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ICHTHYOPLANKTON AND STATION DATA FOR CALIFORNIA COOPERATIVE OCEANIC FISHERIES INVESTIGATIONS SURVEY CRUISES IN 1994

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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 1994. It is the 34th report in a series that presents these data for all biological-oceanographic CalCOFI surveys from 1951 to the present. A total of 261 stations was occupied during quarterly cruises over the survey area which extended from Avila Beach 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 140 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 34th 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 1994. 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 historical CalCOFI sampling effort).

Hydrographic and biological data from the 1994 CalCOFI survey have been published by the Scripps Institution of Oceanography (Univ. of Calif., SIO 1994, 1995). All available records for the 1994 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 ichthyoplankton 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	1968	Sandknop et al. 1988c
1952	Sandknop et al. 1987a	1969	Stevens et al. 1988b
1953	Stevens et al. 1987a	1972	Sumida et al. 1988c
1954	Sumida et al. 1987a	1975	Ambrose et al. 1988c
1955	Ambrose et al. 1987b	1978	Sandknop et al. 1988d
1956	Stevens et al. 1987b	1981	Ambrose et al. 1988d
1957	Sumida et al. 1987b	1984	Stevens et al. 1990
1958	Sandknop et al. 1987b	1985	Ambrose et al. 1999a
1959	Stevens et al. 1987c	1986	Charter et al. 1999a
1960	Ambrose et al. 1987c	1987	Sandknop et al. 1999a
1961	Sandknop et al. 1988a	1988	Watson et al. 1999a
1962	Sumida et al. 1988a	1989	Ambrose et al. 1999b
1963	Ambrose et al. 1988a	1990	Charter et al. 1999b
1964	Sandknop et al. 1988a	1991	Sandknop et al. 1999b
1965	Stevens et al. 1988a	1992	Watson et al. 1999b
1966	Sumida et al. 1988b	1993	Ambrose et al. 1999c
1967	Ambrose et al. 1988b		

SAMPLING AREA AND PATTERN

A total of 261 standard CalCOFI survey stations was occupied on four cruises in 1994, employing two research vessels:

9401, RV *David Starr Jordan*, 65 stations, January 20–February 5;

9403, RV *David Starr Jordan*, 66 stations, March 22–April 17;

9408, RV *New Horizon*, 66 stations, August 5–19;

9410, RV *New Horizon*, 64 stations, September 30–October 14.

The core survey area extended from Avila Beach to San Diego, California and seaward on six survey lines to approximately 120–330 n. mi. (Figures 1 and 2)[1]. The most seaward station, 90.0 120.0 was

[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 equidistant spacing between cardinal lines (those ending in "0"). Scripps Institution of Oceanography continues to use the original designation for ordinal lines (Figures 1 and 2 and see Univ. of Calif., SIO 1994, 1995).

approximately 400 n. mi. west of Punta Baja, Baja California, Mexico. On all cruises, CalCOFI 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 1 and 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 1994 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.

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 1994. 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 1994 surveys could be identified to species. A total of 140 categories (including "unidentified" and "disintegrated") was identified for 1994: 113 to species, 15 to genus, 8 to family or subfamily, and 2 to order. Identifications were done in the Ichthyoplankton Ecology Laboratory of the Coastal Fisheries Resources Division by William Isham and Ernesto Calix (MEC Analytical Systems), working closely with larval fish identification experts in the laboratory who checked each sample.

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, almost entirely *C. acclinidens* and/or *C. pseudopallida* lacking diagnostic characters.

Cyclothone acclinidens, *C. pseudopallida* – larger larvae (primarily postflexion stage) having diagnostic 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) has 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 rarely encountered; a small percentage of *V. poweriae* larvae may have been included in the *V. lucetia* category because of the difficulty in separating early larvae of the two species.

