematics of the lanternfishes of the genus *Nannobrachium* (Lampanyctini: Myctophidae). Smiths. Contrib. Zool. 607.

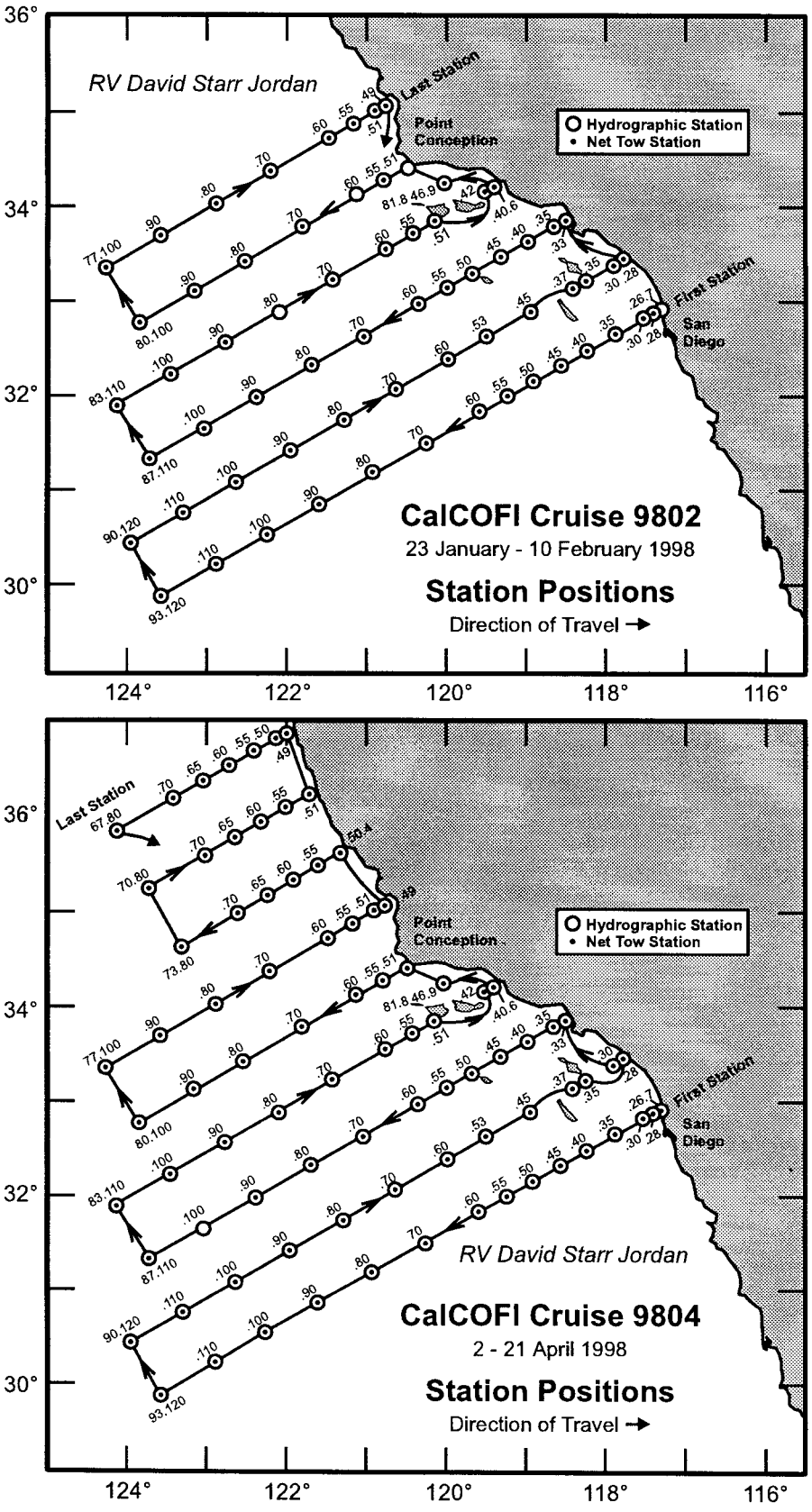

Figure 1. Stations and cruise tracks for CalCOFI cruises 9802 (above) and 9804 (below). Circles indicate hydrographic stations; dots indicate net tow stations.

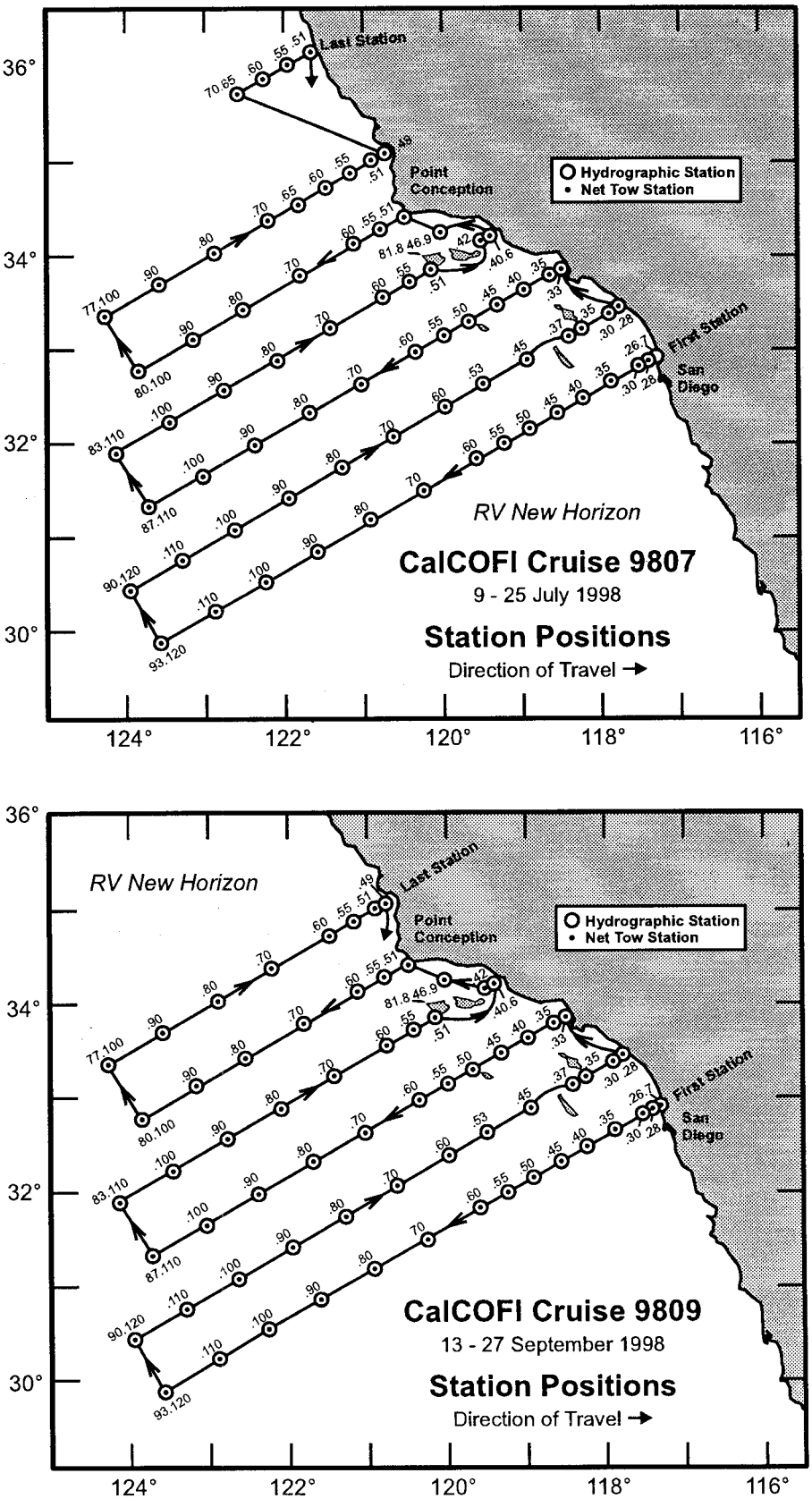

Figure 2. Stations and cruise tracks for CalCOFI cruises 9807 (above) and 9809 (below). Symbols as in Figure 1.

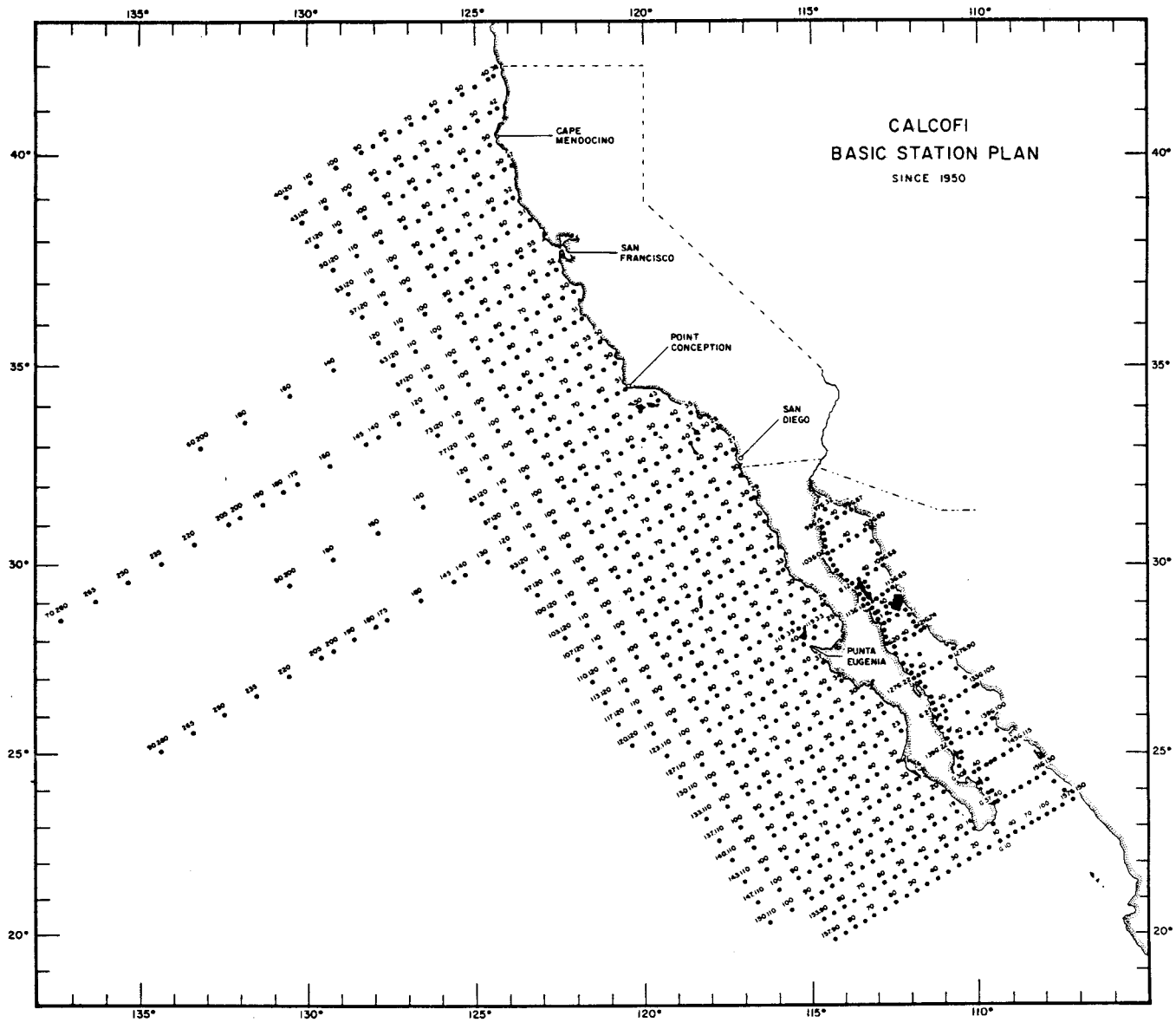

Figure 3. Basic station plan for CalCOFI Cruises.

TABLE 1. Station and plankton tow data for CalCOFI cruises in 1998. Counts for fish eggs and larvae are not adjusted for standard haul factor or percent of sample sorted. Plankton volume given as milliliters per 1000 cubic meters of water strained.

CalCOFI Cruise 9802

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.3	120	46.6	JD	98	02	10	1737	49	120	4.10	17	100.0	6	5
76.7	51.0	35	01.4	120	54.6	JD	98	02	10	1521	176	406	4.33	10	100.0	10	20
76.7	55.0	34	53.3	121	11.9	JD	98	02	10	0912	213	478	4.46	4	100.0	5	0
76.7	60.0	34	43.3	121	32.9	JD	98	02	10	0532	213	468	4.55	24	100.0	18	35
76.7	70.0	34	23.3	122	14.9	JD	98	02	09	2321	214	468	4.57	47	100.0	26	15
76.7	80.0	34	03.2	122	56.4	JD	98	02	09	1742	209	464	4.50	19	100.0	16	43
76.7	90.0	33	43.3	123	38.0	JD	98	02	09	0912	214	466	4.59	13	100.0	26	22
76.7	100.0	33	23.2	124	19.4	JD	98	02	09	0130	210	496	4.23	8	100.0	22	15
80.0	55.0	34	18.9	120	48.0	JD	98	02	07	0246	219	475	4.62	19	100.0	48	86
80.0	70.0	33	49.0	121	50.6	JD	98	02	07	1928	211	503	4.21	30	100.0	19	11
80.0	80.0	33	29.0	122	31.9	JD	98	02	08	0157	201	534	3.77	24	100.0	38	7
80.0	90.0	33	09.0	123	13.3	JD	98	02	08	0902	216	516	4.19	16	100.0	9	8
80.0	100.0	32	48.9	123	54.3	JD	98	02	08	1751	213	504	4.22	8	100.0	24	16
81.8	46.9	34	16.4	120	01.2	JD	98	02	05	1631	213	434	4.91	30	100.0	65	152
83.3	40.6	34	13.5	119	24.7	JD	98	02	05	1005	21	62	3.31	48	100.0	8	583
83.3	42.0	34	10.7	119	30.5	JD	98	02	05	0712	89	216	4.11	14	100.0	92	286
83.3	51.0	33	52.7	120	08.0	JD	98	02	05	0053	99	234	4.21	30	100.0	38	91
83.3	55.0	33	44.7	120	24.6	JD	98	02	04	2113	211	482	4.39	25	100.0	28	142
83.3	60.0	33	34.7	120	45.3	JD	98	02	04	1614	211	484	4.36	19	100.0	14	46
83.3	70.0	33	14.7	121	26.5	JD	98	02	04	0803	211	505	4.19	16	100.0	15	20
83.3	90.0	32	34.7	122	48.7	JD	98	02	02	0902	207	483	4.29	12	100.0	10	2
83.3	100.0	32	14.7	123	29.6	JD	98	02	02	0058	194	503	3.85	28	100.0	41	31
83.3	110.0	31	54.7	124	10.2	JD	98	02	01	1857	198	512	3.87	20	100.0	21	14
86.7	33.0	33	53.3	118	29.4	JD	98	01	29	1959	48	107	4.47	47	100.0	39	223
86.7	35.0	33	49.4	118	37.3	JD	98	01	29	2214	211	447	4.72	38	100.0	117	145
86.7	40.0	33	39.5	118	58.5	JD	98	01	30	0246	215	460	4.67	35	100.0	326	315
86.7	45.0	33	29.4	119	19.1	JD	98	01	30	0707	216	448	4.82	20	100.0	35	123
86.7	50.0	33	19.5	119	39.9	JD	98	01	30	1030	72	183	3.93	38	100.0	58	23
86.7	55.0	33	09.4	120	00.4	JD	98	01	30	1921	209	455	4.60	26	100.0	50	438
86.7	60.0	32	59.4	120	21.0	JD	98	01	31	0022	201	482	4.16	27	100.0	39	160

Table 1. (cont.)

CalCOFI Cruise 9802

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	70.0	32	39.5	121	01.9	JD	98	01	31	0906	211	446	4.73	20	100.0	13	27
86.7	80.0	32	19.5	121	42.8	JD	98	01	31	1735	212	476	4.44	27	100.0	7	14
86.7	90.0	31	59.4	122	23.6	JD	98	01	31	2323	211	476	4.44	27	100.0	12	0
86.7	100.0	31	39.4	123	04.2	JD	98	02	01	0541	212	472	4.49	19	100.0	8	56
86.7	110.0	31	19.4	123	44.6	JD	98	02	01	1238	212	460	4.61	9	100.0	12	57
90.0	28.0	33	29.1	117	46.1	JD	98	01	29	0910	47	102	4.61	49	100.0	49	181
90.0	30.0	33	25.1	117	54.3	JD	98	01	29	0513	209	433	4.83	35	100.0	98	113
90.0	35.0	33	14.9	118	14.9	JD	98	01	29	0123	216	435	4.97	60	100.0	128	231
90.0	37.0	33	11.1	118	23.2	JD	98	01	28	2300	213	447	4.77	60	100.0	144	147
90.0	45.0	32	55.1	118	56.1	JD	98	01	28	1753	212	449	4.72	29	100.0	52	145
90.0	53.0	32	39.1	119	28.9	JD	98	01	28	1223	209	442	4.74	16	100.0	39	286
90.0	60.0	32	25.1	119	57.6	JD	98	01	28	0648	215	457	4.71	13	100.0	34	68
90.0	70.0	32	05.1	120	38.3	JD	98	01	28	0058	215	440	4.90	30	100.0	32	26
90.0	80.0	31	45.1	121	18.9	JD	98	01	27	1854	212	459	4.62	26	100.0	26	11
90.0	90.0	31	25.1	121	59.4	JD	98	01	27	1258	209	456	4.60	37	100.0	6	15
90.0	100.0	31	05.1	122	39.8	JD	98	01	27	0617	211	483	4.37	29	100.0	18	27
90.0	110.0	30	45.1	123	19.9	JD	98	01	27	0034	210	464	4.52	26	100.0	35	87
90.0	120.0	30	25.2	124	00.0	JD	98	01	26	1851	214	456	4.70	15	100.0	22	20
93.3	26.7	32	57.3	117	18.3	JD	98	01	23	1252	212	426	4.97	56	100.0	34	3
93.3	28.0	32	54.8	117	23.7	JD	98	01	23	1613	211	432	4.88	37	100.0	29	9
93.3	30.0	32	50.8	117	31.9	JD	98	01	23	1903	210	433	4.85	55	100.0	60	4
93.3	35.0	32	40.8	117	52.4	JD	98	01	23	2247	212	445	4.78	65	100.0	63	20
93.3	40.0	32	30.8	118	12.7	JD	98	01	24	0256	213	437	4.87	34	100.0	1	28
93.3	45.0	32	20.8	118	33.3	JD	98	01	24	0653	214	452	4.74	42	100.0	30	150
93.3	50.0	32	10.8	118	53.6	JD	98	01	24	1208	213	440	4.84	23	100.0	13	85
93.3	55.0	32	00.8	119	13.8	JD	98	01	24	1654	214	426	5.01	12	100.0	8	19
93.3	60.0	31	50.8	119	34.3	JD	98	01	24	2106	212	466	4.56	15	100.0	17	126
93.3	70.0	31	30.8	120	14.9	JD	98	01	25	0302	212	442	4.79	18	100.0	6	13
93.3	80.0	31	10.8	120	55.2	JD	98	01	25	0903	211	448	4.71	16	100.0	9	43
93.3	90.0	30	50.9	121	35.2	JD	98	01	25	1720	215	438	4.89	23	100.0	15	25
93.3	100.0	30	30.8	122	15.5	JD	98	01	25	2318	212	437	4.85	23	100.0	51	32
93.3	110.0	30	10.9	122	55.3	JD	98	01	26	0458	213	439	4.86	18	100.0	52	22
93.3	120.0	29	50.8	123	35.2	JD	98	01	26	0952	209	445	4.70	11	100.0	22	5

Table 1. (cont.)

CalCOFI Cruise 9804

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
66.7	49.0	36	49.2	121	59.1	JD	98	04	21	0222	210	445	4.71	135	48.3	62	74
66.7	50.0	36	47.2	122	03.4	JD	98	04	21	0417	144	314	4.59	258	50.6	24	68
66.7	55.0	36	37.2	122	24.9	JD	98	04	21	0752	213	406	5.23	25	100.0	89	558
66.7	60.0	36	27.2	122	46.4	JD	98	04	21	1229	209	442	4.73	27	100.0	538	1689
66.7	65.0	36	17.2	123	07.8	JD	98	04	21	1701	216	439	4.91	20	100.0	74	130
66.7	70.0	36	07.2	123	29.1	JD	98	04	21	2031	213	443	4.80	27	100.0	36	35
66.7	80.0	35	47.2	124	11.7	JD	98	04	22	0157	211	441	4.77	36	100.0	75	123
70.0	51.0	36	10.9	121	43.7	JD	98	04	20	1926	77	177	4.33	68	100.0	25	42
70.0	55.0	36	02.9	122	00.6	JD	98	04	20	1433	203	481	4.23	25	100.0	125	45
70.0	60.0	35	52.9	122	21.9	JD	98	04	20	0839	210	453	4.64	22	100.0	467	178
70.0	65.0	35	42.8	122	43.2	JD	98	04	20	0518	213	464	4.60	47	45.5	113	77
70.0	70.0	35	32.9	123	04.4	JD	98	04	20	0040	204	485	4.21	23	100.0	192	52
70.0	80.0	35	12.3	123	46.4	JD	98	04	19	1825	197	485	4.05	21	100.0	72	110
73.3	50.4	35	37.6	121	17.0	JD	98	04	18	0805	71	152	4.70	40	100.0	26	64
73.3	55.0	35	28.6	121	36.5	JD	98	04	18	1246	211	440	4.80	43	100.0	245	181
73.3	60.0	35	18.6	121	57.7	JD	98	04	18	1712	218	427	5.11	28	100.0	72	108
73.3	65.0	35	08.6	122	18.8	JD	98	04	18	2121	196	488	4.01	31	100.0	50	13
73.3	70.0	34	58.6	122	39.8	JD	98	04	19	0117	199	497	4.00	18	100.0	26	7
73.3	80.0	34	38.6	123	21.9	JD	98	04	19	0821	213	444	4.79	20	100.0	14	19
76.7	49.0	35	05.3	120	46.6	JD	98	04	18	0201	59	147	3.99	95	100.0	68	53
76.7	51.0	35	01.3	120	55.1	JD	98	04	17	2156	203	410	4.94	51	100.0	183	184
76.7	55.0	34	53.3	121	11.8	JD	98	04	17	1831	213	455	4.68	31	100.0	427	107
76.7	60.0	34	43.3	121	32.9	JD	98	04	17	1320	199	451	4.40	16	100.0	1210	363
76.7	70.0	34	23.3	122	14.8	JD	98	04	17	0627	209	436	4.80	11	100.0	92	24
76.7	80.0	34	03.3	122	56.5	JD	98	04	17	0026	202	466	4.35	30	100.0	22	8
76.7	90.0	33	43.3	123	37.9	JD	98	04	16	1829	213	431	4.95	9	100.0	19	22
76.7	100.0	33	23.3	124	19.4	JD	98	04	16	1158	206	448	4.61	11	100.0	48	65
80.0	51.0	34	27.0	120	31.4	JD	98	04	14	2054	63	140	4.51	136	100.0	28	9
80.0	55.0	34	19.0	120	48.1	JD	98	04	15	0002	206	431	4.79	91	48.7	57	370
80.0	60.0	34	09.0	121	09.0	JD	98	04	15	0353	212	423	5.02	28	100.0	261	21
80.0	70.0	33	49.0	121	50.6	JD	98	04	15	0843	213	440	4.83	30	100.0	215	213
80.0	80.0	33	29.0	122	32.0	JD	98	04	15	1730	213	421	5.04	17	100.0	39	30

Table 1. (cont.)

CalCOFI Cruise 9804

Line	Station	Latitude (N) deg.	Latitude (N) min.	Longitude (W) deg.	Longitude (W) min.	Ship Code	Tow Date yr	Tow Date mo.	Tow Date day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
80.0	90.0	33	09.0	123	13.3	JD	98	04	15	2318	215	441	4.86	25	100.0	54	48
80.0	100.0	32	49.0	123	54.4	JD	98	04	16	0504	215	436	4.92	21	100.0	66	270
81.8	46.9	34	16.5	120	01.5	JD	98	04	14	1641	214	415	5.15	41	100.0	6	94
83.3	40.6	34	13.5	119	24.7	JD	98	04	14	0926	27	72	3.74	28	100.0	2	277
83.3	42.0	34	10.6	119	30.5	JD	98	04	14	0704	142	278	5.11	65	100.0	54	85
83.3	51.0	33	52.7	120	08.0	JD	98	04	14	0022	76	164	4.60	79	100.0	135	542
83.3	55.0	33	44.7	120	24.5	JD	98	04	13	2109	215	413	5.21	65	100.0	629	312
83.3	60.0	33	34.7	120	45.3	JD	98	04	13	1710	217	438	4.97	27	100.0	67	86
83.3	70.0	33	14.7	121	26.6	JD	98	04	13	0834	216	429	5.02	21	100.0	62	77
83.3	80.0	32	54.7	122	07.7	JD	98	04	13	0131	207	436	4.74	21	100.0	39	80
83.3	90.0	32	34.6	122	48.6	JD	98	04	12	1931	213	476	4.48	13	100.0	39	98
83.3	100.0	32	14.7	123	29.5	JD	98	04	12	1249	202	449	4.50	7	100.0	11	1126
83.3	110.0	31	54.7	124	10.2	JD	98	04	12	0541	217	456	4.75	4	100.0	14	126
86.7	33.0	33	53.4	118	29.4	JD	98	04	09	0809	33	78	4.21	51	100.0	43	432
86.7	35.0	33	49.4	118	37.7	JD	98	04	09	0947	214	413	5.19	46	100.0	224	759
86.7	40.0	33	39.3	118	58.4	JD	98	04	09	1611	212	415	5.10	43	100.0	205	285
86.7	45.0	33	29.4	119	19.1	JD	98	04	09	1958	205	447	4.60	49	100.0	110	279
86.7	50.0	33	19.4	119	39.8	JD	98	04	09	2328	66	132	5.01	30	100.0	68	769
86.7	55.0	33	09.4	120	00.4	JD	98	04	10	0256	213	445	4.78	20	100.0	91	311
86.7	60.0	32	59.4	120	21.0	JD	98	04	10	0845	217	414	5.23	14	100.0	87	676
86.7	70.0	32	39.4	121	02.0	JD	98	04	10	1717	216	424	5.10	17	100.0	156	746
86.7	80.0	32	19.4	121	42.9	JD	98	04	10	2250	214	443	4.84	16	100.0	64	71
86.7	90.0	31	59.4	122	23.6	JD	98	04	11	0443	208	479	4.34	10	100.0	76	350
86.7	110.0	31	19.4	123	44.6	JD	98	04	11	2050	220	451	4.88	4	100.0	37	171
90.0	28.0	33	29.1	117	46.1	JD	98	04	08	2336	38	102	3.76	59	100.0	53	198
90.0	30.0	33	25.1	117	54.3	JD	98	04	09	0159	203	421	4.82	36	100.0	776	409
90.0	35.0	33	15.1	118	15.0	JD	98	04	08	1719	212	422	5.02	26	100.0	44	45
90.0	37.0	33	11.1	118	23.1	JD	98	04	08	1456	206	426	4.84	35	100.0	44	76
90.0	45.0	32	55.1	118	56.1	JD	98	04	08	0627	213	425	5.00	38	100.0	268	269
90.0	53.0	32	39.1	119	28.9	JD	98	04	08	0111	207	476	4.35	25	100.0	38	101
90.0	60.0	32	25.1	119	57.6	JD	98	04	07	1949	214	471	4.53	15	100.0	25	18
90.0	70.0	32	05.1	120	38.3	JD	98	04	07	1314	210	470	4.46	6	100.0	117	306

Table 1. (cont.)

CalCOFI Cruise 9804

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
90.0	80.0	31	45.1	121	18.9	JD	98	04	07	0553	212	449	4.73	7	100.0	66	309
90.0	90.0	31	25.1	121	59.4	JD	98	04	07	0016	209	476	4.39	13	100.0	12	206
90.0	100.0	31	05.1	122	39.6	JD	98	04	06	1818	213	474	4.49	13	100.0	65	183
90.0	110.0	30	45.1	123	19.9	JD	98	04	06	0905	216	448	4.82	9	100.0	10	187
90.0	120.0	30	25.0	123	59.8	JD	98	04	06	0058	211	451	4.67	27	100.0	115	37
93.3	26.7	32	57.4	117	18.3	JD	98	04	02	1604	84	189	4.46	90	100.0	236	11
93.3	28.0	32	54.8	117	23.7	JD	98	04	02	1946	212	431	4.91	44	100.0	449	8
93.3	30.0	32	50.8	117	31.9	JD	98	04	02	2306	212	425	4.99	33	100.0	29	0
93.3	35.0	32	40.8	117	52.4	JD	98	04	03	0322	216	438	4.92	30	100.0	44	2
93.3	40.0	32	30.8	118	12.8	JD	98	04	03	0741	215	391	5.50	56	100.0	237	59
93.3	45.0	32	20.8	118	33.3	JD	98	04	03	1321	212	433	4.90	42	100.0	347	18
93.3	50.0	32	10.8	118	53.6	JD	98	04	03	1854	213	425	5.00	33	100.0	64	11
93.3	55.0	32	00.8	119	14.0	JD	98	04	03	2315	217	436	4.98	32	100.0	48	8
93.3	60.0	31	50.8	119	34.3	JD	98	04	04	0255	213	438	4.86	25	100.0	62	48
93.3	70.0	31	30.8	120	14.7	JD	98	04	04	1155	214	488	4.38	10	100.0	40	35
93.3	80.0	31	10.9	120	55.2	JD	98	04	04	1827	211	445	4.75	9	100.0	41	113
93.3	90.0	30	50.8	121	35.4	JD	98	04	05	0023	210	455	4.61	24	100.0	15	383
93.3	100.0	30	30.8	122	15.5	JD	98	04	05	0554	213	445	4.78	13	100.0	51	142
93.3	110.0	30	10.8	122	55.5	JD	98	04	05	1239	211	446	4.74	9	100.0	17	28
93.3	120.0	29	50.7	123	35.2	JD	98	04	05	1905	212	426	4.99	12	100.0	11	36

Table 1. (cont.)

CalCOFI Cruise 9807

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
70.0	51.0	36	10.8	121	43.6	NH	98	07	25	2134	200	440	4.54	134	50.8	4	0
70.0	55.0	36	02.9	122	00.8	NH	98	07	25	1805	211	432	4.88	65	53.6	3	0
70.0	60.0	35	52.8	122	21.9	NH	98	07	25	1319	202	449	4.50	245	51.8	8	1
70.0	65.0	35	42.8	122	43.1	NH	98	07	25	0847	201	446	4.49	103	52.2	5	5
76.7	49.0	35	05.2	120	46.7	NH	98	07	24	0458	61	146	4.14	48	100.0	3	205
76.7	51.0	35	01.3	120	54.9	NH	98	07	24	0235	203	455	4.45	112	49.0	2	0
76.7	55.0	34	53.2	121	11.9	NH	98	07	23	2314	207	425	4.87	174	52.7	3	0
76.7	60.0	34	43.2	121	32.8	NH	98	07	23	1914	207	437	4.72	87	50.0	10	7
76.7	70.0	34	23.2	122	14.8	NH	98	07	23	1228	210	413	5.08	77	50.0	8	5
76.7	80.0	34	03.3	122	56.4	NH	98	07	23	0612	199	454	4.39	46	100.0	73	92
76.7	90.0	33	43.3	123	37.9	NH	98	07	23	0029	201	452	4.45	35	100.0	261	164
76.7	100.0	33	23.0	124	19.2	NH	98	07	22	1841	206	474	4.35	53	100.0	171	34
80.0	51.0	34	26.9	120	31.3	NH	98	07	21	0438	60	136	4.38	52	100.0	17	125
80.0	55.0	34	19.1	120	48.3	NH	98	07	21	0807	200	486	4.11	47	52.2	7	1
80.0	60.0	34	09.0	121	08.9	NH	98	07	21	1203	212	451	4.69	55	52.0	8	0
80.0	70.0	33	49.0	121	50.2	NH	98	07	21	1845	207	450	4.60	31	100.0	33	43
80.0	80.0	33	29.0	122	31.8	NH	98	07	22	0033	199	468	4.24	28	100.0	357	930
80.0	90.0	33	09.0	123	13.1	NH	98	07	22	0620	201	476	4.22	36	100.0	323	104
80.0	100.0	32	49.0	123	54.2	NH	98	07	22	1239	198	465	4.26	19	100.0	406	44
81.8	46.9	34	16.5	120	01.4	NH	98	07	21	0031	204	428	4.77	122	51.9	15	40
83.3	40.6	34	13.4	119	24.7	NH	98	07	20	1817	25	70	3.60	14	100.0	4	82
83.3	42.0	34	10.7	119	30.5	NH	98	07	20	1629	87	214	4.06	19	100.0	33	64
83.3	51.0	33	52.5	120	08.1	NH	98	07	20	0918	88	217	4.07	32	100.0	11	597
83.3	55.0	33	44.8	120	24.5	NH	98	07	20	0650	205	484	4.24	50	54.2	6	2
83.3	60.0	33	34.6	120	45.2	NH	98	07	20	0221	183	505	3.62	119	53.3	6	3
83.3	70.0	33	14.6	121	26.8	NH	98	07	19	2001	206	437	4.71	66	55.2	67	21
83.3	80.0	32	54.1	122	08.5	NH	98	07	19	1244	195	458	4.27	41	100.0	180	225
83.3	90.0	32	34.5	122	48.7	NH	98	07	19	0555	203	489	4.16	18	100.0	415	200
83.3	100.0	32	14.7	123	29.6	NH	98	07	18	2345	201	490	4.10	22	100.0	104	38
83.3	110.0	31	54.6	124	10.2	NH	98	07	18	1722	190	561	3.39	18	100.0	533	118
86.7	33.0	33	53.3	118	30.0	NH	98	07	15	2320	35	101	3.46	59	100.0	475	897
86.7	35.0	33	49.4	118	37.5	NH	98	07	16	0139	204	447	4.57	92	48.8	86	15

Table 1. (cont.)

CalCOFI Cruise 9807

Line	Station	Latitude (N) deg.	Latitude (N) min.	Longitude (W) deg.	Longitude (W) min.	Ship Code	Tow Date yr	Tow Date mo.	Tow Date day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	40.0	33	39.4	118	58.4	NH	98	07	16	0552	208	448	4.63	20	100.0	4	3
86.7	45.0	33	29.4	119	19.0	NH	98	07	16	0914	199	463	4.30	13	100.0	3	7
86.7	50.0	33	19.4	119	39.6	NH	98	07	16	1510	70	170	4.10	29	100.0	3	21
86.7	55.0	33	09.4	120	00.3	NH	98	07	16	1915	217	438	4.95	135	45.8	11	1
86.7	60.0	32	59.4	120	21.0	NH	98	07	16	2331	207	470	4.41	94	50.0	11	25
86.7	70.0	32	39.4	121	01.7	NH	98	07	17	0533	217	476	4.55	59	53.6	16	2
86.7	80.0	32	19.4	121	42.8	NH	98	07	17	1233	194	504	3.85	42	100.0	50	179
86.7	90.0	31	59.3	122	23.4	NH	98	07	17	1939	209	498	4.20	24	100.0	338	265
86.7	100.0	31	39.3	123	03.9	NH	98	07	18	0156	188	545	3.46	26	100.0	493	94
86.7	110.0	31	19.4	123	44.6	NH	98	07	18	0839	212	449	4.72	16	100.0	108	34
90.0	28.0	33	29.0	117	46.1	NH	98	07	15	1700	60	149	4.00	13	100.0	11	275
90.0	30.0	33	25.1	117	54.2	NH	98	07	15	1235	206	455	4.53	24	100.0	1	0
90.0	35.0	33	15.1	118	15.1	NH	98	07	15	0756	199	422	4.72	21	100.0	10	7
90.0	37.0	33	11.1	118	23.1	NH	98	07	15	0510	210	450	4.67	29	100.0	3	0
90.0	45.0	32	55.0	118	56.1	NH	98	07	14	2348	199	466	4.27	112	51.9	5	0
90.0	53.0	32	38.9	119	28.8	NH	98	07	14	1820	214	442	4.84	61	51.9	13	6
90.0	60.0	32	25.0	119	57.6	NH	98	07	14	1237	212	424	5.01	28	100.0	37	14
90.0	70.0	32	04.9	120	38.4	NH	98	07	14	0555	203	469	4.33	60	53.6	5	6
90.0	80.0	31	45.0	121	18.9	NH	98	07	13	2337	214	488	4.38	27	100.0	285	1975
90.0	90.0	31	24.9	121	59.5	NH	98	07	13	1726	210	490	4.28	37	100.0	305	116
90.0	100.0	31	05.0	122	39.5	NH	98	07	13	0822	206	488	4.22	16	100.0	302	44
90.0	110.0	30	45.0	123	19.9	NH	98	07	13	0052	206	482	4.28	27	100.0	354	383
90.0	120.0	30	24.9	123	59.9	NH	98	07	12	1836	210	467	4.48	19	100.0	366	72
93.3	26.7	32	57.3	117	18.3	NH	98	07	09	1119	70	167	4.18	30	100.0	9	295
93.3	28.0	32	54.8	117	23.5	NH	98	07	09	1412	214	459	4.65	4	100.0	2	0
93.3	30.0	32	50.7	117	31.8	NH	98	07	09	1726	211	463	4.55	6	100.0	9	5
93.3	35.0	32	40.8	117	52.1	NH	98	07	09	2132	216	442	4.88	36	100.0	41	5
93.3	40.0	32	30.9	118	12.7	NH	98	07	10	0137	212	457	4.64	57	100.0	10	3
93.3	45.0	32	20.7	118	33.2	NH	98	07	10	0652	214	461	4.64	26	100.0	2	1
93.3	50.0	32	10.8	118	53.6	NH	98	07	10	0952	205	466	4.39	26	100.0	1	1
93.3	55.0	32	00.8	119	13.5	NH	98	07	10	1517	201	497	4.04	52	50.0	7	24
93.3	60.0	31	50.7	119	34.3	NH	98	07	10	1929	209	472	4.42	36	100.0	53	6

Table 1. (cont.)

CalCOFI Cruise 9807

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
93.3	70.0	31	30.8	120	14.5	NH	98	07	11	0155	207	510	4.05	27	100.0	155	29
93.3	80.0	31	10.3	120	54.9	NH	98	07	11	0826	210	494	4.25	12	100.0	147	746
93.3	90.0	30	50.9	121	35.2	NH	98	07	11	1617	210	489	4.28	14	100.0	175	339
93.3	100.0	30	30.7	122	15.5	NH	98	07	11	2216	210	483	4.34	21	100.0	120	24
93.3	110.0	30	10.8	122	55.2	NH	98	07	12	0427	210	490	4.29	20	100.0	276	66
93.3	120.0	29	50.5	123	35.5	NH	98	07	12	0914	204	489	4.17	10	100.0	289	20

Table 1. (cont.)

CalCOFI Cruise 9809

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
76.7	49.0	35	05.2	120	46.6	NH	98	09	27	2135	67	141	4.76	42	100.0	1	19
76.7	51.0	35	01.2	120	55.0	NH	98	09	27	1918	203	411	4.94	119	46.9	10	1
76.7	55.0	34	52.8	121	11.9	NH	98	09	27	1614	210	382	5.50	31	100.0	4	0
76.7	60.0	34	42.8	121	32.1	NH	98	09	27	0934	201	412	4.89	32	100.0	4	2
76.7	70.0	34	22.7	122	14.8	NH	98	09	27	0444	213	403	5.28	62	100.0	6	1
76.7	80.0	34	03.3	122	56.5	NH	98	09	26	2253	207	417	4.95	38	100.0	14	2
76.7	90.0	33	43.2	123	37.9	NH	98	09	26	1713	213	407	5.23	27	100.0	18	14
76.7	100.0	33	22.5	124	18.9	NH	98	09	26	0845	207	411	5.02	17	100.0	59	36
80.0	51.0	34	27.0	120	31.4	NH	98	09	24	1903	76	162	4.69	80	100.0	25	74
80.0	55.0	34	19.0	120	48.1	NH	98	09	24	2216	199	450	4.43	118	49.1	16	0
80.0	60.0	34	08.8	121	08.4	NH	98	09	25	0211	222	419	5.30	33	100.0	6	0
80.0	70.0	33	48.4	121	50.2	NH	98	09	25	0839	208	458	4.54	20	100.0	2	4
80.0	80.0	33	28.9	122	31.3	NH	98	09	25	1659	211	408	5.16	12	100.0	8	0
80.0	90.0	33	09.0	123	13.3	NH	98	09	25	2234	209	424	4.92	45	100.0	45	13
80.0	100.0	32	48.9	123	53.8	NH	98	09	26	0414	213	415	5.13	31	100.0	140	28
81.8	46.9	34	16.4	120	00.1	NH	98	09	24	1502	213	433	4.92	28	100.0	46	20
83.3	40.6	34	13.4	119	24.7	NH	98	09	24	0652	21	76	2.72	53	100.0	326	464
83.3	42.0	34	10.7	119	30.0	NH	98	09	24	0757	131	286	4.58	28	100.0	314	235
83.3	51.0	33	52.6	120	08.1	NH	98	09	24	0026	115	262	4.40	38	100.0	28	181
83.3	55.0	33	44.7	120	24.6	NH	98	09	23	2120	208	452	4.61	60	100.0	14	0
83.3	60.0	33	34.7	120	45.3	NH	98	09	23	1739	212	418	5.07	29	100.0	2	0
83.3	70.0	33	13.9	121	25.9	NH	98	09	23	0909	199	446	4.47	29	100.0	9	7
83.3	80.0	32	54.2	122	07.3	NH	98	09	23	0433	214	404	5.29	30	100.0	105	17
83.3	90.0	32	34.6	122	48.7	NH	98	09	22	2239	204	469	4.34	23	100.0	193	52
83.3	100.0	32	14.1	123	29.4	NH	98	09	22	1646	210	457	4.59	13	100.0	91	44
83.3	110.0	31	53.9	124	09.6	NH	98	09	22	0901	204	462	4.40	11	100.0	30	3
86.7	33.0	33	53.4	118	29.4	NH	98	09	19	2022	46	126	3.67	48	100.0	64	147
86.7	35.0	33	49.4	118	37.6	NH	98	09	19	2253	206	447	4.61	31	100.0	100	286
86.7	40.0	33	39.6	118	58.1	NH	98	09	20	0308	202	435	4.66	58	100.0	4	14
86.7	45.0	33	29.4	119	19.1	NH	98	09	20	0722	207	418	4.95	26	100.0	6	0
86.7	50.0	33	19.4	119	39.7	NH	98	09	20	1208	67	166	4.01	42	100.0	20	111
86.7	55.0	33	09.5	119	59.7	NH	98	09	20	1647	214	453	4.73	29	100.0	8	1
86.7	60.0	32	59.4	120	20.9	NH	98	09	20	2047	208	460	4.53	35	100.0	8	2

Table 1. (cont.)