SPECIES SUMMARY

Of the five most abundant larvae in 1994, the northern anchovy (*Engraulis mordax*) ranked first in abundance and occurrence with 42.3% of the total larvae and 46.4% positive tows (Tables 2 and 3). The Panama lightfish (*Vinciguerria lucetia*) ranked second in abundance (9.4% of the total larvae) and fourth in occurrence (35.3% positive tows). The Pacific hake (*Merluccius productus*) ranked third with 8.6% of the larvae and ranked sixth in occurrence (29.1% positive tows). The northern lampfish (*Stenobrachius leucopsarus*) ranked fourth in abundance and second in occurrence with 8.5% of the total larvae and 37.2% positive tows. The rockfish genus *Sebastes* ranked fifth in abundance (4.4% of the total larvae) and seventh in occurrence (28.4% positive tows). The next five most abundant taxa were the California smoothtongue *Leuroglossus stilbius* (4.0% of total larvae), the Pacific sardine *Sardinops sagax* (3.6%), the jack mackerel *Trachurus symmetricus* (1.8%), and the showy bristlemouth *Cyclothone signata* and popeye blacksmelt *Bathylagus ochotensis*, each with 1.4% of the total larvae. These species ranked 12th, 16th, 22nd, 5th, and 8th in frequency of occurrence, respectively. The 10 most abundant taxa comprised 85.2% of all the larvae collected on CalCOFI cruises in 1994. The remaining 14.8% was distributed among 130 other taxa (including

the "disintegrated" and "unidentified" categories). Of the ten most abundant taxa, half are midwater species, two are coastal demersal taxa, and three are coastal pelagic species.

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 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 1 and 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. Time is listed as Pacific Standard Time at the start of each tow in 24-hour designation. 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. 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 1994 listed in rank order.

Table 3. Pooled counts of all larval fish taxa taken on CalCOFI survey cruises in 1994 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. Orders and families are listed in phylogenetic sequence (Eschmeyer 1998); genera and species are listed alphabetically.

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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.

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 California Cooperative Oceanic Fisheries Investigations survey cruises in 1990. U.S. Dep. Commer., NOAA Tech. Memo., NOAA-TM-NMFS-SWFC-271. 86 pp.

Eschmeyer, W. N. (ed.). 1998. Catalog of fishes. Center for Biodiversity Research and Information. Calif. Acad. Sci. 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.

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. 1994. Data Report. Physical, chemical, and biological data. CalCOFI Cruise 9401, 20 January - 7 February 1994 and CalCOFI Cruise 9403, 22 March - 8 April, 1994. SIO Ref. 94-21. 100 pp.

University of California, Scripps Institution of Oceanography. 1995. Data Report. Physical, chemical, and biological data. CalCOFI Cruise 9408, 5 - 20 August, 1994 and CalCOFI Cruise 9410, 30 September - 15 October, 1994. SIO Ref. 95-16. 99 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.