CalCOFI Cruise 9809

Line	Station	Latitude (N) deg.	min.	Longitude (W) deg.	min.	Ship Code	Tow Date yr.	mo.	day	Time (PST)	Tow Depth (m)	Volume Water Strained	Standard Haul Factor	Plankton Volume	Percent Sorted	Total Larvae	Total Eggs
86.7	70.0	32	39.4	121	01.3	NH	98	09	21	0239	204	474	4.30	30	100.0	67	10
86.7	80.0	32	19.4	121	42.9	NH	98	09	21	0723	214	426	5.02	24	100.0	118	11
86.7	90.0	31	59.4	122	22.9	NH	98	09	21	1647	210	452	4.65	13	100.0	70	35
86.7	100.0	31	39.4	123	04.1	NH	98	09	21	2226	204	456	4.46	35	100.0	78	22
86.7	110.0	31	19.4	123	43.9	NH	98	09	22	0417	209	435	4.81	25	100.0	83	7
90.0	28.0	33	29.0	117	46.0	NH	98	09	19	1125	64	109	5.85	110	100.0	63	178
90.0	30.0	33	25.3	117	53.8	NH	98	09	19	1435	193	411	4.70	10	100.0	48	5
90.0	35.0	33	15.0	118	14.9	NH	98	09	19	0549	216	402	5.36	20	100.0	42	20
90.0	37.0	33	10.8	118	23.0	NH	98	09	19	0252	200	441	4.54	52	100.0	12	0
90.0	45.0	32	55.0	118	56.1	NH	98	09	18	2142	211	444	4.76	72	46.9	7	0
90.0	53.0	32	38.5	119	28.8	NH	98	09	18	1602	208	451	4.62	29	100.0	12	0
90.0	60.0	32	24.9	119	57.3	NH	98	09	18	0704	215	454	4.73	26	100.0	25	2
90.0	70.0	32	04.6	120	38.4	NH	98	09	18	0145	202	475	4.24	38	100.0	32	13
90.0	80.0	31	45.0	121	19.0	NH	98	09	17	1938	216	425	5.07	31	100.0	489	42
90.0	90.0	31	25.0	121	59.4	NH	98	09	17	1329	210	419	5.02	14	100.0	184	13
90.0	100.0	31	05.1	122	39.7	NH	98	09	17	0612	214	434	4.93	14	100.0	42	26
90.0	110.0	30	45.0	123	19.9	NH	98	09	17	0023	208	421	4.95	28	100.0	189	33
90.0	120.0	30	24.9	123	59.8	NH	98	09	16	1844	211	419	5.05	17	100.0	116	9
93.3	26.7	32	57.4	117	18.1	NH	98	09	13	1159	195	446	4.37	16	100.0	10	43
93.3	28.0	32	54.9	117	23.0	NH	98	09	13	1453	201	407	4.94	7	100.0	207	93
93.3	30.0	32	50.7	117	31.9	NH	98	09	13	1826	208	431	4.83	19	100.0	8	6
93.3	35.0	32	40.7	117	52.3	NH	98	09	13	2216	192	454	4.23	40	100.0	21	0
93.3	40.0	32	31.0	118	12.3	NH	98	09	14	0216	193	436	4.42	71	51.6	7	1
93.3	45.0	32	20.7	118	33.2	NH	98	09	14	0723	204	442	4.61	23	100.0	12	0
93.3	50.0	32	10.8	118	53.4	NH	98	09	14	1257	209	433	4.82	37	100.0	18	0
93.3	55.0	32	00.9	119	13.3	NH	98	09	14	1743	217	438	4.95	48	100.0	4	6
93.3	60.0	31	50.8	119	34.2	NH	98	09	14	2145	198	480	4.12	40	100.0	48	2
93.3	70.0	31	30.8	120	14.3	NH	98	09	15	0339	211	432	4.88	42	100.0	15	4
93.3	80.0	31	10.2	120	54.6	NH	98	09	15	0822	205	450	4.56	24	100.0	91	141
93.3	90.0	30	50.8	121	34.8	NH	98	09	15	1638	216	462	4.67	17	100.0	331	38
93.3	100.0	30	30.8	122	15.4	NH	98	09	15	2211	206	470	4.38	19	100.0	274	46
93.3	110.0	30	10.9	122	54.5	NH	98	09	16	0316	199	448	4.43	20	100.0	310	12
93.3	120.0	29	50.4	123	34.5	NH	98	09	16	0922	204	453	4.50	7	100.0	60	40

TABLE 2. Pooled occurrences of fish larvae taken on CalCOFI cruises in 1998.

Rank	Taxon	Occurrences
1	*Vinciguerria lucetia*	144
2	*Protomyctophum crockeri*	122
3	*Diogenichthys atlanticus*	114
4	*Triphoturus mexicanus*	111
5	*Engraulis mordax*	108
6	*Cyclothone signata*	106
7	*Bathylagus wesethi*	99
7	*Stenobrachius leucopsarus*	99
9	*Ceratoscopelus townsendi*	95
10	*Symbolophorus californiensis*	90
11	*Sebastes* spp.	84
12	*Lampanyctus* spp.	83
13	*Sardinops sagax*	73
14	*Bathylagus ochotensis*	72
15	*Leuroglossus stilbius*	70
16	*Lampanyctus ritteri*	60
17	*Argyropelecus sladeni*	44
18	*Merluccius productus*	42
19	*Trachurus symmetricus*	36
20	*Melamphaes lugubris*	32
21	*Lestidiops ringens*	31
22	*Diogenichthys laternatus*	28
23	*Scomber japonicus*	25
23	*Stomias atriventer*	25
23	*Hygophum reinhardtii*	25
26	*Danaphos oculatus*	24
26	*Diaphus* spp.	24
28	*Chauliodus macouni*	23
28	*Idiacanthus antrostomus*	23
28	*Cyclothone* spp.	23
31	*Sternoptyx* spp.	21
31	*Myctophum nitidulum*	21
33	*Argyropelecus hemigymnus*	19
34	*Citharichthys stigmaeus*	18
34	*Argyropelecus lychnus*	18
34	*Chiasmodon niger*	18
37	*Bathylagus pacificus*	17
38	*Citharichthys sordidus*	16
39	*Paralichthys californicus*	15
39	*Argentina sialis*	15
39	*Sebastes jordani*	15
42	*Arctozenus risso*	14
42	*Notoscopelus resplendens*	14
44	Myctophidae	13
44	*Tarletonbeania crenularis*	13
44	*Rosenblattichthys volucris*	13
47	*Scopelogadus bispinosus*	12
47	*Microstoma* spp.	12
47	*Electrona risso*	12
50	*Argyropelecus affinis*	11
50	*Paralabrax* spp.	11

TABLE 2. (cont.)

Rank	Taxon	Occurrences
50	*Lampadena urophaos*	11
50	*Coryphopterus nicholsii*	11
50	*Bathophilus flemingi*	11
55	*Scopelarchus analis*	10
55	*Lampanyctus regalis*	10
55	*Oxyjulis californica*	10
55	Disintegrated fish larvae	10
55	*Sphyraena argentea*	10
60	*Chromis punctipinnis*	9
60	*Semicossyphus pulcher*	9
62	*Ichthyococcus irregularis*	8
62	*Tetragonurus cuvieri*	8
64	*Genyonemus lineatus*	7
64	*Aristostomias scintillans*	7
66	*Hygophum atratum*	6
66	*Notolychnus valdiviae*	6
66	*Gigantactis* spp.	6
66	*Cyclothone acclinidens*	6
66	*Ophidion scrippsae*	6
66	*Melamphaes* spp.	6
66	*Symphurus atricaudus*	6
66	*Hypsoblennius jenkinsi*	6
66	*Microstomus pacificus*	6
66	*Poromitra crassiceps*	6
76	*Parophrys vetulus*	5
76	*Citharichthys* spp.	5
76	*Sebastes paucispinis*	5
76	*Sebastes diploproa*	5
76	*Hypsoblennius* spp.	5
76	*Argyropelecus* spp.	5
76	Stichaeidae	5
76	*Lampanyctus steinbecki*	5
76	*Scopelosaurus harryi*	5
76	*Howella* spp.	5
76	*Nansenia candida*	5
87	*Icichthys lockingtoni*	4
87	*Chilara taylori*	4
87	*Lampanyctus* "niger"	4
87	*Melamphaes parvus*	4
87	*Lyopsetta exilis*	4
87	*Sebastes aurora*	4
87	*Trachipterus altivelis*	4
94	*Brama japonica*	3
94	*Oneirodes* spp.	3
94	*Pleuronichthys verticalis*	3
94	*Atractoscion nobilis*	3
94	Unidentified fish larvae	3
94	*Lampanyctus* "no pectorals"	3
94	*Benthalbella dentata*	3
94	*Cyclothone pseudopallida*	3
94	*Vinciguerria poweriae*	3
94	*Sebastolobus* spp.	3

TABLE 2. (cont.)

Rank	Taxon	Occurrences
94	*Zaniolepis frenata*	3
94	*Gonichthys tenuiculus*	3
94	*Anisotremus davidsoni*	3
107	*Halichoeres semicinctus*	2
107	*Neoclinus* spp.	2
107	*Hypsoblennius gentilis*	2
107	*Lythrypnus dalli*	2
107	*Synodus lucioceps*	2
107	*Pleuronichthys coenosus*	2
107	*Stemonosudis macrura*	2
107	Melamphaidae	2
107	*Xeneretmus latifrons*	2
116	*Loweina rara*	1
116	*Centrobranchus nigroocellatus*	1
116	*Diogenichthys* spp.	1
116	Sternoptychidae	1
116	*Lythrypnus zebra*	1
116	*Oxylebius pictus*	1
116	*Typhlogobius californiensis*	1
116	*Sebastolobus altivelis*	1
116	*Clevelandia ios*	1
116	*Hygophum* spp.	1
116	*Taaningichthys minimus*	1
116	*Scopeloberyx robustus*	1
116	*Nansenia crassa*	1
116	*Melamphaes simus*	1
116	*Coryphaenoides* spp.	1
116	*Ophichthus zophochir*	1
116	*Cataetyx rubrirostris*	1
116	*Dolopichthys* spp.	1
116	*Cubiceps baxteri*	1
116	*Icelinus quadriseriatus*	1
116	*Xenistius californiensis*	1
116	Paralepididae	1
116	Perciformes	1
116	*Seriphus politus*	1
116	*Odontopyxis trispinosa*	1
116	*Medialuna californiensis*	1
116	*Hypsypops rubicundus*	1
116	*Triphoturus nigrescens*	1
116	*Photonectes* spp.	1
116	*Caristius maderensis*	1
116	*Artedius lateralis*	1
116	*Cryptotrema corallinum*	1
116	*Artedius creaseri*	1
116	*Parvilux ingens*	1
116	*Neoclinus stephensae*	1
116	*Zaniolepis latipinnis*	1
116	*Hypsoblennius gilberti*	1
116	*Tactostoma macropus*	1
Rank	Taxon	Occurrences
	Total	2622

TABLE 3. Pooled counts of fish larvae taken on CalCOFI cruises in 1998. Counts are adjusted for percent of sample sorted and standard haul factor (see text).

Rank	Taxon	Count
1	*Vinciguerria lucetia*	38948
2	*Sardinops sagax*	26797
3	*Engraulis mordax*	18820
4	*Ceratoscopelus townsendi*	3190
5	*Stenobrachius leucopsarus*	2650
6	*Sebastes* spp.	2635
7	*Triphoturus mexicanus*	2382
8	*Bathylagus wesethi*	2125
9	*Leuroglossus stilbius*	2040
10	*Cyclothone signata*	1710
11	*Diogenichthys atlanticus*	1623
12	*Bathylagus ochotensis*	1580
13	*Protomyctophum crockeri*	1202
14	*Merluccius productus*	1192
15	*Trachurus symmetricus*	1122
16	*Diogenichthys laternatus*	1059
17	*Scomber japonicus*	809
18	*Symbolophorus californiensis*	802
19	*Lampanyctus* spp.	801
20	*Lampanyctus ritteri*	557
21	*Argyropelecus sladeni*	260
22	*Sebastes jordani*	226
23	*Idiacanthus antrostomus*	213
24	*Sphyraena argentea*	194
25	*Cyclothone* spp.	189
26	*Lestidiops ringens*	188
27	*Melamphaes lugubris*	171
28	*Bathylagus pacificus*	168
29	*Citharichthys stigmaeus*	157
30	*Stomias atriventer*	154
30	*Paralichthys californicus*	154
32	*Diaphus* spp.	152
32	*Hygophum reinhardtii*	152
34	*Chauliodus macouni*	141
34	*Lampanyctus regalis*	141
36	*Citharichthys sordidus*	139
37	*Danaphos oculatus*	134
38	*Sternoptyx* spp.	121
39	*Myctophum nitidulum*	115
40	*Argyropelecus hemigymnus*	108
40	*Argentina sialis*	108
42	*Argyropelecus lychnus*	104
43	*Oxyjulis californica*	103
44	*Chiasmodon niger*	87
45	*Electrona risso*	85
46	*Notoscopelus resplendens*	83
47	*Paralabrax* spp.	79
47	*Lampadena urophaos*	79

TABLE 3. (cont.)

Rank	Taxon	Count
49	*Coryphopterus nicholsii*	77
49	*Hypsoblennius jenkinsi*	77
51	*Tarletonbeania crenularis*	75
52	*Chromis punctipinnis*	74
53	Myctophidae	73
54	*Ophidion scrippsae*	70
55	*Genyonemus lineatus*	66
56	*Symphurus atricaudus*	65
57	*Microstoma* spp.	62
58	*Arctozenus risso*	61
58	*Hypsoblennius* spp.	61
60	*Rosenblattichthys volucris*	59
61	*Scopelogadus bispinosus*	58
62	*Microstomus pacificus*	56
63	*Citharichthys* spp.	53
63	Disintegrated fish larvae	53
65	*Argyropelecus affinis*	52
65	*Bathophilus flemingi*	52
67	*Semicossyphus pulcher*	50
68	*Scopelarchus analis*	49
68	*Hygophum atratum*	49
70	*Parophrys vetulus*	45
71	*Vinciguerria poweriae*	44
72	*Ichthyococcus irregularis*	41
73	*Tetragonurus cuvieri*	39
74	*Cyclothone acclinidens*	38
75	Stichaeidae	36
76	*Aristostomias scintillans*	32
77	*Howella* spp.	31
78	*Melamphaes* spp.	30
79	*Notolychnus valdiviae*	28
79	*Gigantactis* spp.	28
79	*Lythrypnus zebra*	28
79	*Nansenia candida*	28
79	*Poromitra crassiceps*	28
79	*Seriphus politus*	28
79	*Sebastes aurora*	28
86	*Lyopsetta exilis*	25
87	*Melamphaes parvus*	24
87	*Sebastes paucispinis*	24
89	*Sebastes diploproa*	23
90	*Argyropelecus* spp.	22
91	*Lampanyctus steinbecki*	21
91	*Scopelosaurus harryi*	21
91	*Trachipterus altivelis*	21
91	*Anisotremus davidsoni*	21
95	*Hypsoblennius gentilis*	20
95	*Gonichthys tenuiculus*	20
95	*Lythrypnus dalli*	20
98	*Icichthys lockingtoni*	19
98	*Chilara taylori*	19

TABLE 3. (cont.)

Rank	Taxon	Count
98	*Zaniolepis frenata*	19
101	*Cyclothone pseudopallida*	18
102	*Lampanyctus* "niger"	17
102	*Lampanyctus* "no pectorals"	17
104	*Sebastolobus* spp.	15
105	*Oneirodes* spp.	14
105	*Atractoscion nobilis*	14
105	*Neoclinus* spp.	14
105	*Brama japonica*	14
105	*Stemonosudis macrura*	14
105	*Pleuronichthys verticalis*	14
111	*Benthalbella dentata*	13
111	Unidentified fish larvae	13
113	*Cryptotrema corallinum*	12
114	*Xeneretmus latifrons*	11
114	*Medialuna californiensis*	11
116	*Halichoeres semicinctus*	10
116	*Synodus lucioceps*	10
116	*Cataetyx rubrirostris*	10
119	*Neoclinus stephensae*	9
120	*Hypsoblennius gilberti*	8
120	Melamphaidae	8
120	*Ophichthus zophochir*	8
120	*Odontopyxis trispinosa*	8
120	*Pleuronichthys coenosus*	8
125	*Xenistius californiensis*	7
126	*Typhlogobius californiensis*	5
126	*Icelinus quadriseriatus*	5
126	*Nansenia crassa*	5
126	*Coryphaenoides* spp.	5
126	*Artedius lateralis*	5
126	*Oxylebius pictus*	5
126	*Sebastolobus altivelis*	5
126	*Tactostoma macropus*	5
126	*Parvilux ingens*	5
126	Paralepididae	5
126	*Caristius maderensis*	5
126	*Loweina rara*	5
126	*Artedius creaseri*	5
126	*Taaningichthys minimus*	5
126	*Photonectes* spp.	5
126	*Melamphaes simus*	5
126	*Scopeloberyx robustus*	5
143	*Centrobranchus nigroocellatus*	4
143	*Dolopichthys* spp.	4
143	*Triphoturus nigrescens*	4
143	*Hygophum* spp.	4
143	*Cubiceps baxteri*	4
143	*Clevelandia ios*	4
143	*Zaniolepis latipinnis*	4
143	Sternoptychidae	4

TABLE 3. (cont.)

Rank	Taxon	Count
143	*Diogenichthys* spp.	4
152	Perciformes	3
152	*Hypsypops rubicundus*	3
	Total	118616

TABLE 4. Number of fish larvae taken at stations occupied on CalCOFI cruises in 1998. Counts are adjusted for percent of sample sorted and standard haul factor (see text). Unoccupied stations are indicated by a dash.