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

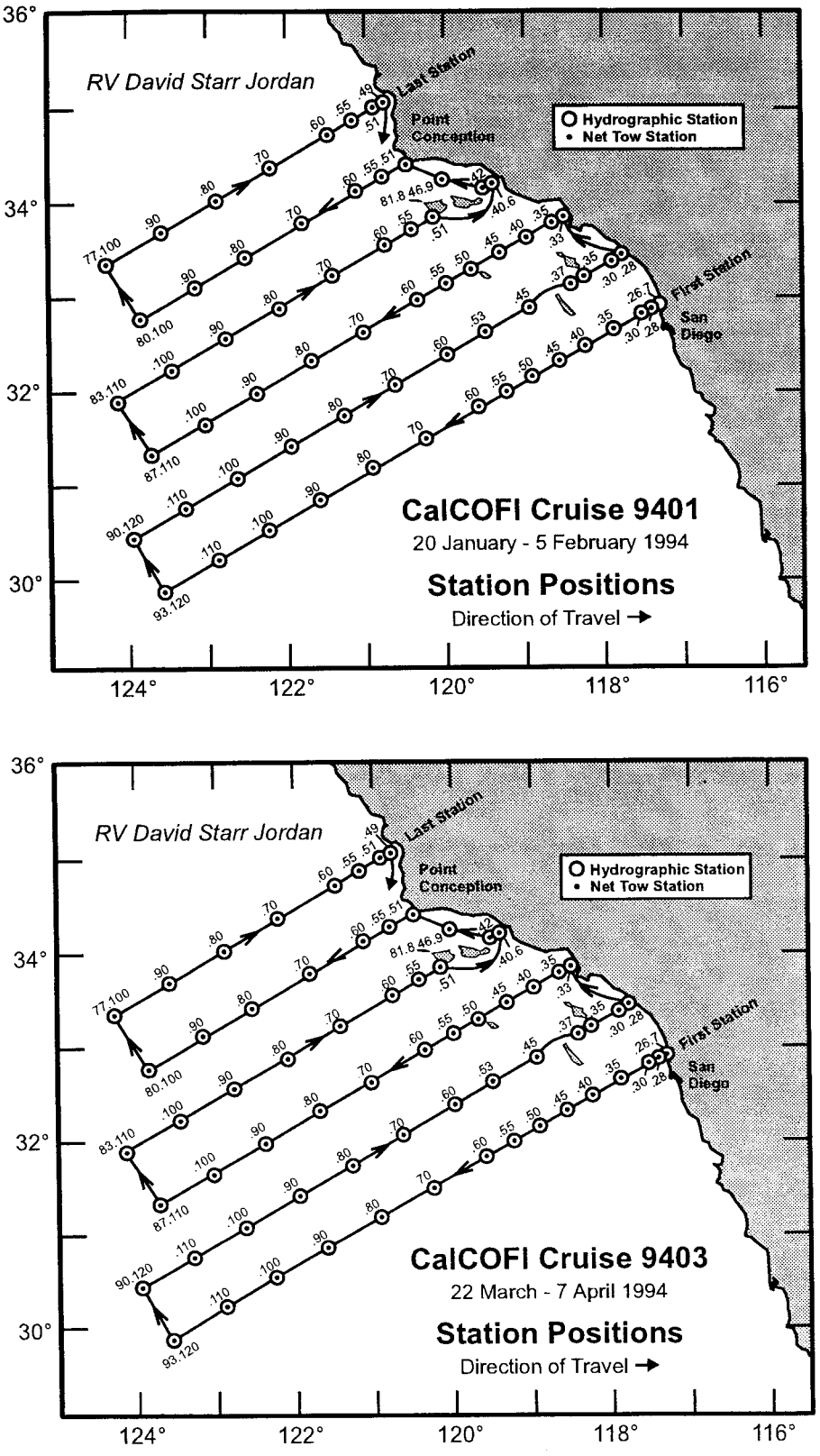

Figure 1. Stations and cruise tracks for CalCOFI cruises 9401 (above) and 9403 (below). Circles indicate hydrographic stations; dots indicate net tow stations.