Ophichthus zophochir

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	-	0.0	-	0.0	-	-	7.9	-	0.0	-	-	-

Sardinops sagax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
66.7	55.0	-	-	-	319.0	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	2365.0	-	-	-	-	-	-	-	-
66.7	65.0	-	-	-	191.5	-	-	-	-	-	-	-	-
66.7	70.0	-	-	-	14.4	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	128.8	-	-	-	-	-	-	-	-
70.0	55.0	-	-	-	334.2	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	1953.4	-	-	0.0	-	-	-	-	-
70.0	65.0	-	-	-	889.7	-	-	0.0	-	-	-	-	-
70.0	70.0	-	-	-	513.6	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	105.3	-	-	-	-	-	-	-	-
73.3	50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
73.3	55.0	-	-	-	139.2	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	173.7	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	40.1	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	20.0	-	-	-	-	-	-	-	-
73.3	80.0	-	-	-	19.2	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	103.7	-	-	0.0	-	0.0	-	-	-
76.7	51.0	-	0.0	-	449.5	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	1726.9	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	5126.0	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	0.0	-	201.6	-	-	0.0	-	0.0	-	-	-
76.7	80.0	-	0.0	-	4.3	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	13.5	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Sardinops sagax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	-	0.0	-	186.9	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	843.4	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	589.3	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	54.0	-	5.2	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	49.3	-	35.8	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	92.6	-	64.4	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	0.0	-	2401.8	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	0.0	-	99.4	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	0.0	-	55.2	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	23.7	-	-	0.0	-	0.0	-	-	-
83.3	90.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
86.7	33.0	0.0	-	-	29.5	-	-	0.0	-	3.7	-	-	-
86.7	35.0	4.7	-	-	67.5	-	-	0.0	-	0.0	-	-	-
86.7	40.0	317.6	-	-	576.3	-	-	0.0	-	0.0	-	-	-
86.7	45.0	86.8	-	-	174.8	-	-	0.0	-	0.0	-	-	-
86.7	50.0	11.8	-	-	95.2	-	-	0.0	-	0.0	-	-	-
86.7	55.0	4.6	-	-	205.5	-	-	0.0	-	0.0	-	-	-
86.7	60.0	0.0	-	-	57.5	-	-	0.0	-	0.0	-	-	-
90.0	28.0	0.0	-	-	45.1	-	-	0.0	-	5.8	-	-	-
90.0	30.0	140.1	-	-	1253.2	-	-	0.0	-	9.4	-	-	-
90.0	35.0	357.8	-	-	55.2	-	-	0.0	-	0.0	-	-	-
90.0	37.0	386.4	-	-	111.3	-	-	0.0	-	0.0	-	-	-
90.0	45.0	23.6	-	-	1000.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	0.0	-	-	8.7	-	-	0.0	-	0.0	-	-	-
93.3	26.7	0.0	-	-	58.0	-	-	0.0	-	0.0	-	-	-
93.3	28.0	0.0	-	-	260.2	-	-	0.0	-	4.9	-	-	-
93.3	30.0	4.8	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	35.0	0.0	-	-	157.4	-	-	0.0	-	0.0	-	-	-
93.3	40.0	0.0	-	-	731.5	-	-	0.0	-	0.0	-	-	-
93.3	45.0	33.2	-	-	1117.2	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	39.8	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Engraulis mordax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	243.8	-	-	-	-	-	-	-	-
66.7	50.0	-	-	-	45.4	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	18.9	-	-	-	-	-	-	-	-
66.7	65.0	-	-	-	14.7	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	109.7	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	8.7	-	-	0.0	-	-	-	-	-
70.0	55.0	-	-	-	50.8	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	46.4	-	-	0.0	-	-	-	-	-
70.0	65.0	-	-	-	70.8	-	-	0.0	-	-	-	-	-
70.0	70.0	-	-	-	160.0	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	8.1	-	-	-	-	-	-	-	-
73.3	50.4	-	-	-	18.8	-	-	-	-	-	-	-	-
73.3	55.0	-	-	-	681.6	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	35.8	-	-	-	-	-	-	-	-
76.7	49.0	-	16.4	-	63.8	-	-	8.3	-	4.8	-	-	-
76.7	51.0	-	4.3	-	54.3	-	-	0.0	-	31.6	-	-	-
76.7	55.0	-	0.0	-	70.2	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	35.2	-	-	9.4	-	0.0	-	-	-
76.7	70.0	-	0.0	-	14.4	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	67.6	-	-	4.4	-	61.0	-	-	-
80.0	55.0	-	170.9	-	236.1	-	-	31.5	-	54.1	-	-	-
80.0	60.0	-	-	-	40.2	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	19.3	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	117.8	-	5.2	-	-	82.7	-	108.2	-	-	-
83.3	40.6	-	13.2	-	3.7	-	-	10.8	-	821.4	-	-	-
83.3	42.0	-	267.2	-	30.7	-	-	105.6	-	1172.5	-	-	-
83.3	51.0	-	37.9	-	409.4	-	-	28.5	-	66.0	-	-	-
83.3	55.0	-	4.4	-	151.1	-	-	0.0	-	27.7	-	-	-
83.3	60.0	-	0.0	-	54.7	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	4.2	-	5.0	-	-	8.5	-	0.0	-	-	-
86.7	33.0	165.4	-	-	105.3	-	-	1449.7	-	220.2	-	-	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	490.9	-	-	721.4	-	-	739.8	-	410.3	-	-	-
86.7	40.0	873.3	-	-	341.7	-	-	9.3	-	0.0	-	-	-
86.7	45.0	14.5	-	-	165.6	-	-	0.0	-	9.9	-	-	-
86.7	50.0	7.9	-	-	30.1	-	-	0.0	-	4.0	-	-	-
86.7	55.0	13.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	0.0	-	-	0.0	-	4.3	-	-	-
90.0	28.0	170.6	-	-	52.6	-	-	16.0	-	251.5	-	-	-
90.0	30.0	24.1	-	-	2222.0	-	-	0.0	-	145.7	-	-	-
90.0	35.0	0.0	-	-	45.2	-	-	0.0	-	182.2	-	-	-
90.0	37.0	0.0	-	-	29.0	-	-	0.0	-	9.1	-	-	-
90.0	45.0	103.8	-	-	85.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	0.0	-	-	8.7	-	-	0.0	-	0.0	-	-	-
90.0	60.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
93.3	26.7	0.0	-	-	941.1	-	-	16.7	-	8.7	-	-	-
93.3	28.0	4.9	-	-	1772.5	-	-	0.0	-	449.5	-	-	-
93.3	30.0	4.8	-	-	20.0	-	-	0.0	-	4.8	-	-	-
93.3	35.0	14.3	-	-	39.4	-	-	4.9	-	0.0	-	-	-
93.3	40.0	4.9	-	-	209.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	0.0	-	-	29.4	-	-	0.0	-	0.0	-	-	-
93.3	50.0	0.0	-	-	115.0	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

Argentina sialis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
70.0	55.0	-	-	-	4.2	-	-	0.0	-	-	-	-	-
76.7	51.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	4.7	-	-	0.0	-	5.5	-	-	-
81.8	46.9	-	4.9	-	0.0	-	-	0.0	-	14.8	-	-	-
83.3	42.0	-	0.0	-	15.3	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	4.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Argentina sialis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 90.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 110.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
86.7 35.0	0.0	-	-	20.8	-	-	0.0	-	0.0	-	-	-
86.7 40.0	0.0	-	-	5.1	-	-	0.0	-	0.0	-	-	-
90.0 30.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-

***Microstoma* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
76.7 55.0	-	8.9	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 60.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 55.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 80.0	-	-	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	6.8	-	0.0	-	-	-
86.7 80.0	0.0	-	-	0.0	-	-	3.9	-	0.0	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	4.9	-	0.0	-	-	-
93.3 55.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	0.0	-	4.1	-	-	-

Nansenia candida

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3 55.0	-	-	-	4.8	-	-	-	-	-	-	-	-
73.3 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7 60.0	-	0.0	-	0.0	-	-	9.4	-	0.0	-	-	-
93.3 55.0	5.0	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	0.0	-	-	4.0	-	0.0	-	-	-

Nansenia crassa

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Bathylagus ochotensis							
66.7	55.0	-	-	-	20.9	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	33.1	-	-	-	-	-	-	-	-
66.7	65.0	-	-	-	14.7	-	-	-	-	-	-	-	-
66.7	70.0	-	-	-	38.4	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	9.5	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	21.6	-	-	0.0	-	-	-	-	-
70.0	55.0	-	-	-	21.2	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	27.8	-	-	0.0	-	-	-	-	-
70.0	65.0	-	-	-	50.5	-	-	0.0	-	-	-	-	-
70.0	70.0	-	-	-	29.5	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	12.1	-	-	-	-	-	-	-	-
73.3	50.4	-	-	-	28.2	-	-	-	-	-	-	-	-
73.3	55.0	-	-	-	48.0	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	24.1	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	16.0	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	12.0	-	-	0.0	-	0.0	-	-	-
76.7	51.0	-	17.3	-	138.3	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	37.4	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	18.2	-	39.6	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	22.9	-	24.0	-	-	0.0	-	0.0	-	-	-
76.7	80.0	-	4.5	-	4.3	-	-	4.4	-	0.0	-	-	-
80.0	55.0	-	9.2	-	9.8	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	60.2	-	-	9.0	-	0.0	-	-	-
80.0	70.0	-	8.4	-	38.6	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	67.9	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	17.6	-	41.7	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	8.7	-	29.8	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	16.8	-	60.2	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	28.4	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	7.7	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Bathylagus ochotensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	40.0	18.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
86.7	55.0	18.4	-	-	52.6	-	-	10.8	-	0.0	-	-	-
86.7	60.0	0.0	-	-	15.7	-	-	0.0	-	0.0	-	-	-
86.7	70.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	90.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	35.0	9.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	9.5	-	-	9.7	-	-	0.0	-	0.0	-	-	-
90.0	45.0	9.4	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	4.7	-	-	26.1	-	-	0.0	-	0.0	-	-	-
90.0	70.0	0.0	-	-	0.0	-	-	8.1	-	0.0	-	-	-
93.3	30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	35.0	23.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	4.7	-	-	58.8	-	-	0.0	-	0.0	-	-	-
93.3	50.0	14.5	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	29.9	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	48.6	-	-	4.4	-	0.0	-	-	-
93.3	70.0	0.0	-	-	8.8	-	-	8.1	-	0.0	-	-	-
93.3	90.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Bathylagus pacificus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	39.0	-	-	-	-	-	-	-	-
66.7	50.0	-	-	-	9.1	-	-	-	-	-	-	-	-
66.7	55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
66.7	70.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0	60.0	-	-	-	13.9	-	-	0.0	-	-	-	-	-
70.0	65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0	70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	4.0	-	-	-	-	-	-	-	-

TABLE 4. (cont.)

Bathylagus pacificus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3 55.0	-	-	-	4.8	-	-	-	-	-	-	-	-
73.3 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7 60.0	-	0.0	-	8.8	-	-	0.0	-	0.0	-	-	-
76.7 90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0 90.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
81.8 46.9	-	34.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 70.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
86.7 80.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

Bathylagus wesethi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 51.0	-	-	-	8.7	-	-	0.0	-	-	-	-	-
73.3 65.0	-	-	-	8.0	-	-	-	-	-	-	-	-
76.7 51.0	-	0.0	-	14.8	-	-	0.0	-	0.0	-	-	-
76.7 70.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	0.0	-	0.0	-	-	30.7	-	0.0	-	-	-
76.7 90.0	-	4.6	-	0.0	-	-	49.0	-	5.2	-	-	-
76.7 100.0	-	0.0	-	4.6	-	-	47.8	-	15.1	-	-	-
80.0 55.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 70.0	-	0.0	-	4.8	-	-	9.2	-	0.0	-	-	-
80.0 80.0	-	11.3	-	40.3	-	-	50.9	-	5.2	-	-	-
80.0 90.0	-	8.4	-	4.9	-	-	67.5	-	4.9	-	-	-
80.0 100.0	-	8.4	-	39.4	-	-	59.6	-	0.0	-	-	-
83.3 55.0	-	0.0	-	0.0	-	-	7.8	-	0.0	-	-	-
83.3 70.0	-	0.0	-	20.1	-	-	17.1	-	0.0	-	-	-
83.3 80.0	-	-	-	14.2	-	-	106.7	-	63.5	-	-	-
83.3 90.0	-	0.0	-	53.8	-	-	29.1	-	13.0	-	-	-
83.3 100.0	-	3.9	-	31.5	-	-	4.1	-	4.6	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	27.1	-	0.0	-	-	-
86.7 55.0	9.2	-	-	43.0	-	-	10.8	-	0.0	-	-	-
86.7 60.0	12.5	-	-	31.4	-	-	17.6	-	0.0	-	-	-

TABLE 4. (cont.)

Bathylagus wesethi (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	70.0	18.9	-	-	91.8	-	-	34.0	-	0.0	-	-	-
86.7	80.0	0.0	-	-	19.4	-	-	61.6	-	20.1	-	-	-
86.7	90.0	0.0	-	-	0.0	-	-	21.0	-	4.7	-	-	-
86.7	100.0	-	4.5	-	-	-	-	31.1	-	0.0	-	-	-
86.7	110.0	-	0.0	-	0.0	-	-	56.6	-	0.0	-	-	-
90.0	35.0	5.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	0.0	-	-	21.8	-	-	0.0	-	4.6	-	-	-
90.0	60.0	4.7	-	-	4.5	-	-	75.1	-	0.0	-	-	-
90.0	70.0	14.7	-	-	8.9	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	52.6	-	30.4	-	-	-
90.0	90.0	4.6	-	-	4.4	-	-	12.8	-	35.1	-	-	-
90.0	100.0	4.4	-	-	0.0	-	-	12.7	-	4.9	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	17.1	-	0.0	-	-	-
90.0	120.0	0.0	-	-	4.7	-	-	0.0	-	0.0	-	-	-
93.3	28.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	40.0	0.0	-	-	0.0	-	-	9.3	-	0.0	-	-	-
93.3	45.0	0.0	-	-	9.8	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	10.0	-	-	0.0	-	5.0	-	-	-
93.3	60.0	18.2	-	-	43.7	-	-	22.1	-	45.3	-	-	-
93.3	70.0	0.0	-	-	17.5	-	-	44.5	-	9.8	-	-	-
93.3	80.0	0.0	-	-	0.0	-	-	12.8	-	4.6	-	-	-
93.3	90.0	14.7	-	-	0.0	-	-	17.1	-	70.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	13.0	-	0.0	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3	120.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-

Leuroglossus stilbius

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	70.0	-	-	-	4.8	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	4.3	-	-	0.0	-	-	-	-	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0	55.0	-	-	-	4.2	-	-	0.0	-	-	-	-	-
73.3	60.0	-	-	-	5.1	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	51.0	-	0.0	-	0.0	-	-	9.1	-	0.0	-	-	-
76.7	55.0	-	4.5	-	4.7	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	13.6	-	4.4	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	4.6	-	19.2	-	-	0.0	-	0.0	-	-	-
76.7	80.0	-	4.5	-	4.3	-	-	0.0	-	0.0	-	-	-
80.0	55.0	-	9.2	-	19.7	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	50.2	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	4.2	-	164.2	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	15.1	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	90.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	39.3	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3	42.0	-	0.0	-	61.3	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	8.8	-	166.7	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	4.4	-	29.8	-	-	6.8	-	0.0	-	-	-
83.3	70.0	-	29.3	-	30.1	-	-	0.0	-	0.0	-	-	-
86.7	35.0	18.9	-	-	129.8	-	-	0.0	-	0.0	-	-	-
86.7	40.0	42.0	-	-	71.4	-	-	0.0	-	0.0	-	-	-
86.7	45.0	14.5	-	-	27.6	-	-	0.0	-	0.0	-	-	-
86.7	50.0	15.7	-	-	25.0	-	-	0.0	-	0.0	-	-	-
86.7	55.0	32.2	-	-	23.9	-	-	10.8	-	0.0	-	-	-
86.7	60.0	4.2	-	-	36.6	-	-	8.8	-	0.0	-	-	-
86.7	70.0	9.5	-	-	5.1	-	-	0.0	-	0.0	-	-	-
90.0	30.0	0.0	-	-	77.1	-	-	0.0	-	0.0	-	-	-
90.0	35.0	0.0	-	-	35.1	-	-	0.0	-	0.0	-	-	-
90.0	37.0	0.0	-	-	19.4	-	-	0.0	-	0.0	-	-	-
93.3	28.0	0.0	-	-	83.5	-	-	0.0	-	0.0	-	-	-
93.3	30.0	0.0	-	-	29.9	-	-	0.0	-	0.0	-	-	-
93.3	35.0	0.0	-	-	9.8	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 40.0	0.0	-	-	148.5	-	-	0.0	-	0.0	-	-	-
93.3 45.0	4.7	-	-	107.8	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	60.0	-	-	0.0	-	0.0	-	-	-
93.3 55.0	0.0	-	-	49.8	-	-	0.0	-	0.0	-	-	-
93.3 60.0	0.0	-	-	48.6	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
93.3 90.0	0.0	-	-	4.6	-	-	0.0	-	0.0	-	-	-
93.3 100.0	0.0	-	-	9.6	-	-	0.0	-	0.0	-	-	-

***Cyclothone* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3 65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7 100.0	-	16.9	-	27.7	-	-	0.0	-	0.0	-	-	-
80.0 70.0	-	0.0	-	0.0	-	-	4.6	-	0.0	-	-	-
80.0 80.0	-	7.5	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 90.0	-	4.2	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 100.0	-	29.5	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
83.3 100.0	-	15.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
86.7 60.0	4.2	-	-	5.2	-	-	0.0	-	0.0	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	9.4	-	0.0	-	-	-
90.0 120.0	0.0	-	-	4.7	-	-	4.5	-	0.0	-	-	-
93.3 60.0	4.6	-	-	9.7	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
93.3 110.0	4.9	-	-	4.7	-	-	0.0	-	0.0	-	-	-

Cyclothone acclinidens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	0.0	-	9.9	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-

TABLE 4. (cont.)

Cyclothone acclinidens (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	10.1	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Cyclothone pseudopallida

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	9.2	-	-	0.0	-	0.0	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-

Cyclothone signata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 55.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 60.0	-	0.0	-	0.0	-	-	9.4	-	0.0	-	-	-
76.7 70.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	0.0	-	0.0	-	-	21.9	-	0.0	-	-	-
76.7 90.0	-	0.0	-	0.0	-	-	40.1	-	10.5	-	-	-
76.7 100.0	-	0.0	-	13.8	-	-	21.8	-	5.0	-	-	-
80.0 70.0	-	0.0	-	14.5	-	-	4.6	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	29.7	-	0.0	-	-	-
80.0 90.0	-	0.0	-	4.9	-	-	4.2	-	19.7	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	42.6	-	35.9	-	-	-
83.3 55.0	-	4.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 60.0	-	4.4	-	5.0	-	-	0.0	-	0.0	-	-	-
83.3 70.0	-	0.0	-	5.0	-	-	17.1	-	0.0	-	-	-
83.3 80.0	-	-	-	9.5	-	-	21.3	-	37.0	-	-	-
83.3 90.0	-	0.0	-	22.4	-	-	4.2	-	47.7	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	8.2	-	41.3	-	-	-
83.3 110.0	-	0.0	-	4.8	-	-	6.8	-	4.4	-	-	-
86.7 50.0	0.0	-	-	10.0	-	-	0.0	-	4.0	-	-	-
86.7 55.0	0.0	-	-	0.0	-	-	10.8	-	0.0	-	-	-

TABLE 4. (cont.)

Cyclothone signata (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	60.0	4.2	-	-	10.5	-	-	0.0	-	0.0	-	-	-
86.7	70.0	4.7	-	-	45.9	-	-	0.0	-	8.6	-	-	-
86.7	80.0	4.4	-	-	43.6	-	-	7.7	-	15.1	-	-	-
86.7	90.0	4.4	-	-	8.7	-	-	21.0	-	9.3	-	-	-
86.7	100.0	-	0.0	-	-	-	-	13.8	-	49.1	-	-	-
86.7	110.0	-	0.0	-	0.0	-	-	0.0	-	48.1	-	-	-
90.0	30.0	14.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	9.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	4.7	-	-	8.7	-	-	0.0	-	4.6	-	-	-
90.0	60.0	4.7	-	-	18.1	-	-	5.0	-	0.0	-	-	-
90.0	70.0	4.9	-	-	17.8	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	4.7	-	-	48.2	-	55.8	-	-	-
90.0	90.0	0.0	-	-	8.8	-	-	21.4	-	0.0	-	-	-
90.0	100.0	4.4	-	-	9.0	-	-	0.0	-	4.9	-	-	-
90.0	110.0	36.2	-	-	0.0	-	-	30.0	-	39.6	-	-	-
90.0	120.0	18.8	-	-	18.7	-	-	26.9	-	25.3	-	-	-
93.3	45.0	4.7	-	-	9.8	-	-	0.0	-	4.6	-	-	-
93.3	50.0	4.8	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	14.6	-	-	4.4	-	0.0	-	-	-
93.3	70.0	4.8	-	-	8.8	-	-	28.3	-	0.0	-	-	-
93.3	80.0	9.4	-	-	0.0	-	-	4.3	-	9.1	-	-	-
93.3	90.0	4.9	-	-	0.0	-	-	17.1	-	23.4	-	-	-
93.3	100.0	38.8	-	-	0.0	-	-	4.3	-	21.9	-	-	-
93.3	110.0	14.6	-	-	0.0	-	-	25.7	-	39.9	-	-	-
93.3	120.0	9.4	-	-	5.0	-	-	54.2	-	13.5	-	-	-

Sternoptychidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	100.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

***Argyropelecus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0	55.0	-	-	-	4.2	-	-	0.0	-	-	-	-	-
80.0	100.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
93.3	30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	120.0	0.0	-	-	0.0	-	-	0.0	-	4.5	-	-	-

Argyropelecus affinis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
80.0	80.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
86.7	80.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
86.7	90.0	0.0	-	-	4.3	-	-	0.0	-	0.0	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	0.0	-	-	4.3	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	0.0	-	5.1	-	-	-
90.0	100.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3	45.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-

Argyropelecus hemigymnus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	70.0	-	0.0	-	9.6	-	-	0.0	-	0.0	-	-	-
76.7	90.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	10.3	-	-	-
83.3	90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
86.7	60.0	0.0	-	-	10.5	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	5.1	-	-	0.0	-	0.0	-	-	-
86.7	80.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Argyropelecus hemigymnus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	4.4	-	-	0.0	-	-	0.0	-	9.3	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	5.1	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	0.0	-	4.1	-	-	-
93.3 70.0	4.8	-	-	0.0	-	-	0.0	-	4.9	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Argyropelecus lychnus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	0.0	-	-	13.0	-	0.0	-	-	-
80.0 70.0	-	0.0	-	0.0	-	-	4.6	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	8.5	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	4.1	-	0.0	-	-	-
86.7 60.0	4.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 70.0	0.0	-	-	5.1	-	-	0.0	-	0.0	-	-	-
86.7 80.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 90.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 120.0	0.0	-	-	0.0	-	-	4.5	-	5.0	-	-	-
93.3 60.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 80.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	0.0	-	17.5	-	-	-
93.3 110.0	4.9	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Argyropelecus sladeni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
66.7 60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
70.0 80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 70.0	-	9.1	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Argyropelecus sladeni (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7	90.0	-	9.2	-	9.9	-	-	4.5	-	0.0	-	-	-
80.0	80.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	90.0	-	0.0	-	4.9	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	9.5	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7	40.0	0.0	-	-	5.1	-	-	0.0	-	0.0	-	-	-
86.7	45.0	0.0	-	-	4.6	-	-	0.0	-	0.0	-	-	-
86.7	50.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	0.0	-	-	8.5	-	0.0	-	-	-
86.7	110.0	-	9.2	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0	30.0	4.8	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	60.0	0.0	-	-	0.0	-	-	5.0	-	0.0	-	-	-
90.0	70.0	4.9	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0	80.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	90.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	100.0	4.4	-	-	0.0	-	-	8.4	-	0.0	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	9.9	-	-	-
93.3	28.0	0.0	-	-	4.9	-	-	0.0	-	4.9	-	-	-
93.3	30.0	9.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	35.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	50.0	9.7	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	80.0	0.0	-	-	0.0	-	-	4.3	-	4.6	-	-	-
93.3	90.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

TABLE 4. (cont.)

Danaphos oculatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
70.0 65.0	-	-	-	0.0	-	-	8.6	-	-	-	-	-
76.7 55.0	-	0.0	-	0.0	-	-	0.0	-	5.5	-	-	-
76.7 70.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 90.0	-	4.6	-	5.0	-	-	0.0	-	5.2	-	-	-
80.0 70.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	0.0	-	5.1	-	-	-
83.3 55.0	-	0.0	-	5.2	-	-	0.0	-	0.0	-	-	-
83.3 60.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
83.3 80.0	-	-	-	4.7	-	-	0.0	-	0.0	-	-	-
86.7 60.0	0.0	-	-	10.5	-	-	0.0	-	0.0	-	-	-
86.7 90.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
90.0 37.0	0.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0 80.0	9.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	0.0	-	9.9	-	-	-
93.3 45.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-
93.3 55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-

***Sternoptyx* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	4.3	-	-	0.0	-	0.0	-	-	-
76.7 90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7 100.0	-	4.2	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3 55.0	-	4.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	4.2	-	0.0	-	-	-
83.3 100.0	-	3.9	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-

TABLE 4. (cont.)

***Sternoptyx* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	100.0	-	0.0	-	-	-	-	3.5	-	0.0	-	-	-
90.0	70.0	0.0	-	-	8.9	-	-	0.0	-	0.0	-	-	-
90.0	100.0	4.4	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	0.0	-	9.9	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	17.9	-	0.0	-	-	-
93.3	60.0	0.0	-	-	0.0	-	-	0.0	-	4.1	-	-	-
93.3	70.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
93.3	90.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3	100.0	0.0	-	-	0.0	-	-	0.0	-	8.8	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	0.0	-	8.9	-	-	-

Ichthyococcus irregularis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
86.7	80.0	0.0	-	-	9.7	-	-	3.9	-	0.0	-	-	-
90.0	53.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-
93.3	70.0	4.8	-	-	0.0	-	-	4.0	-	0.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Vinciguerria lucetia

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
76.7	51.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
76.7	80.0	-	0.0	-	0.0	-	-	166.8	-	24.8	-	-	-
76.7	90.0	-	9.2	-	5.0	-	-	881.1	-	41.8	-	-	-
76.7	100.0	-	8.5	-	23.1	-	-	539.4	-	180.7	-	-	-
80.0	55.0	-	0.0	-	0.0	-	-	0.0	-	18.0	-	-	-
80.0	60.0	-	-	-	0.0	-	-	0.0	-	5.3	-	-	-
80.0	70.0	-	0.0	-	0.0	-	-	64.4	-	0.0	-	-	-
80.0	80.0	-	3.8	-	5.0	-	-	1242.3	-	20.6	-	-	-
80.0	90.0	-	0.0	-	14.6	-	-	1139.4	-	108.2	-	-	-

TABLE 4. (cont.)

Vinciguerria lucetia (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	100.0	-	0.0	-	191.9	-	-	1444.1	-	543.8	-	-	-
83.3	42.0	-	8.2	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	13.2	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	0.0	-	0.0	-	-	0.0	-	10.1	-	-	-
83.3	70.0	-	0.0	-	5.0	-	-	401.0	-	13.4	-	-	-
83.3	80.0	-	-	-	9.5	-	-	538.0	-	359.7	-	-	-
83.3	90.0	-	8.6	-	0.0	-	-	1510.1	-	564.2	-	-	-
83.3	100.0	-	3.9	-	0.0	-	-	364.9	-	215.7	-	-	-
83.3	110.0	-	11.6	-	28.5	-	-	1650.9	-	8.8	-	-	-
86.7	40.0	32.7	-	-	0.0	-	-	0.0	-	4.7	-	-	-
86.7	55.0	4.6	-	-	0.0	-	-	0.0	-	14.2	-	-	-
86.7	60.0	29.1	-	-	26.2	-	-	0.0	-	0.0	-	-	-
86.7	70.0	4.7	-	-	229.5	-	-	0.0	-	193.5	-	-	-
86.7	80.0	4.4	-	-	67.8	-	-	50.1	-	492.0	-	-	-
86.7	90.0	13.3	-	-	238.7	-	-	1226.4	-	181.4	-	-	-
86.7	100.0	-	0.0	-	-	-	-	1505.1	-	80.3	-	-	-
86.7	110.0	-	4.6	-	146.4	-	-	363.4	-	134.7	-	-	-
90.0	28.0	27.7	-	-	0.0	-	-	0.0	-	5.8	-	-	-
90.0	30.0	111.1	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	35.0	79.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	100.2	-	-	0.0	-	-	0.0	-	18.2	-	-	-
90.0	45.0	56.6	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	9.5	-	-	8.7	-	-	0.0	-	13.9	-	-	-
90.0	60.0	14.1	-	-	27.2	-	-	25.0	-	66.2	-	-	-
90.0	70.0	39.2	-	-	414.8	-	-	0.0	-	67.8	-	-	-
90.0	80.0	0.0	-	-	264.9	-	-	827.8	-	2220.7	-	-	-
90.0	90.0	0.0	-	-	26.3	-	-	1164.2	-	843.4	-	-	-
90.0	100.0	26.2	-	-	107.8	-	-	1080.3	-	143.0	-	-	-
90.0	110.0	45.2	-	-	43.4	-	-	1232.6	-	762.3	-	-	-
90.0	120.0	14.1	-	-	443.6	-	-	1290.2	-	419.1	-	-	-
93.3	26.7	34.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Vinciguerria lucetia (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 28.0	87.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 30.0	106.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 35.0	133.8	-	-	0.0	-	-	92.7	-	8.5	-	-	-
93.3 40.0	0.0	-	-	0.0	-	-	0.0	-	17.1	-	-	-
93.3 45.0	0.0	-	-	0.0	-	-	4.6	-	13.8	-	-	-
93.3 50.0	9.7	-	-	5.0	-	-	0.0	-	24.1	-	-	-
93.3 55.0	0.0	-	-	19.9	-	-	0.0	-	0.0	-	-	-
93.3 60.0	18.2	-	-	53.5	-	-	97.2	-	49.4	-	-	-
93.3 70.0	0.0	-	-	56.9	-	-	526.5	-	9.8	-	-	-
93.3 80.0	14.1	-	-	166.3	-	-	497.3	-	241.7	-	-	-
93.3 90.0	4.9	-	-	46.1	-	-	573.5	-	1312.3	-	-	-
93.3 100.0	82.4	-	-	210.3	-	-	442.7	-	1020.5	-	-	-
93.3 110.0	63.2	-	-	66.4	-	-	922.4	-	1191.7	-	-	-
93.3 120.0	4.7	-	-	20.0	-	-	963.3	-	216.0	-	-	-

Vinciguerria poweriae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	9.2	-	-	0.0	-	0.0	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	30.4	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

Chauliodus macouni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
70.0 55.0	-	-	-	8.5	-	-	0.0	-	-	-	-	-
70.0 65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0 70.0	-	-	-	16.8	-	-	-	-	-	-	-	-
70.0 80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3 55.0	-	-	-	4.8	-	-	-	-	-	-	-	-
73.3 65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3 70.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 51.0	-	0.0	-	9.9	-	-	0.0	-	0.0	-	-	-
76.7 70.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Chauliodus macouni (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	5.0	-	-	8.9	-	0.0	-	-	-
80.0 55.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 60.0	-	-	-	5.0	-	-	0.0	-	0.0	-	-	-
83.3 55.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 60.0	-	0.0	-	0.0	-	-	6.8	-	0.0	-	-	-
83.3 70.0	-	0.0	-	5.0	-	-	0.0	-	4.5	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 60.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 45.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
93.3 50.0	0.0	-	-	0.0	-	-	0.0	-	4.8	-	-	-
93.3 60.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-

Stomias atriventer

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	4.4	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 90.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 100.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 55.0	9.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 60.0	29.1	-	-	10.5	-	-	0.0	-	0.0	-	-	-
86.7 70.0	4.7	-	-	5.1	-	-	0.0	-	0.0	-	-	-
86.7 110.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 45.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 53.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
90.0 70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 80.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0 120.0	0.0	-	-	4.7	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Stomias atriventer (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	9.1	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	4.9	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Bathophilus flemingi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	4.6	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	8.5	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	0.0	-	5.1	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 100.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
93.3 35.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-

***Photonectes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-

Tactostoma macropus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 60.0	0.0	-	-	0.0	-	-	5.0	-	0.0	-	-	-

Aristostomias scintillans

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 100.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
86.7 55.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 110.0	4.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 120.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	0.0	-	-	4.0	-	0.0	-	-	-
93.3 110.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Idiacanthus antrostomus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	17.8	-	0.0	-	-	-
80.0 70.0	-	0.0	-	0.0	-	-	4.6	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	21.2	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	0.0	-	19.7	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	5.1	-	-	-
83.3 80.0	-	-	-	0.0	-	-	8.5	-	5.3	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	8.3	-	8.7	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	20.3	-	0.0	-	-	-
86.7 60.0	0.0	-	-	0.0	-	-	0.0	-	4.5	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	0.0	-	8.6	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	9.3	-	-	-
86.7 100.0	-	0.0	-	-	-	-	3.5	-	0.0	-	-	-
90.0 70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	8.8	-	0.0	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	8.4	-	0.0	-	-	-
93.3 30.0	0.0	-	-	0.0	-	-	0.0	-	4.8	-	-	-
93.3 70.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-
93.3 90.0	0.0	-	-	0.0	-	-	0.0	-	23.4	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Benthalbella dentata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Rosenblattichthys volucris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	4.6	-	-	4.3	-	0.0	-	-	-
80.0 80.0	-	3.8	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	0.0	-	4.3	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-
86.7 55.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Rosenblattichthys volucris (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 60.0	4.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	0.0	-	4.3	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0 100.0	8.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Scopelarchus analis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	4.2	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	0.0	-	4.3	-	-	-
86.7 90.0	0.0	-	-	8.7	-	-	0.0	-	4.7	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Scopelosaurus harryi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-
90.0 60.0	0.0	-	-	0.0	-	-	5.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-

Synodus lucioceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
93.3 28.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Paralepididae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 60.0	0.0	-	-	0.0	-	-	0.0	-	4.5	-	-	-

TABLE 4. (cont.)

Arctozenus risso

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	100.0	-	4.2	-	4.6	-	-	0.0	-	5.0	-	-	-
80.0	80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0	90.0	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3	80.0	-	-	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3	90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
83.3	110.0	-	3.9	-	0.0	-	-	3.4	-	0.0	-	-	-
86.7	110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0	90.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	120.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-

Lestidiops ringens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3	65.0	-	-	-	8.0	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	70.0	-	0.0	-	0.0	-	-	0.0	-	5.3	-	-	-
76.7	80.0	-	0.0	-	0.0	-	-	4.4	-	9.9	-	-	-
80.0	70.0	-	0.0	-	0.0	-	-	4.6	-	0.0	-	-	-
80.0	90.0	-	0.0	-	4.9	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	4.7	-	-	0.0	-	10.6	-	-	-
86.7	60.0	4.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	5.1	-	-	0.0	-	4.3	-	-	-
86.7	80.0	0.0	-	-	9.7	-	-	3.9	-	0.0	-	-	-
86.7	90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
86.7	100.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-	-
90.0	53.0	0.0	-	-	4.3	-	-	0.0	-	0.0	-	-	-
90.0	60.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
93.3	55.0	0.0	-	-	0.0	-	-	8.1	-	5.0	-	-	-

TABLE 4. (cont.)

Lestidiops ringens (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 60.0	0.0	-	-	0.0	-	-	4.4	-	24.7	-	-	-
93.3 70.0	4.8	-	-	4.4	-	-	8.1	-	0.0	-	-	-
93.3 80.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Stemonosudis macrura

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	-	4.7	-	-	9.0	-	0.0	-	-	-

Myctophidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0 70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
76.7 51.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
76.7 55.0	-	0.0	-	4.7	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	0.0	-	4.3	-	-	0.0	-	0.0	-	-	-
80.0 70.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
83.3 80.0	-	-	-	4.7	-	-	0.0	-	0.0	-	-	-
83.3 100.0	-	7.7	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
86.7 70.0	0.0	-	-	5.1	-	-	0.0	-	4.3	-	-	-
90.0 60.0	0.0	-	-	13.6	-	-	0.0	-	0.0	-	-	-
90.0 80.0	0.0	-	-	4.7	-	-	0.0	-	0.0	-	-	-

Ceratoscopelus townsendi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 65.0	-	-	-	0.0	-	-	8.6	-	-	-	-	-
73.3 65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 60.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	0.0	-	0.0	-	-	8.8	-	0.0	-	-	-
76.7 90.0	-	0.0	-	9.9	-	-	49.0	-	20.9	-	-	-
76.7 100.0	-	4.2	-	32.3	-	-	60.9	-	35.1	-	-	-
80.0 70.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	33.9	-	5.2	-	-	-

TABLE 4. (cont.)

Ceratoscopelus townsendi (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	0.0	-	0.0	-	-	63.3	-	4.9	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	63.9	-	46.2	-	-	-
83.3	42.0	-	4.1	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	0.0	-	5.0	-	-	8.5	-	0.0	-	-	-
83.3	80.0	-	-	-	0.0	-	-	34.2	-	5.3	-	-	-
83.3	90.0	-	4.3	-	0.0	-	-	70.7	-	47.7	-	-	-
83.3	100.0	-	0.0	-	0.0	-	-	16.4	-	82.6	-	-	-
83.3	110.0	-	15.5	-	0.0	-	-	33.9	-	39.6	-	-	-
86.7	60.0	20.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	5.1	-	-	0.0	-	12.9	-	-	-
86.7	80.0	0.0	-	-	0.0	-	-	3.9	-	15.1	-	-	-
86.7	90.0	0.0	-	-	4.3	-	-	63.0	-	46.5	-	-	-
86.7	100.0	-	0.0	-	-	-	-	65.7	-	111.5	-	-	-
86.7	110.0	-	13.8	-	19.5	-	-	47.2	-	134.7	-	-	-
90.0	30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	45.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	9.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	60.0	0.0	-	-	0.0	-	-	5.0	-	0.0	-	-	-
90.0	70.0	29.4	-	-	8.9	-	-	0.0	-	4.2	-	-	-
90.0	80.0	4.6	-	-	14.2	-	-	43.8	-	30.4	-	-	-
90.0	90.0	0.0	-	-	4.4	-	-	30.0	-	10.0	-	-	-
90.0	100.0	17.5	-	-	152.7	-	-	109.7	-	29.6	-	-	-
90.0	110.0	36.2	-	-	0.0	-	-	51.4	-	44.6	-	-	-
90.0	120.0	37.6	-	-	23.4	-	-	210.6	-	70.7	-	-	-
93.3	30.0	0.0	-	-	0.0	-	-	4.5	-	0.0	-	-	-
93.3	35.0	0.0	-	-	0.0	-	-	4.9	-	0.0	-	-	-
93.3	60.0	0.0	-	-	0.0	-	-	0.0	-	8.2	-	-	-
93.3	70.0	4.8	-	-	0.0	-	-	0.0	-	4.9	-	-	-
93.3	80.0	4.7	-	-	0.0	-	-	59.5	-	18.2	-	-	-

TABLE 4. (cont.)

Ceratoscopelus townsendi (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 90.0	0.0	-	-	4.6	-	-	42.8	-	23.4	-	-	-
93.3 100.0	24.3	-	-	19.1	-	-	26.0	-	61.3	-	-	-
93.3 110.0	121.5	-	-	4.7	-	-	141.6	-	39.9	-	-	-
93.3 120.0	47.0	-	-	10.0	-	-	87.6	-	31.5	-	-	-

***Diaphus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 65.0	-	-	-	0.0	-	-	8.6	-	-	-	-	-
76.7 60.0	-	0.0	-	0.0	-	-	9.4	-	0.0	-	-	-
76.7 80.0	-	0.0	-	0.0	-	-	0.0	-	5.0	-	-	-
76.7 90.0	-	0.0	-	0.0	-	-	4.5	-	0.0	-	-	-
83.3 70.0	-	0.0	-	0.0	-	-	0.0	-	4.5	-	-	-
83.3 80.0	-	-	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	0.0	-	4.3	-	-	-
86.7 60.0	0.0	-	-	0.0	-	-	8.8	-	0.0	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	17.0	-	4.3	-	-	-
86.7 80.0	0.0	-	-	0.0	-	-	3.9	-	0.0	-	-	-
86.7 90.0	0.0	-	-	13.0	-	-	0.0	-	0.0	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0 70.0	0.0	-	-	8.9	-	-	0.0	-	8.5	-	-	-
90.0 80.0	0.0	-	-	4.7	-	-	0.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
90.0 120.0	0.0	-	-	4.7	-	-	0.0	-	5.0	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	0.0	-	4.2	-	-	-
93.3 40.0	0.0	-	-	0.0	-	-	4.6	-	0.0	-	-	-
93.3 55.0	0.0	-	-	0.0	-	-	8.1	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Lampadena urophaos

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	4.5	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-

TABLE 4. (cont.)