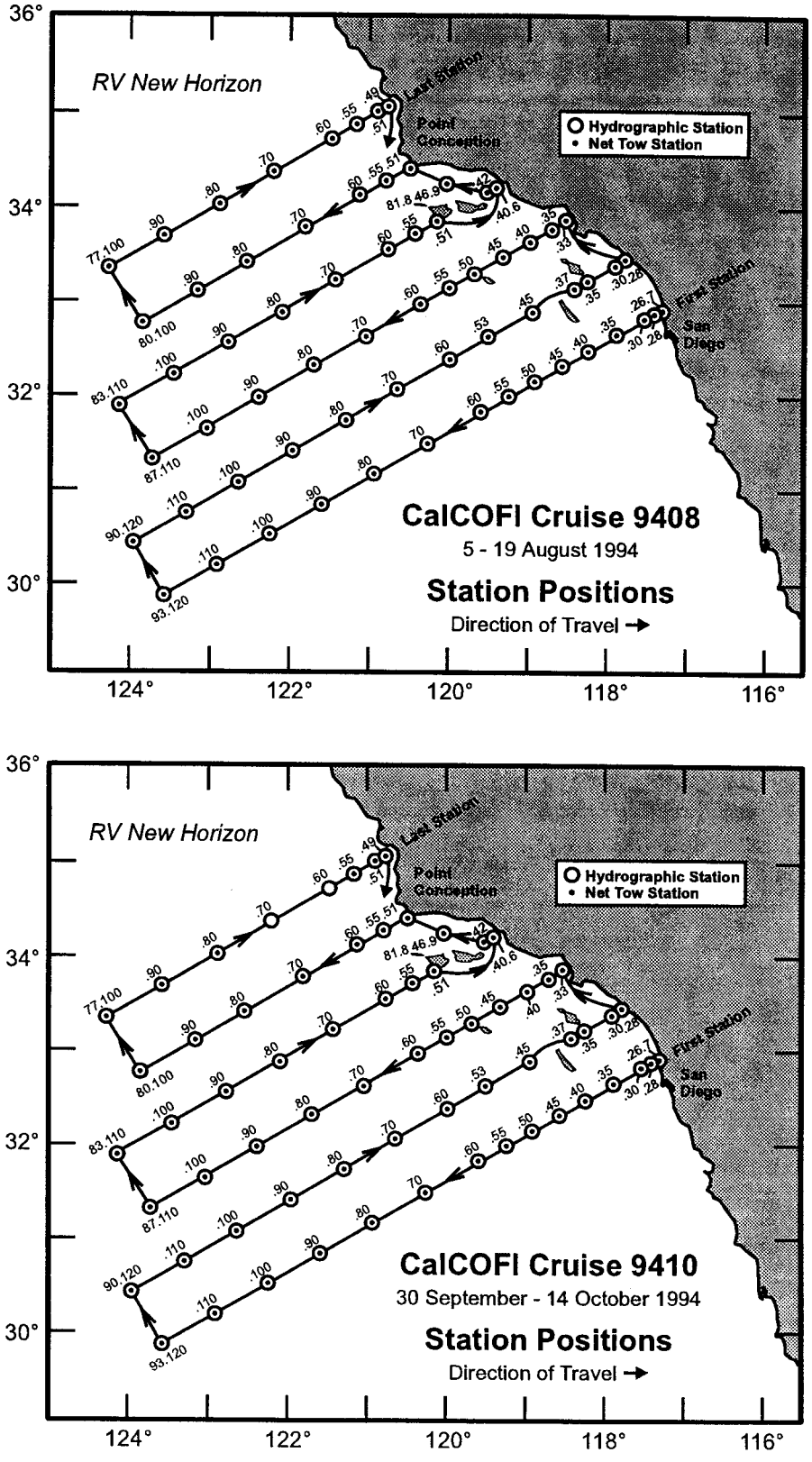

Figure 2. Stations and cruise tracks for CalCOFI cruises 9408 (above) and 9410 (below). Symbols as in Figure 1.