Lampadena urophaos (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-
86.7	100.0	-	0.0	-	-	-	-	6.9	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	10.1	-	-	-
93.3	90.0	0.0	-	-	0.0	-	-	0.0	-	14.0	-	-	-
93.3	100.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3	120.0	0.0	-	-	0.0	-	-	20.9	-	0.0	-	-	-

***Lampanyctus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
66.7	55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
66.7	65.0	-	-	-	4.9	-	-	-	-	-	-	-	-
66.7	70.0	-	-	-	9.6	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0	55.0	-	-	-	8.5	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	0.0	-	-	8.7	-	-	-	-	-
70.0	65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0	70.0	-	-	-	25.3	-	-	-	-	-	-	-	-
70.0	80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3	50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	10.2	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	24.1	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3	80.0	-	-	-	14.4	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
76.7	51.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	26.4	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	0.0	-	9.6	-	-	0.0	-	5.3	-	-	-
76.7	80.0	-	4.5	-	8.7	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						***Lampanyctus* spp.** (cont.)							
76.7	90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	30.1	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	9.7	-	-	23.0	-	0.0	-	-	-
80.0	80.0	-	0.0	-	10.1	-	-	4.2	-	0.0	-	-	-
80.0	90.0	-	0.0	-	24.3	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	4.2	-	19.7	-	-	0.0	-	5.1	-	-	-
83.3	40.6	-	3.3	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	0.0	-	15.6	-	-	0.0	-	4.6	-	-	-
83.3	60.0	-	0.0	-	14.9	-	-	6.8	-	0.0	-	-	-
83.3	70.0	-	0.0	-	15.1	-	-	8.5	-	0.0	-	-	-
83.3	80.0	-	-	-	9.5	-	-	4.3	-	0.0	-	-	-
83.3	90.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	19.3	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	110.0	-	0.0	-	0.0	-	-	6.8	-	0.0	-	-	-
86.7	55.0	4.6	-	-	14.3	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	15.3	-	-	0.0	-	0.0	-	-	-
86.7	80.0	4.4	-	-	43.6	-	-	0.0	-	0.0	-	-	-
86.7	90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
86.7	100.0	-	9.0	-	-	-	-	6.9	-	0.0	-	-	-
86.7	110.0	-	13.8	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	28.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	35.0	0.0	-	-	0.0	-	-	0.0	-	5.4	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	4.7	-	-	4.3	-	-	0.0	-	0.0	-	-	-
90.0	60.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0	70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	80.0	9.2	-	-	0.0	-	-	13.1	-	5.1	-	-	-
90.0	90.0	0.0	-	-	0.0	-	-	4.3	-	5.0	-	-	-
90.0	100.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-
90.0	110.0	4.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

***Lampanyctus* spp.** (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	-	0.0	-	-	4.5	-	0.0	-	-	-
93.3 30.0	0.0	-	-	29.9	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	11.0	-	-	0.0	-	0.0	-	-	-
93.3 45.0	0.0	-	-	9.8	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-
93.3 55.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	4.6	-	-	4.9	-	-	0.0	-	0.0	-	-	-
93.3 70.0	0.0	-	-	8.8	-	-	0.0	-	0.0	-	-	-
93.3 90.0	4.9	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 100.0	19.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 120.0	0.0	-	-	0.0	-	-	8.3	-	0.0	-	-	-

***Lampanyctus* "niger"**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 110.0	4.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 120.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-

***Lampanyctus* "no pectorals"**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 120.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 120.0	0.0	-	-	0.0	-	-	8.3	-	0.0	-	-	-

Lampanyctus regalis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 70.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0 60.0	-	-	-	0.0	-	-	8.7	-	-	-	-	-
70.0 65.0	-	-	-	0.0	-	-	8.6	-	-	-	-	-
76.7 70.0	-	0.0	-	0.0	-	-	10.2	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3 70.0	-	0.0	-	0.0	-	-	59.7	-	0.0	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	0.0	-	4.3	-	-	-

TABLE 4. (cont.)

Lampanyctus regalis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	35.0	0.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0	53.0	0.0	-	-	0.0	-	-	18.7	-	0.0	-	-	-
90.0	60.0	0.0	-	-	0.0	-	-	15.0	-	0.0	-	-	-

Lampanyctus ritteri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	55.0	-	-	-	5.2	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0	70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	60.0	-	13.6	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	13.7	-	4.8	-	-	20.3	-	5.3	-	-	-
76.7	80.0	-	4.5	-	4.3	-	-	26.3	-	5.0	-	-	-
76.7	90.0	-	13.8	-	0.0	-	-	8.9	-	0.0	-	-	-
80.0	60.0	-	-	-	0.0	-	-	27.1	-	0.0	-	-	-
80.0	70.0	-	4.2	-	0.0	-	-	4.6	-	0.0	-	-	-
80.0	80.0	-	0.0	-	10.1	-	-	8.5	-	0.0	-	-	-
80.0	90.0	-	12.6	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	4.1	-	0.0	-	-	-
83.3	55.0	-	0.0	-	5.2	-	-	7.8	-	0.0	-	-	-
83.3	60.0	-	8.7	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	4.7	-	-	4.3	-	5.3	-	-	-
83.3	90.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	11.6	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	0.0	-	3.7	-	-	-
86.7	60.0	8.3	-	-	52.3	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	5.1	-	-	17.0	-	0.0	-	-	-
86.7	80.0	0.0	-	-	0.0	-	-	3.9	-	5.0	-	-	-
86.7	100.0	-	9.0	-	-	-	-	0.0	-	0.0	-	-	-
90.0	30.0	4.8	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	35.0	9.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	14.3	-	-	0.0	-	-	4.7	-	0.0	-	-	-

TABLE 4. (cont.)

Lampanyctus ritteri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	53.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
90.0	60.0	9.4	-	-	0.0	-	-	15.0	-	0.0	-	-	-
90.0	70.0	19.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	0.0	-	10.1	-	-	-
93.3	28.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	30.0	9.7	-	-	0.0	-	-	9.1	-	0.0	-	-	-
93.3	35.0	9.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	50.0	0.0	-	-	10.0	-	-	0.0	-	4.8	-	-	-
93.3	55.0	0.0	-	-	14.9	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	9.7	-	-	4.4	-	0.0	-	-	-
93.3	90.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Lampanyctus steinbecki

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
83.3	110.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
86.7	110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	4.5	-	0.0	-	-	-
93.3	120.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-

Notolychnus valdiviae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	55.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	110.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-
90.0	110.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Notoscopelus resplendens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	100.0	-	0.0	-	0.0	-	-	8.5	-	0.0	-	-	-

TABLE 4. (cont.)

Notoscopelus resplendens (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 80.0	-	-	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	0.0	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0 100.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0 120.0	4.7	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	0.0	-	8.8	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	17.2	-	0.0	-	-	-
93.3 120.0	4.7	-	-	0.0	-	-	4.2	-	0.0	-	-	-

Parvilux ingens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-

Stenobrachius leucopsarus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
66.7 55.0	-	-	-	20.9	-	-	-	-	-	-	-	-
66.7 60.0	-	-	-	42.6	-	-	-	-	-	-	-	-
66.7 65.0	-	-	-	19.6	-	-	-	-	-	-	-	-
66.7 70.0	-	-	-	72.0	-	-	-	-	-	-	-	-
66.7 80.0	-	-	-	62.0	-	-	-	-	-	-	-	-
70.0 51.0	-	-	-	4.3	-	-	17.9	-	-	-	-	-
70.0 55.0	-	-	-	16.9	-	-	0.0	-	-	-	-	-
70.0 60.0	-	-	-	51.0	-	-	26.1	-	-	-	-	-
70.0 65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0 70.0	-	-	-	25.3	-	-	-	-	-	-	-	-
70.0 80.0	-	-	-	105.3	-	-	-	-	-	-	-	-
73.3 50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
73.3 55.0	-	-	-	91.2	-	-	-	-	-	-	-	-
73.3 60.0	-	-	-	35.8	-	-	-	-	-	-	-	-

TABLE 4. (cont.)

Stenobrachius leucopsarus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3	65.0	-	-	-	12.0	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	36.0	-	-	-	-	-	-	-	-
73.3	80.0	-	-	-	14.4	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
76.7	51.0	-	0.0	-	103.7	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	70.2	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	30.8	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	18.3	-	91.2	-	-	0.0	-	0.0	-	-	-
76.7	80.0	-	4.5	-	8.7	-	-	0.0	-	0.0	-	-	-
76.7	90.0	-	9.2	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	13.5	-	-	0.0	-	0.0	-	-	-
80.0	55.0	-	0.0	-	39.3	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	120.5	-	-	27.1	-	0.0	-	-	-
80.0	70.0	-	16.8	-	125.6	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	3.8	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	90.0	-	0.0	-	14.6	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	14.8	-	-	4.3	-	0.0	-	-	-
81.8	46.9	-	4.9	-	15.5	-	-	0.0	-	0.0	-	-	-
83.3	40.6	-	0.0	-	3.7	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	0.0	-	66.4	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	9.2	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	4.4	-	244.9	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	4.4	-	64.6	-	-	13.6	-	0.0	-	-	-
83.3	70.0	-	4.2	-	60.2	-	-	0.0	-	0.0	-	-	-
83.3	80.0	-	-	-	42.7	-	-	0.0	-	0.0	-	-	-
83.3	90.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	34.6	-	0.0	-	-	0.0	-	9.2	-	-	-
86.7	33.0	0.0	-	-	4.2	-	-	0.0	-	0.0	-	-	-
86.7	35.0	0.0	-	-	62.3	-	-	0.0	-	0.0	-	-	-
86.7	40.0	9.3	-	-	5.1	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Stenobrachius leucopsarus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 45.0	4.8	-	-	23.0	-	-	0.0	-	0.0	-	-	-
86.7 50.0	0.0	-	-	30.1	-	-	8.2	-	0.0	-	-	-
86.7 55.0	13.8	-	-	4.8	-	-	10.8	-	0.0	-	-	-
86.7 60.0	0.0	-	-	15.7	-	-	0.0	-	0.0	-	-	-
86.7 90.0	0.0	-	-	4.3	-	-	4.2	-	0.0	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
90.0 28.0	0.0	-	-	30.1	-	-	0.0	-	0.0	-	-	-
90.0 30.0	0.0	-	-	53.0	-	-	0.0	-	0.0	-	-	-
90.0 35.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0 37.0	0.0	-	-	9.7	-	-	4.7	-	0.0	-	-	-
90.0 45.0	0.0	-	-	60.0	-	-	0.0	-	0.0	-	-	-
90.0 53.0	0.0	-	-	4.3	-	-	9.3	-	0.0	-	-	-
90.0 60.0	0.0	-	-	0.0	-	-	5.0	-	0.0	-	-	-
90.0 80.0	9.2	-	-	0.0	-	-	0.0	-	5.1	-	-	-
90.0 100.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
93.3 26.7	0.0	-	-	8.9	-	-	0.0	-	0.0	-	-	-
93.3 28.0	0.0	-	-	68.7	-	-	0.0	-	0.0	-	-	-
93.3 30.0	0.0	-	-	39.9	-	-	0.0	-	0.0	-	-	-
93.3 35.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-
93.3 45.0	9.5	-	-	29.4	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	15.0	-	-	0.0	-	0.0	-	-	-
93.3 55.0	0.0	-	-	10.0	-	-	8.1	-	0.0	-	-	-
93.3 60.0	0.0	-	-	14.6	-	-	8.8	-	0.0	-	-	-
93.3 70.0	0.0	-	-	13.1	-	-	0.0	-	0.0	-	-	-
93.3 90.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 120.0	0.0	-	-	10.0	-	-	0.0	-	0.0	-	-	-

Taaningichthys minimus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Triphoturus mexicanus							
70.0	55.0	-	-	-	0.0	-	-	18.2	-	-	-	-	-
76.7	51.0	-	0.0	-	0.0	-	-	0.0	-	42.1	-	-	-
76.7	60.0	-	0.0	-	0.0	-	-	9.4	-	4.9	-	-	-
76.7	70.0	-	0.0	-	0.0	-	-	0.0	-	5.3	-	-	-
76.7	80.0	-	0.0	-	0.0	-	-	26.3	-	0.0	-	-	-
76.7	90.0	-	0.0	-	0.0	-	-	35.6	-	5.2	-	-	-
76.7	100.0	-	0.0	-	0.0	-	-	26.1	-	15.1	-	-	-
80.0	51.0	-	-	-	0.0	-	-	4.4	-	0.0	-	-	-
80.0	55.0	-	0.0	-	0.0	-	-	0.0	-	18.0	-	-	-
80.0	60.0	-	-	-	0.0	-	-	0.0	-	21.2	-	-	-
80.0	70.0	-	0.0	-	4.8	-	-	4.6	-	0.0	-	-	-
80.0	80.0	-	0.0	-	0.0	-	-	42.4	-	5.2	-	-	-
80.0	90.0	-	0.0	-	19.4	-	-	46.4	-	9.8	-	-	-
80.0	100.0	-	0.0	-	0.0	-	-	55.4	-	15.4	-	-	-
83.3	51.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
83.3	55.0	-	0.0	-	0.0	-	-	15.6	-	4.6	-	-	-
83.3	70.0	-	0.0	-	0.0	-	-	25.6	-	0.0	-	-	-
83.3	80.0	-	-	-	0.0	-	-	29.9	-	15.9	-	-	-
83.3	90.0	-	0.0	-	4.5	-	-	49.9	-	30.4	-	-	-
83.3	100.0	-	0.0	-	0.0	-	-	12.3	-	4.6	-	-	-
83.3	110.0	-	0.0	-	0.0	-	-	27.1	-	4.4	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	10.4	-	3.7	-	-	-
86.7	35.0	0.0	-	-	5.2	-	-	37.5	-	32.3	-	-	-
86.7	40.0	0.0	-	-	0.0	-	-	4.6	-	0.0	-	-	-
86.7	45.0	0.0	-	-	0.0	-	-	0.0	-	9.9	-	-	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	4.0	-	-	-
86.7	55.0	0.0	-	-	0.0	-	-	10.8	-	4.7	-	-	-
86.7	60.0	0.0	-	-	5.2	-	-	0.0	-	9.1	-	-	-
86.7	70.0	0.0	-	-	45.9	-	-	0.0	-	12.9	-	-	-
86.7	80.0	0.0	-	-	24.2	-	-	23.1	-	15.1	-	-	-
86.7	90.0	0.0	-	-	13.0	-	-	0.0	-	23.3	-	-	-

TABLE 4. (cont.)

Triphoturus mexicanus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 100.0	-	0.0	-	-	-	-	48.4	-	0.0	-	-	-
86.7 110.0	-	0.0	-	0.0	-	-	18.9	-	9.6	-	-	-
90.0 28.0	0.0	-	-	3.8	-	-	0.0	-	0.0	-	-	-
90.0 30.0	0.0	-	-	14.5	-	-	4.5	-	23.5	-	-	-
90.0 35.0	0.0	-	-	10.0	-	-	14.2	-	16.1	-	-	-
90.0 37.0	0.0	-	-	0.0	-	-	0.0	-	22.7	-	-	-
90.0 45.0	0.0	-	-	0.0	-	-	0.0	-	50.7	-	-	-
90.0 53.0	0.0	-	-	0.0	-	-	18.7	-	9.2	-	-	-
90.0 60.0	0.0	-	-	13.6	-	-	10.0	-	28.4	-	-	-
90.0 70.0	0.0	-	-	4.5	-	-	8.1	-	33.9	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	197.1	-	35.5	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	55.6	-	0.0	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	81.3	-	9.9	-	-	-
90.0 120.0	0.0	-	-	4.7	-	-	4.5	-	5.0	-	-	-
93.3 26.7	0.0	-	-	0.0	-	-	8.4	-	0.0	-	-	-
93.3 28.0	0.0	-	-	9.8	-	-	0.0	-	4.9	-	-	-
93.3 30.0	4.8	-	-	20.0	-	-	27.3	-	9.7	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	43.9	-	59.2	-	-	-
93.3 40.0	0.0	-	-	0.0	-	-	4.6	-	42.8	-	-	-
93.3 45.0	0.0	-	-	0.0	-	-	4.6	-	0.0	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	48.2	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	26.5	-	37.1	-	-	-
93.3 70.0	0.0	-	-	0.0	-	-	0.0	-	34.2	-	-	-
93.3 80.0	0.0	-	-	19.0	-	-	29.8	-	31.9	-	-	-
93.3 90.0	0.0	-	-	4.6	-	-	81.3	-	32.7	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	13.0	-	13.1	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	8.6	-	17.7	-	-	-
93.3 120.0	0.0	-	-	0.0	-	-	20.9	-	0.0	-	-	-

TABLE 4. (cont.)

Triphoturus nigrescens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	-	0.0	-	-	4.5	-	0.0	-	-	-

Centrobranchus nigroocellatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 70.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-

***Diogenichthys* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 70.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-

Diogenichthys atlanticus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 65.0	-	-	-	9.8	-	-	-	-	-	-	-	-
66.7 70.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0 70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
73.3 65.0	-	-	-	28.1	-	-	-	-	-	-	-	-
76.7 60.0	-	9.1	-	0.0	-	-	0.0	-	4.9	-	-	-
76.7 70.0	-	4.6	-	4.8	-	-	0.0	-	5.3	-	-	-
76.7 80.0	-	13.5	-	39.1	-	-	4.4	-	5.0	-	-	-
76.7 90.0	-	4.6	-	9.9	-	-	35.6	-	0.0	-	-	-
76.7 100.0	-	29.6	-	41.5	-	-	8.7	-	30.1	-	-	-
80.0 70.0	-	0.0	-	0.0	-	-	0.0	-	4.5	-	-	-
80.0 80.0	-	3.8	-	10.1	-	-	38.2	-	0.0	-	-	-
80.0 90.0	-	0.0	-	4.9	-	-	8.4	-	9.8	-	-	-
80.0 100.0	-	38.0	-	9.8	-	-	12.8	-	30.8	-	-	-
83.3 51.0	-	8.4	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3 55.0	-	4.4	-	15.6	-	-	0.0	-	0.0	-	-	-
83.3 60.0	-	13.1	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 70.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
83.3 80.0	-	-	-	4.7	-	-	0.0	-	37.0	-	-	-
83.3 90.0	-	4.3	-	22.4	-	-	4.2	-	69.4	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	13.8	-	-	-
83.3 110.0	-	3.9	-	23.8	-	-	0.0	-	48.4	-	-	-
86.7 40.0	9.3	-	-	5.1	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Diogenichthys atlanticus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 45.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
86.7 50.0	3.9	-	-	5.0	-	-	0.0	-	4.0	-	-	-
86.7 55.0	0.0	-	-	9.6	-	-	0.0	-	4.7	-	-	-
86.7 60.0	12.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 70.0	0.0	-	-	20.4	-	-	0.0	-	17.2	-	-	-
86.7 80.0	4.4	-	-	14.5	-	-	7.7	-	20.1	-	-	-
86.7 90.0	8.9	-	-	0.0	-	-	21.0	-	18.6	-	-	-
86.7 100.0	-	0.0	-	-	-	-	10.4	-	53.5	-	-	-
86.7 110.0	-	0.0	-	4.9	-	-	9.4	-	24.0	-	-	-
90.0 28.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 35.0	0.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0 60.0	4.7	-	-	4.5	-	-	5.0	-	4.7	-	-	-
90.0 70.0	4.9	-	-	4.5	-	-	0.0	-	17.0	-	-	-
90.0 80.0	32.3	-	-	0.0	-	-	8.8	-	20.3	-	-	-
90.0 90.0	4.6	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0 100.0	4.4	-	-	0.0	-	-	12.7	-	0.0	-	-	-
90.0 110.0	18.1	-	-	0.0	-	-	38.5	-	24.8	-	-	-
90.0 120.0	4.7	-	-	18.7	-	-	31.4	-	15.1	-	-	-
93.3 26.7	5.0	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	14.6	-	4.2	-	-	-
93.3 40.0	0.0	-	-	0.0	-	-	13.9	-	0.0	-	-	-
93.3 45.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	0.0	-	4.1	-	-	-
93.3 70.0	0.0	-	-	8.8	-	-	0.0	-	4.9	-	-	-
93.3 80.0	0.0	-	-	0.0	-	-	0.0	-	82.1	-	-	-
93.3 90.0	9.8	-	-	0.0	-	-	0.0	-	23.4	-	-	-
93.3 100.0	9.7	-	-	0.0	-	-	4.3	-	8.8	-	-	-
93.3 110.0	9.7	-	-	0.0	-	-	4.3	-	35.4	-	-	-
93.3 120.0	4.7	-	-	0.0	-	-	16.7	-	4.5	-	-	-

TABLE 4. (cont.)

Diogenichthys laternatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	24.6	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	35.0	14.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	40.0	191.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	45.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	28.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	30.0	106.3	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	35.0	119.3	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	71.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	45.0	23.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	9.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	60.0	14.1	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3	26.7	119.3	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	28.0	14.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	30.0	111.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	35.0	100.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	33.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	50.0	14.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	55.0	20.0	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	70.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	80.0	4.7	-	-	4.8	-	-	0.0	-	0.0	-	-	-
93.3	100.0	9.7	-	-	0.0	-	-	0.0	-	13.1	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Electrona risso

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.5	-	4.3	-	-	0.0	-	0.0	-	-	-
76.7	90.0	-	22.9	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7	100.0	-	12.7	-	4.6	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Electrona risso (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 60.0	-	-	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
83.3 60.0	-	4.4	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	0.0	-	4.3	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	8.8	-	0.0	-	-	-

Gonichthys tenuiculus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
90.0 37.0	9.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 90.0	0.0	-	-	4.6	-	-	0.0	-	0.0	-	-	-

***Hygophum* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	4.5	-	0.0	-	-	-

Hygophum atratum

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	4.1	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 30.0	9.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 35.0	9.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 28.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 30.0	14.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Hygophum reinhardtii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7 100.0	-	4.2	-	4.6	-	-	0.0	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	0.0	-	5.1	-	-	-
83.3 80.0	-	-	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	3.4	-	8.8	-	-	-
86.7 35.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 40.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Hygophum reinhardtii (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 100.0	-	0.0	-	-	-	-	0.0	-	8.9	-	-	-
86.7 110.0	-	0.0	-	4.9	-	-	0.0	-	4.8	-	-	-
90.0 28.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 53.0	0.0	-	-	8.7	-	-	0.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	21.1	-	0.0	-	-	-
90.0 120.0	0.0	-	-	0.0	-	-	4.5	-	0.0	-	-	-
93.3 70.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
93.3 80.0	4.7	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 90.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3 100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	8.6	-	0.0	-	-	-
93.3 120.0	9.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Loweina rara

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Myctophum nitidulum

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 70.0	-	0.0	-	0.0	-	-	8.5	-	0.0	-	-	-
83.3 90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7 80.0	0.0	-	-	0.0	-	-	3.9	-	0.0	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 60.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0 70.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0 90.0	0.0	-	-	4.4	-	-	0.0	-	0.0	-	-	-
90.0 100.0	0.0	-	-	4.5	-	-	4.2	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0 120.0	0.0	-	-	4.7	-	-	9.0	-	0.0	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	4.9	-	0.0	-	-	-

TABLE 4. (cont.)

Myctophum nitidulum (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 80.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 100.0	9.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	4.4	-	-	-
93.3 120.0	9.4	-	-	0.0	-	-	8.3	-	0.0	-	-	-

Protomyctophum crockeri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 55.0	-	-	-	15.7	-	-	-	-	-	-	-	-
66.7 60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
66.7 65.0	-	-	-	19.6	-	-	-	-	-	-	-	-
66.7 70.0	-	-	-	14.4	-	-	-	-	-	-	-	-
66.7 80.0	-	-	-	9.5	-	-	-	-	-	-	-	-
70.0 55.0	-	-	-	4.2	-	-	9.1	-	-	-	-	-
70.0 60.0	-	-	-	4.6	-	-	0.0	-	-	-	-	-
70.0 65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0 70.0	-	-	-	12.6	-	-	-	-	-	-	-	-
73.3 50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
73.3 55.0	-	-	-	9.6	-	-	-	-	-	-	-	-
73.3 60.0	-	-	-	5.1	-	-	-	-	-	-	-	-
73.3 65.0	-	-	-	12.0	-	-	-	-	-	-	-	-
73.3 70.0	-	-	-	12.0	-	-	-	-	-	-	-	-
76.7 49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
76.7 55.0	-	0.0	-	4.7	-	-	0.0	-	0.0	-	-	-
76.7 60.0	-	9.1	-	0.0	-	-	9.4	-	0.0	-	-	-
76.7 70.0	-	4.6	-	14.4	-	-	20.3	-	5.3	-	-	-
76.7 80.0	-	13.5	-	0.0	-	-	8.8	-	5.0	-	-	-
76.7 90.0	-	18.4	-	0.0	-	-	8.9	-	0.0	-	-	-
76.7 100.0	-	4.2	-	0.0	-	-	0.0	-	5.0	-	-	-
80.0 55.0	-	0.0	-	19.7	-	-	0.0	-	0.0	-	-	-
80.0 60.0	-	-	-	30.1	-	-	0.0	-	5.3	-	-	-
80.0 70.0	-	21.1	-	9.7	-	-	0.0	-	4.5	-	-	-
80.0 80.0	-	15.1	-	20.2	-	-	0.0	-	5.2	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Protomyctophum crockeri (cont.)							
80.0	90.0	-	0.0	-	4.9	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	4.4	-	20.8	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	8.7	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	0.0	-	5.0	-	-	8.5	-	0.0	-	-	-
83.3	80.0	-	-	-	4.7	-	-	0.0	-	10.6	-	-	-
83.3	90.0	-	0.0	-	4.5	-	-	0.0	-	8.7	-	-	-
83.3	100.0	-	26.9	-	4.5	-	-	0.0	-	4.6	-	-	-
83.3	110.0	-	15.5	-	0.0	-	-	0.0	-	4.4	-	-	-
86.7	35.0	4.7	-	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7	40.0	9.3	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	45.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
86.7	55.0	23.0	-	-	33.5	-	-	0.0	-	4.7	-	-	-
86.7	60.0	16.6	-	-	0.0	-	-	17.6	-	13.6	-	-	-
86.7	70.0	4.7	-	-	5.1	-	-	17.0	-	0.0	-	-	-
86.7	80.0	0.0	-	-	0.0	-	-	3.9	-	0.0	-	-	-
86.7	90.0	4.4	-	-	13.0	-	-	0.0	-	4.7	-	-	-
86.7	100.0	-	0.0	-	-	-	-	0.0	-	8.9	-	-	-
90.0	30.0	29.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
90.0	35.0	5.0	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	37.0	14.3	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	10.0	-	-	8.2	-	10.1	-	-	-
90.0	53.0	9.5	-	-	8.7	-	-	0.0	-	0.0	-	-	-
90.0	60.0	18.8	-	-	9.1	-	-	0.0	-	4.7	-	-	-
90.0	70.0	9.8	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0	80.0	27.7	-	-	14.2	-	-	0.0	-	0.0	-	-	-
90.0	90.0	4.6	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0	100.0	0.0	-	-	4.5	-	-	0.0	-	4.9	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0	120.0	9.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Protomyctophum crockeri (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	5.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3 28.0	9.8	-	-	4.9	-	-	4.7	-	0.0	-	-	-
93.3 35.0	9.6	-	-	0.0	-	-	0.0	-	4.2	-	-	-
93.3 40.0	0.0	-	-	11.0	-	-	13.9	-	0.0	-	-	-
93.3 45.0	0.0	-	-	9.8	-	-	0.0	-	9.2	-	-	-
93.3 50.0	0.0	-	-	15.0	-	-	4.4	-	0.0	-	-	-
93.3 55.0	15.0	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	13.7	-	-	0.0	-	-	4.4	-	12.4	-	-	-
93.3 80.0	0.0	-	-	0.0	-	-	0.0	-	18.2	-	-	-
93.3 90.0	4.9	-	-	4.6	-	-	4.3	-	0.0	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	4.3	-	4.4	-	-	-
93.3 110.0	14.6	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3 120.0	14.1	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Symbolophorus californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 70.0	-	-	-	4.8	-	-	-	-	-	-	-	-
66.7 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0 60.0	-	-	-	4.6	-	-	0.0	-	-	-	-	-
70.0 65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-
70.0 70.0	-	-	-	4.2	-	-	-	-	-	-	-	-
73.3 55.0	-	-	-	4.8	-	-	-	-	-	-	-	-
73.3 60.0	-	-	-	10.2	-	-	-	-	-	-	-	-
73.3 65.0	-	-	-	12.0	-	-	-	-	-	-	-	-
73.3 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7 51.0	-	4.3	-	4.9	-	-	0.0	-	0.0	-	-	-
76.7 55.0	-	4.5	-	4.7	-	-	0.0	-	0.0	-	-	-
76.7 60.0	-	4.5	-	8.8	-	-	0.0	-	0.0	-	-	-
76.7 70.0	-	9.1	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7 80.0	-	0.0	-	8.7	-	-	8.8	-	0.0	-	-	-
76.7 90.0	-	4.6	-	5.0	-	-	0.0	-	0.0	-	-	-
76.7 100.0	-	0.0	-	13.8	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	70.0	-	4.2	-	4.8	-	-	18.4	-	0.0	-	-	-
80.0	80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0	90.0	-	0.0	-	29.2	-	-	0.0	-	4.9	-	-	-
80.0	100.0	-	4.2	-	9.8	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3	55.0	-	0.0	-	10.4	-	-	0.0	-	4.6	-	-	-
83.3	70.0	-	0.0	-	10.0	-	-	8.5	-	4.5	-	-	-
83.3	80.0	-	-	-	4.7	-	-	0.0	-	5.3	-	-	-
83.3	90.0	-	12.9	-	4.5	-	-	16.6	-	0.0	-	-	-
83.3	100.0	-	11.6	-	4.5	-	-	16.4	-	0.0	-	-	-
83.3	110.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	3.5	-	0.0	-	-	-
86.7	45.0	0.0	-	-	0.0	-	-	8.6	-	0.0	-	-	-
86.7	55.0	9.2	-	-	4.8	-	-	0.0	-	0.0	-	-	-
86.7	60.0	4.2	-	-	26.2	-	-	0.0	-	0.0	-	-	-
86.7	70.0	9.5	-	-	0.0	-	-	8.5	-	0.0	-	-	-
86.7	80.0	0.0	-	-	24.2	-	-	3.9	-	0.0	-	-	-
86.7	90.0	4.4	-	-	0.0	-	-	25.2	-	0.0	-	-	-
86.7	100.0	-	9.0	-	-	-	-	10.4	-	0.0	-	-	-
86.7	110.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	35.0	0.0	-	-	0.0	-	-	14.2	-	0.0	-	-	-
90.0	53.0	9.5	-	-	8.7	-	-	0.0	-	0.0	-	-	-
90.0	60.0	18.8	-	-	0.0	-	-	5.0	-	4.7	-	-	-
90.0	70.0	0.0	-	-	22.3	-	-	0.0	-	4.2	-	-	-
90.0	80.0	18.5	-	-	0.0	-	-	8.8	-	5.1	-	-	-
90.0	90.0	4.6	-	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0	100.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-
90.0	110.0	9.0	-	-	0.0	-	-	38.5	-	5.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	9.0	-	0.0	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 30.0	0.0	-	-	0.0	-	-	0.0	-	14.5	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	19.5	-	0.0	-	-	-
93.3 45.0	0.0	-	-	9.8	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	0.0	-	-	9.7	-	-	4.4	-	0.0	-	-	-
93.3 90.0	9.8	-	-	0.0	-	-	4.3	-	4.7	-	-	-
93.3 100.0	9.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3 120.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

Tarletonbeania crenularis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	0.0	-	0.0	-	-	9.4	-	0.0	-	-	-
76.7 70.0	-	0.0	-	0.0	-	-	10.2	-	0.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
83.3 55.0	-	0.0	-	5.2	-	-	0.0	-	0.0	-	-	-
83.3 70.0	-	0.0	-	0.0	-	-	0.0	-	4.5	-	-	-
86.7 55.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 60.0	0.0	-	-	0.0	-	-	0.0	-	4.5	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	0.0	-	9.3	-	-	-
90.0 45.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	0.0	-	5.1	-	-	-
93.3 100.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
93.3 110.0	0.0	-	-	4.7	-	-	0.0	-	0.0	-	-	-

Trachipterus altivelis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 70.0	-	0.0	-	0.0	-	-	4.6	-	0.0	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
86.7 70.0	0.0	-	-	0.0	-	-	8.5	-	4.3	-	-	-

TABLE 4. (cont.)

Coryphaenoides spp.

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-

Merluccius productus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	195.0	-	-	-	-	-	-	-	-
66.7	50.0	-	-	-	99.8	-	-	-	-	-	-	-	-
66.7	55.0	-	-	-	10.5	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	37.8	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	17.3	-	-	0.0	-	-	-	-	-
70.0	55.0	-	-	-	38.1	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	18.6	-	-	0.0	-	-	-	-	-
70.0	65.0	-	-	-	60.7	-	-	0.0	-	-	-	-	-
70.0	80.0	-	-	-	12.1	-	-	-	-	-	-	-	-
73.3	50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
73.3	55.0	-	-	-	81.6	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	61.3	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	20.0	-	-	0.0	-	0.0	-	-	-
76.7	51.0	-	4.3	-	98.8	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	4.7	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	4.4	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	18.0	-	-	0.0	-	0.0	-	-	-
80.0	55.0	-	9.2	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	60.2	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	14.5	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	14.7	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	0.0	-	15.3	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	4.4	-	41.7	-	-	0.0	-	0.0	-	-	-
83.3	60.0	-	4.4	-	19.9	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Merluccius productus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 35.0	0.0	-	-	15.6	-	-	0.0	-	0.0	-	-	-
86.7 40.0	0.0	-	-	15.3	-	-	0.0	-	0.0	-	-	-
86.7 45.0	0.0	-	-	4.6	-	-	0.0	-	0.0	-	-	-
86.7 50.0	0.0	-	-	20.0	-	-	0.0	-	0.0	-	-	-
86.7 55.0	4.6	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 28.0	0.0	-	-	15.0	-	-	0.0	-	0.0	-	-	-
90.0 35.0	0.0	-	-	45.2	-	-	0.0	-	0.0	-	-	-
90.0 37.0	0.0	-	-	9.7	-	-	0.0	-	0.0	-	-	-
90.0 45.0	0.0	-	-	40.0	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-
93.3 45.0	0.0	-	-	24.5	-	-	0.0	-	0.0	-	-	-

Chilara taylori

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	-	-	0.0	-	-	0.0	-	4.7	-	-	-
86.7 35.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7 50.0	0.0	-	-	0.0	-	-	0.0	-	4.0	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

Ophidion scrippsae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8 46.9	-	0.0	-	0.0	-	-	0.0	-	14.8	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	10.9	-	-	-
83.3 42.0	-	0.0	-	0.0	-	-	0.0	-	13.7	-	-	-
86.7 35.0	0.0	-	-	0.0	-	-	9.4	-	0.0	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	0.0	-	5.8	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	14.8	-	-	-

Cataetyx rubrirostris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 30.0	0.0	-	-	9.6	-	-	0.0	-	0.0	-	-	-

***Dolopichthys* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-

TABLE 4. (cont.)

***Oneirodes* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
90.0	70.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-

***Gigantactis* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	90.0	-	0.0	-	0.0	-	-	0.0	-	4.3	-	-	-
83.3	100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7	110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
93.3	55.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
93.3	90.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3	110.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

Melamphaidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	90.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	100.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-

***Melamphaes* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	4.7	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	90.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	0.0	-	-	0.0	-	5.1	-	-	-
93.3	55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-

Melamphaes lugubris

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3	50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
76.7	70.0	-	13.7	-	4.8	-	-	10.2	-	0.0	-	-	-
76.7	80.0	-	0.0	-	0.0	-	-	4.4	-	0.0	-	-	-
76.7	90.0	-	0.0	-	5.0	-	-	4.5	-	0.0	-	-	-
80.0	90.0	-	0.0	-	0.0	-	-	8.4	-	4.9	-	-	-
80.0	100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-

TABLE 4. (cont.)

Melamphaes lugubris (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 70.0	-	0.0	-	5.0	-	-	0.0	-	4.5	-	-	-
83.3 80.0	-	-	-	4.7	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
83.3 100.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
83.3 110.0	-	0.0	-	4.8	-	-	0.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	4.8	-	-	0.0	-	4.7	-	-	-
86.7 80.0	0.0	-	-	9.7	-	-	3.9	-	5.0	-	-	-
86.7 90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0 53.0	0.0	-	-	4.3	-	-	0.0	-	0.0	-	-	-
90.0 60.0	0.0	-	-	4.5	-	-	5.0	-	0.0	-	-	-
90.0 80.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	4.9	-	0.0	-	-	-
93.3 60.0	0.0	-	-	4.9	-	-	4.4	-	0.0	-	-	-
93.3 90.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 110.0	4.9	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Melamphaes parvus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 55.0	-	-	-	10.5	-	-	-	-	-	-	-	-
70.0 60.0	-	-	-	4.6	-	-	0.0	-	-	-	-	-
70.0 80.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7 70.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-

Melamphaes simus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-

Poromitra crassiceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	0.0	-	-	0.0	-	5.0	-	-	-
76.7 100.0	-	0.0	-	4.6	-	-	4.3	-	0.0	-	-	-
83.3 55.0	-	0.0	-	5.2	-	-	0.0	-	0.0	-	-	-
83.3 90.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Scopeloberyx robustus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-

Scopelogadus bispinosus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
80.0	90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
86.7	100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
90.0	35.0	0.0	-	-	0.0	-	-	4.7	-	0.0	-	-	-
90.0	60.0	9.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	90.0	0.0	-	-	0.0	-	-	0.0	-	5.0	-	-	-
90.0	110.0	0.0	-	-	0.0	-	-	4.3	-	5.0	-	-	-
90.0	120.0	0.0	-	-	0.0	-	-	4.5	-	5.0	-	-	-
93.3	80.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

***Sebastes* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	19.5	-	-	-	-	-	-	-	-
66.7	50.0	-	-	-	45.4	-	-	-	-	-	-	-	-
66.7	55.0	-	-	-	31.4	-	-	-	-	-	-	-	-
66.7	60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	21.6	-	-	17.9	-	-	-	-	-
70.0	55.0	-	-	-	33.8	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	32.5	-	-	8.7	-	-	-	-	-
70.0	65.0	-	-	-	0.0	-	-	8.6	-	-	-	-	-
73.3	50.4	-	-	-	42.3	-	-	-	-	-	-	-	-
73.3	55.0	-	-	-	62.4	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	20.4	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3	70.0	-	-	-	4.0	-	-	-	-	-	-	-	-
76.7	49.0	-	4.1	-	27.9	-	-	4.1	-	0.0	-	-	-
76.7	51.0	-	4.3	-	0.0	-	-	0.0	-	0.0	-	-	-
76.7	55.0	-	0.0	-	0.0	-	-	18.5	-	0.0	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						***Sebastes* spp.** (cont.)							
76.7	60.0	-	4.5	-	4.4	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	13.5	-	-	0.0	-	0.0	-	-	-
80.0	55.0	-	9.2	-	29.5	-	-	0.0	-	0.0	-	-	-
80.0	60.0	-	-	-	25.1	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	8.4	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	3.8	-	0.0	-	-	0.0	-	0.0	-	-	-
81.8	46.9	-	19.6	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3	40.6	-	9.9	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	24.7	-	40.9	-	-	8.1	-	0.0	-	-	-
83.3	51.0	-	21.1	-	105.8	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	8.8	-	119.8	-	-	7.8	-	0.0	-	-	-
83.3	60.0	-	0.0	-	5.0	-	-	6.8	-	0.0	-	-	-
86.7	33.0	0.0	-	-	8.4	-	-	0.0	-	0.0	-	-	-
86.7	35.0	4.7	-	-	77.9	-	-	0.0	-	0.0	-	-	-
86.7	40.0	14.0	-	-	5.1	-	-	0.0	-	4.7	-	-	-
86.7	45.0	33.7	-	-	64.4	-	-	0.0	-	5.0	-	-	-
86.7	50.0	172.9	-	-	105.2	-	-	0.0	-	0.0	-	-	-
86.7	55.0	55.2	-	-	23.9	-	-	21.6	-	0.0	-	-	-
86.7	60.0	0.0	-	-	0.0	-	-	26.5	-	0.0	-	-	-
86.7	70.0	0.0	-	-	0.0	-	-	25.5	-	0.0	-	-	-
90.0	28.0	9.2	-	-	33.8	-	-	0.0	-	0.0	-	-	-
90.0	30.0	14.5	-	-	77.1	-	-	0.0	-	0.0	-	-	-
90.0	35.0	24.8	-	-	20.1	-	-	0.0	-	0.0	-	-	-
90.0	37.0	23.8	-	-	14.5	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	45.0	-	-	24.7	-	0.0	-	-	-
90.0	53.0	66.4	-	-	13.0	-	-	74.6	-	13.9	-	-	-
90.0	60.0	42.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	26.7	5.0	-	-	22.3	-	-	0.0	-	0.0	-	-	-
93.3	40.0	0.0	-	-	132.0	-	-	0.0	-	0.0	-	-	-
93.3	45.0	42.7	-	-	240.1	-	-	0.0	-	0.0	-	-	-
93.3	50.0	9.7	-	-	40.0	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

***Sebastes* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	55.0	0.0	-	-	14.9	-	-	32.3	-	0.0	-	-	-
93.3	60.0	0.0	-	-	24.3	-	-	17.7	-	0.0	-	-	-
93.3	70.0	0.0	-	-	8.8	-	-	0.0	-	0.0	-	-	-

Sebastes aurora

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	0.0	-	8.8	-	-	9.4	-	0.0	-	-	-
86.7	35.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-
93.3	45.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-

Sebastes diploproa

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	-	-	-	0.0	-	-	0.0	-	4.7	-	-	-
83.3	42.0	-	0.0	-	5.1	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
86.7	40.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	4.0	-	-	-

Sebastes jordani

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3	55.0	-	-	-	38.4	-	-	-	-	-	-	-	-
73.3	60.0	-	-	-	10.2	-	-	-	-	-	-	-	-
76.7	51.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3	42.0	-	20.6	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	21.9	-	15.6	-	-	0.0	-	0.0	-	-	-
86.7	45.0	4.8	-	-	18.4	-	-	0.0	-	0.0	-	-	-
90.0	30.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0	53.0	33.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	35.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-
93.3	40.0	0.0	-	-	27.5	-	-	0.0	-	0.0	-	-	-
93.3	45.0	0.0	-	-	9.8	-	-	0.0	-	0.0	-	-	-

TABLE 4. (cont.)