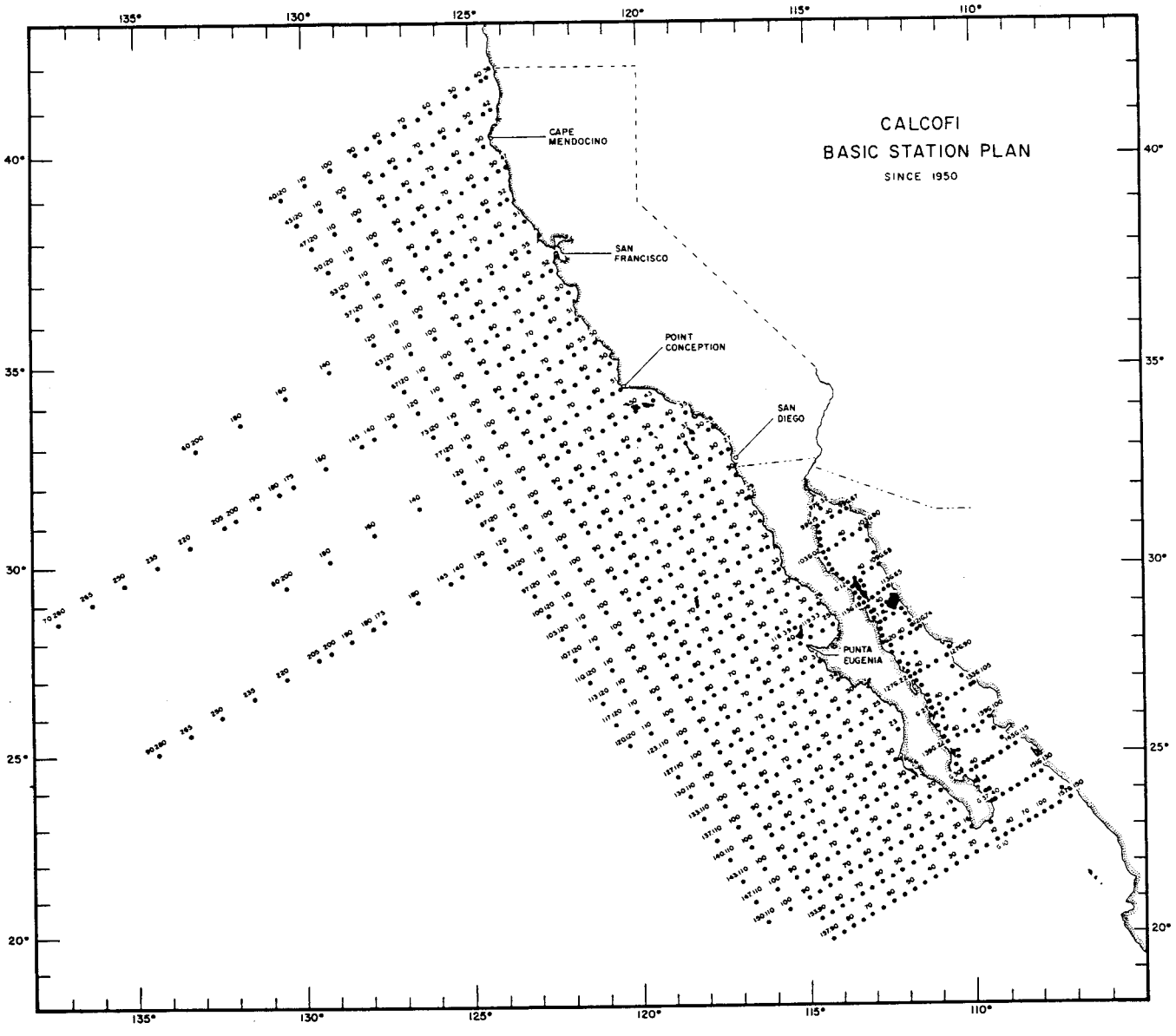

Figure 3. Basic station plan for CalCOFI Cruises.

TABLE 1. Station and plankton tow data for CalCOFI cruises in 1994. 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 9401