Sebastes paucispinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	5.1	-	-	0.0	-	0.0	-	-	-
83.3 55.0	-	4.4	-	5.2	-	-	0.0	-	0.0	-	-	-
86.7 35.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-
93.3 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

***Sebastolobus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0 37.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-

Sebastolobus altivelis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 53.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Oxylebius pictus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-

Zaniolepis frenata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 51.0	-	-	-	4.3	-	-	0.0	-	-	-	-	-
86.7 55.0	9.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-

Zaniolepis latipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	3.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Artedius creaseri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

Artedius lateralis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-

Icelinus quadriseriatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	-	-	0.0	-	-	0.0	-	4.7	-	-	-

TABLE 4. (cont.)

Odontopyxis trispinosa

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	8.0	-	-	0.0	-	0.0	-	-	-

Xeneretmus latifrons

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 55.0	-	0.0	-	5.2	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-

Perciformes

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-

***Paralabrax* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	0.0	-	-	9.2	-	0.0	-	-	-
80.0 51.0	-	-	-	0.0	-	-	0.0	-	9.4	-	-	-
81.8 46.9	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	8.2	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	4.1	-	0.0	-	-	-
83.3 55.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	4.0	-	11.7	-	-	-
93.3 26.7	0.0	-	-	0.0	-	-	4.2	-	4.4	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	14.8	-	-	-

***Howella* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	0.0	-	-	0.0	-	5.0	-	-	-
83.3 100.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
83.3 110.0	-	0.0	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3 100.0	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3 110.0	0.0	-	-	0.0	-	-	12.9	-	0.0	-	-	-

Trachurus symmetricus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 65.0	-	-	-	83.5	-	-	-	-	-	-	-	-
66.7 80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
70.0 65.0	-	-	-	10.1	-	-	0.0	-	-	-	-	-

TABLE 4. (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
						Trachurus symmetricus (cont.)							
70.0	80.0	-	-	-	8.1	-	-	-	-	-	-	-	-
73.3	65.0	-	-	-	4.0	-	-	-	-	-	-	-	-
73.3	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7	55.0	-	0.0	-	60.8	-	-	0.0	-	0.0	-	-	-
76.7	60.0	-	0.0	-	4.4	-	-	0.0	-	0.0	-	-	-
76.7	70.0	-	0.0	-	28.8	-	-	10.2	-	0.0	-	-	-
80.0	51.0	-	-	-	0.0	-	-	4.4	-	0.0	-	-	-
80.0	60.0	-	-	-	30.1	-	-	0.0	-	0.0	-	-	-
80.0	70.0	-	0.0	-	19.3	-	-	0.0	-	0.0	-	-	-
80.0	80.0	-	0.0	-	70.6	-	-	0.0	-	0.0	-	-	-
80.0	90.0	-	0.0	-	121.5	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3	70.0	-	0.0	-	15.1	-	-	0.0	-	0.0	-	-	-
83.3	90.0	-	0.0	-	22.4	-	-	0.0	-	0.0	-	-	-
86.7	60.0	0.0	-	-	136.0	-	-	0.0	-	0.0	-	-	-
86.7	70.0	0.0	-	-	300.9	-	-	0.0	-	0.0	-	-	-
86.7	80.0	0.0	-	-	24.2	-	-	0.0	-	0.0	-	-	-
86.7	90.0	0.0	-	-	21.7	-	-	8.4	-	0.0	-	-	-
86.7	110.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	28.0	0.0	-	-	3.8	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0	70.0	0.0	-	-	0.0	-	-	16.2	-	0.0	-	-	-
90.0	80.0	0.0	-	-	4.7	-	-	26.3	-	0.0	-	-	-
93.3	40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-
93.3	45.0	0.0	-	-	19.6	-	-	0.0	-	0.0	-	-	-
93.3	50.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	60.0	0.0	-	-	4.9	-	-	0.0	-	0.0	-	-	-
93.3	70.0	0.0	-	-	17.5	-	-	0.0	-	0.0	-	-	-
93.3	100.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

TABLE 4. (cont.)

Brama japonica

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 110.0	-	0.0	-	0.0	-	-	0.0	-	4.8	-	-	-
90.0 100.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
93.3 110.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Caristius maderensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 100.0	-	0.0	-	0.0	-	-	0.0	-	5.1	-	-	-

Anisotremus davidsoni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-
86.7 33.0	0.0	-	-	0.0	-	-	13.8	-	0.0	-	-	-
93.3 26.7	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Xenistius californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	-	0.0	-	-	6.9	-	0.0	-	-	-

Atractoscion nobilis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	-	0.0	-	-	3.5	-	0.0	-	-	-
90.0 30.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
93.3 40.0	0.0	-	-	5.5	-	-	0.0	-	0.0	-	-	-

Genyonemus lineatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 49.0	-	-	-	19.5	-	-	-	-	-	-	-	-
76.7 49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
81.8 46.9	-	4.9	-	0.0	-	-	0.0	-	4.9	-	-	-
86.7 33.0	0.0	-	-	12.6	-	-	0.0	-	0.0	-	-	-
86.7 35.0	0.0	-	-	10.4	-	-	0.0	-	0.0	-	-	-
93.3 26.7	0.0	-	-	8.9	-	-	0.0	-	0.0	-	-	-

Seriphus politus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	-	0.0	-	-	27.7	-	0.0	-	-	-

TABLE 4. (cont.)

Medialuna californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	55.0	0.0	-	-	0.0	-	-	10.8	-	0.0	-	-	-

Chromis punctipinnis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	-	0.0	-	0.0	-	-	0.0	-	24.6	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7	35.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7	40.0	0.0	-	-	0.0	-	-	4.6	-	4.7	-	-	-
90.0	35.0	0.0	-	-	0.0	-	-	0.0	-	5.4	-	-	-
90.0	37.0	0.0	-	-	0.0	-	-	0.0	-	4.5	-	-	-
93.3	35.0	0.0	-	-	0.0	-	-	4.9	-	0.0	-	-	-
93.3	45.0	0.0	-	-	0.0	-	-	0.0	-	13.8	-	-	-

Hypsypops rubicundus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-

Halichoeres semicinctus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-

Oxyjulis californica

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	-	0.0	-	0.0	-	-	0.0	-	9.0	-	-	-
81.8	46.9	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
83.3	40.6	-	0.0	-	0.0	-	-	0.0	-	8.2	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	12.2	-	36.6	-	-	-
83.3	55.0	-	0.0	-	0.0	-	-	0.0	-	9.2	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	3.5	-	0.0	-	-	-
90.0	45.0	0.0	-	-	0.0	-	-	0.0	-	10.1	-	-	-
90.0	60.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

Semicossyphus pulcher

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	-	-	-	0.0	-	-	0.0	-	4.7	-	-	-

TABLE 4. (cont.)

Semicossyphus pulcher (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	-	0.0	-	0.0	-	-	9.2	-	0.0	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	0.0	-	4.6	-	-	-
90.0	28.0	0.0	-	-	0.0	-	-	0.0	-	5.8	-	-	-
90.0	30.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
90.0	60.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-
93.3	45.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
93.3	50.0	0.0	-	-	0.0	-	-	0.0	-	4.8	-	-	-

Stichaeidae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	8.7	-	-	0.0	-	-	-	-	-
76.7	49.0	-	4.1	-	8.0	-	-	0.0	-	0.0	-	-	-
86.7	35.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-

Chiasmodon niger

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	4.6	-	0.0	-	-	4.5	-	5.2	-	-	-
76.7	100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
80.0	80.0	-	0.0	-	5.0	-	-	0.0	-	0.0	-	-	-
80.0	100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3	90.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
86.7	80.0	0.0	-	-	9.7	-	-	3.9	-	5.0	-	-	-
86.7	90.0	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
90.0	37.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	70.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0	80.0	0.0	-	-	0.0	-	-	0.0	-	5.1	-	-	-
93.3	55.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
93.3	80.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-
93.3	100.0	4.8	-	-	0.0	-	-	0.0	-	4.4	-	-	-

Cryptotrema corallinum

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	12.0	-	-	-

TABLE 4. (cont.)

***Neoclinus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
80.0 51.0	-	-	-	0.0	-	-	4.4	-	0.0	-	-	-

Neoclinus stephensae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	0.0	-	-	8.9	-	-	0.0	-	0.0	-	-	-

***Hypsoblennius* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	0.0	-	-	7.9	-	0.0	-	-	-
81.8 46.9	-	0.0	-	0.0	-	-	36.8	-	0.0	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	8.1	-	0.0	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

Hypsoblennius gentilis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	-	0.0	-	-	3.5	-	0.0	-	-	-
93.3 26.7	0.0	-	-	0.0	-	-	0.0	-	17.5	-	-	-

Hypsoblennius gilberti

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 55.0	-	0.0	-	0.0	-	-	7.9	-	0.0	-	-	-

Hypsoblennius jenkinsi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	-	-	0.0	-	-	39.4	-	0.0	-	-	-
81.8 46.9	-	0.0	-	0.0	-	-	9.2	-	0.0	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	3.6	-	2.7	-	-	-
86.7 50.0	0.0	-	-	0.0	-	-	0.0	-	4.0	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	0.0	-	17.5	-	-	-

Clevelandia ios

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-

Coryphopterus nicholsii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 49.0	-	-	-	9.8	-	-	-	-	-	-	-	-

TABLE 4. (cont.)

Coryphopterus nicholsii (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3	50.4	-	-	-	4.7	-	-	-	-	-	-	-	-
76.7	51.0	-	0.0	-	0.0	-	-	9.1	-	0.0	-	-	-
80.0	55.0	-	4.6	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3	55.0	-	13.2	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	3.5	-	0.0	-	-	-
86.7	45.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7	50.0	7.9	-	-	0.0	-	-	4.1	-	0.0	-	-	-
90.0	37.0	9.5	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3	28.0	4.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Lythrypnus dalli

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	14.8	-	-	-

Lythrypnus zebra

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	28.1	-	-	-

Typhlogobius californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	30.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-

Sphyraena argentea

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	-	0.0	-	0.0	-	-	0.0	-	13.6	-	-	-
83.3	42.0	-	0.0	-	0.0	-	-	0.0	-	9.2	-	-	-
86.7	33.0	0.0	-	-	0.0	-	-	86.5	-	0.0	-	-	-
86.7	35.0	0.0	-	-	0.0	-	-	9.4	-	0.0	-	-	-
90.0	28.0	0.0	-	-	0.0	-	-	20.0	-	11.7	-	-	-
90.0	30.0	0.0	-	-	0.0	-	-	0.0	-	9.4	-	-	-
93.3	26.7	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	24.7	-	-	-
93.3	80.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-

TABLE 4. (cont.)

Scomber japonicus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 65.0	-	-	-	4.9	-	-	-	-	-	-	-	-
76.7 60.0	-	0.0	-	22.0	-	-	0.0	-	0.0	-	-	-
80.0 51.0	-	-	-	0.0	-	-	0.0	-	9.4	-	-	-
80.0 55.0	-	0.0	-	0.0	-	-	0.0	-	9.0	-	-	-
80.0 60.0	-	-	-	10.0	-	-	0.0	-	0.0	-	-	-
80.0 70.0	-	0.0	-	9.7	-	-	0.0	-	0.0	-	-	-
81.8 46.9	-	0.0	-	0.0	-	-	0.0	-	9.8	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-
83.3 42.0	-	0.0	-	0.0	-	-	0.0	-	174.0	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	4.1	-	8.8	-	-	-
86.7 35.0	0.0	-	-	0.0	-	-	0.0	-	4.6	-	-	-
86.7 50.0	0.0	-	-	0.0	-	-	0.0	-	8.0	-	-	-
86.7 60.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-
90.0 28.0	0.0	-	-	7.5	-	-	0.0	-	11.7	-	-	-
90.0 30.0	4.8	-	-	0.0	-	-	0.0	-	28.2	-	-	-
90.0 35.0	14.9	-	-	0.0	-	-	0.0	-	10.7	-	-	-
90.0 60.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
93.3 26.7	0.0	-	-	0.0	-	-	0.0	-	4.4	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	424.8	-	-	-
93.3 30.0	0.0	-	-	0.0	-	-	0.0	-	4.8	-	-	-
93.3 35.0	0.0	-	-	0.0	-	-	0.0	-	8.5	-	-	-

Icichthys lockingtoni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	4.5	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	0.0	-	-	0.0	-	4.7	-	-	-
86.7 100.0	-	0.0	-	-	-	-	0.0	-	4.5	-	-	-
93.3 100.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Cubiceps baxteri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 60.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-

TABLE 4. (cont.)

Tetragonurus cuvieri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	0.0	-	-	4.3	-	0.0	-	-	-
80.0 80.0	-	0.0	-	0.0	-	-	4.2	-	0.0	-	-	-
80.0 100.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
83.3 100.0	-	3.9	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 40.0	0.0	-	-	5.1	-	-	0.0	-	0.0	-	-	-
86.7 80.0	4.4	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 110.0	0.0	-	-	0.0	-	-	8.6	-	0.0	-	-	-
93.3 90.0	0.0	-	-	0.0	-	-	4.3	-	0.0	-	-	-

***Citharichthys* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	0.0	-	4.9	-	-	0.0	-	21.1	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	0.0	-	13.2	-	-	-
83.3 55.0	-	0.0	-	0.0	-	-	7.8	-	0.0	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	0.0	-	5.8	-	-	-

Citharichthys sordidus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
70.0 60.0	-	-	-	4.6	-	-	8.7	-	-	-	-	-
76.7 55.0	-	0.0	-	0.0	-	-	0.0	-	5.5	-	-	-
76.7 60.0	-	0.0	-	0.0	-	-	18.9	-	4.9	-	-	-
80.0 51.0	-	-	-	0.0	-	-	0.0	-	14.1	-	-	-
80.0 55.0	-	0.0	-	0.0	-	-	0.0	-	9.0	-	-	-
80.0 90.0	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-
81.8 46.9	-	0.0	-	0.0	-	-	0.0	-	14.8	-	-	-
83.3 40.6	-	0.0	-	0.0	-	-	0.0	-	2.7	-	-	-
83.3 51.0	-	0.0	-	0.0	-	-	0.0	-	22.0	-	-	-
86.7 35.0	4.7	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 50.0	3.9	-	-	0.0	-	-	0.0	-	0.0	-	-	-
86.7 60.0	0.0	-	-	0.0	-	-	8.8	-	0.0	-	-	-
93.3 30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	0.0	-	4.1	-	-	-

TABLE 4. (cont.)

Citharichthys stigmaeus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	60.0	-	-	-	4.7	-	-	-	-	-	-	-	-
66.7	80.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7	51.0	-	0.0	-	0.0	-	-	0.0	-	10.5	-	-	-
76.7	55.0	-	0.0	-	0.0	-	-	0.0	-	5.5	-	-	-
80.0	51.0	-	-	-	0.0	-	-	0.0	-	4.7	-	-	-
80.0	55.0	-	0.0	-	9.8	-	-	0.0	-	27.1	-	-	-
83.3	40.6	-	0.0	-	0.0	-	-	0.0	-	5.4	-	-	-
86.7	33.0	0.0	-	-	4.2	-	-	0.0	-	0.0	-	-	-
86.7	35.0	0.0	-	-	0.0	-	-	9.4	-	0.0	-	-	-
86.7	45.0	0.0	-	-	23.0	-	-	0.0	-	0.0	-	-	-
86.7	50.0	0.0	-	-	0.0	-	-	0.0	-	4.0	-	-	-
86.7	55.0	0.0	-	-	0.0	-	-	10.8	-	0.0	-	-	-
86.7	60.0	0.0	-	-	0.0	-	-	8.8	-	0.0	-	-	-
90.0	30.0	0.0	-	-	4.8	-	-	0.0	-	0.0	-	-	-
90.0	37.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0	45.0	0.0	-	-	0.0	-	-	8.2	-	0.0	-	-	-
93.3	28.0	0.0	-	-	0.0	-	-	0.0	-	4.9	-	-	-

Paralichthys californicus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7	49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
70.0	51.0	-	-	-	4.3	-	-	0.0	-	-	-	-	-
70.0	60.0	-	-	-	4.6	-	-	0.0	-	-	-	-	-
73.3	55.0	-	-	-	4.8	-	-	-	-	-	-	-	-
76.7	49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
80.0	51.0	-	-	-	0.0	-	-	13.1	-	0.0	-	-	-
83.3	70.0	-	0.0	-	0.0	-	-	0.0	-	4.5	-	-	-
86.7	33.0	8.9	-	-	8.4	-	-	31.1	-	0.0	-	-	-
86.7	35.0	0.0	-	-	26.0	-	-	0.0	-	0.0	-	-	-
90.0	28.0	0.0	-	-	3.8	-	-	4.0	-	23.4	-	-	-
93.3	26.7	0.0	-	-	0.0	-	-	4.2	-	0.0	-	-	-

TABLE 4. (cont.)

Lyopsetta exilis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8 46.9	-	0.0	-	5.2	-	-	0.0	-	0.0	-	-	-
86.7 35.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-
86.7 40.0	0.0	-	-	10.2	-	-	0.0	-	0.0	-	-	-
90.0 35.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

Microstomus pacificus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 60.0	-	-	-	9.5	-	-	-	-	-	-	-	-
70.0 60.0	-	-	-	0.0	-	-	8.7	-	-	-	-	-
70.0 80.0	-	-	-	8.1	-	-	-	-	-	-	-	-
80.0 55.0	-	0.0	-	9.8	-	-	0.0	-	0.0	-	-	-
80.0 60.0	-	-	-	0.0	-	-	9.0	-	0.0	-	-	-
86.7 55.0	0.0	-	-	0.0	-	-	10.8	-	0.0	-	-	-

Parophrys vetulus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
66.7 49.0	-	-	-	9.8	-	-	-	-	-	-	-	-
66.7 50.0	-	-	-	18.1	-	-	-	-	-	-	-	-
70.0 51.0	-	-	-	4.3	-	-	0.0	-	-	-	-	-
76.7 51.0	-	0.0	-	4.9	-	-	0.0	-	0.0	-	-	-
86.7 33.0	0.0	-	-	8.4	-	-	0.0	-	0.0	-	-	-

Pleuronichthys coenosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	0.0	-	-	4.1	-	0.0	-	-	-
90.0 28.0	0.0	-	-	3.8	-	-	0.0	-	0.0	-	-	-

Pleuronichthys verticalis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	4.0	-	-	0.0	-	0.0	-	-	-
80.0 51.0	-	-	-	0.0	-	-	4.4	-	0.0	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	0.0	-	5.8	-	-	-

Symphurus atricaudus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8 46.9	-	0.0	-	0.0	-	-	0.0	-	4.9	-	-	-

TABLE 4. (cont.)

Symphurus atricaudus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	0.0	-	-	0.0	-	9.2	-	-	-
90.0 28.0	0.0	-	-	0.0	-	-	0.0	-	5.8	-	-	-
90.0 35.0	0.0	-	-	0.0	-	-	0.0	-	5.4	-	-	-
93.3 28.0	0.0	-	-	0.0	-	-	0.0	-	34.6	-	-	-
93.3 30.0	4.8	-	-	0.0	-	-	0.0	-	0.0	-	-	-

Disintegrated fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	4.6	-	-	0.0	-	0.0	-	-	-
80.0 80.0	-	7.5	-	0.0	-	-	0.0	-	0.0	-	-	-
80.0 90.0	-	4.2	-	0.0	-	-	0.0	-	0.0	-	-	-
83.3 100.0	-	0.0	-	4.5	-	-	0.0	-	0.0	-	-	-
86.7 35.0	0.0	-	-	5.2	-	-	0.0	-	0.0	-	-	-
86.7 60.0	4.2	-	-	0.0	-	-	0.0	-	0.0	-	-	-
90.0 45.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-
90.0 53.0	0.0	-	-	8.7	-	-	0.0	-	0.0	-	-	-
90.0 70.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-
90.0 100.0	0.0	-	-	4.5	-	-	0.0	-	0.0	-	-	-

Unidentified fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
73.3 70.0	-	-	-	4.0	-	-	-	-	-	-	-	-
93.3 60.0	0.0	-	-	0.0	-	-	4.4	-	0.0	-	-	-
93.3 120.0	0.0	-	-	5.0	-	-	0.0	-	0.0	-	-	-

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(September 1999)

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D.A. AMBROSE, R.L. CHARTER, and H. G. MOSER
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