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	JD	94	02	05	2355	55	131	4.19	115	100.0	121	279
76.7	51.0	35	01.4	120	55.1	JD	94	02	05	2108	189	373	5.07	99	100.0	240	3
76.7	55.0	34	53.3	121	11.8	JD	94	02	05	1713	210	439	4.78	36	100.0	41	40
76.7	60.0	34	43.3	121	32.9	JD	94	02	05	1211	214	424	5.05	28	100.0	65	84
76.7	70.0	34	23.3	122	14.8	JD	94	02	05	0536	212	448	4.73	40	100.0	38	18
76.7	80.0	34	03.3	122	56.4	JD	94	02	04	2320	216	437	4.93	48	100.0	34	13
76.7	90.0	33	43.3	123	38.0	JD	94	02	04	1717	212	444	4.78	23	100.0	32	11
76.7	100.0	33	23.3	124	19.4	JD	94	02	04	0801	201	484	4.16	45	100.0	14	14
80.0	51.0	34	27.0	120	31.4	JD	94	02	02	1552	55	119	4.61	135	100.0	648	292
80.0	55.0	34	18.9	120	48.1	JD	94	02	02	1935	203	447	4.54	150	52.2	56	69
80.0	60.0	34	09.0	121	09.0	JD	94	02	03	0037	203	459	4.43	100	50.0	197	52
80.0	70.0	33	48.9	121	50.6	JD	94	02	03	0624	220	469	4.68	79	100.0	142	56
80.0	80.0	33	29.0	122	32.0	JD	94	02	03	1231	216	438	4.94	39	100.0	20	2
80.0	90.0	33	09.0	123	13.3	JD	94	02	03	1933	223	489	4.57	45	100.0	68	12
80.0	100.0	32	49.0	123	54.5	JD	94	02	04	0248	211	505	4.18	28	100.0	3	7
81.8	46.9	34	16.5	120	01.5	JD	94	02	02	1127	205	455	4.49	77	100.0	126	709
83.3	40.6	34	13.5	119	24.6	JD	94	02	02	0434	27	67	3.99	90	100.0	614	851
83.3	42.0	34	10.7	119	30.5	JD	94	02	02	0227	92	189	4.88	42	100.0	731	407
83.3	51.0	33	52.7	120	08.0	JD	94	02	01	1937	63	138	4.55	29	100.0	179	219
83.3	55.0	33	44.8	120	24.6	JD	94	02	01	1538	213	425	5.00	59	100.0	492	862
83.3	60.0	33	34.7	120	45.3	JD	94	02	01	0832	204	462	4.41	48	100.0	151	39
83.3	70.0	33	14.7	121	26.6	JD	94	02	01	0232	205	466	4.41	195	47.3	205	152
83.3	80.0	32	54.7	122	07.6	JD	94	01	31	1932	211	461	4.58	180	48.2	23	10
83.3	90.0	32	34.7	122	48.7	JD	94	01	31	1322	207	413	5.01	29	100.0	23	21
83.3	100.0	32	14.6	123	29.5	JD	94	01	31	0612	213	445	4.78	18	100.0	31	10
83.3	110.0	31	54.8	124	10.2	JD	94	01	30	2343	214	433	4.95	23	100.0	17	10
86.7	33.0	33	53.4	118	29.4	JD	94	01	28	0001	47	113	4.16	44	100.0	42	364
86.7	35.0	33	49.4	118	37.8	JD	94	01	28	0342	212	430	4.93	42	100.0	384	309
86.7	40.0	33	39.4	118	58.5	JD	94	01	28	0749	209	432	4.84	25	100.0	218	425
86.7	45.0	33	29.5	119	19.1	JD	94	01	28	1316	205	470	4.36	28	100.0	199	312

Table 1. (cont.)

CalCOFI Cruise 9401

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	50.0	33	19.5	119	39.8	JD	94	01	28	1759	66	151	4.35	33	100.0	103	43
86.7	55.0	33	09.5	120	00.2	JD	94	01	28	2307	217	420	5.16	48	100.0	139	143
86.7	60.0	32	59.4	120	21.1	JD	94	01	29	0404	218	460	4.74	57	100.0	143	13
86.7	70.0	32	39.4	121	02.0	JD	94	01	29	1125	210	432	4.87	44	100.0	63	7
86.7	80.0	32	19.4	121	42.9	JD	94	01	29	1844	211	428	4.94	23	100.0	25	14
86.7	90.0	31	59.4	122	23.5	JD	94	01	30	0113	211	432	4.88	111	100.0	16	8
86.7	100.0	31	39.4	123	04.2	JD	94	01	30	0653	214	443	4.83	20	100.0	12	12
86.7	110.0	31	19.4	123	44.7	JD	94	01	30	1651	213	426	4.99	16	100.0	16	15
90.0	28.0	33	29.2	117	46.0	JD	94	01	27	1726	47	118	3.99	51	100.0	88	459
90.0	30.0	33	25.1	117	54.3	JD	94	01	27	1129	215	426	5.06	42	100.0	104	686
90.0	35.0	33	15.3	118	15.2	JD	94	01	27	0710	170	351	4.85	31	100.0	104	521
90.0	37.0	33	11.1	118	23.1	JD	94	01	27	0430	213	435	4.89	37	100.0	86	255
90.0	45.0	32	55.2	118	56.2	JD	94	01	26	2241	213	464	4.59	45	100.0	159	1073
90.0	53.0	32	39.1	119	28.9	JD	94	01	26	1652	216	474	4.56	21	100.0	49	43
90.0	60.0	32	25.1	119	57.6	JD	94	01	26	1111	215	439	4.89	23	100.0	51	7
90.0	70.0	32	05.1	120	38.3	JD	94	01	26	0321	222	461	4.82	43	100.0	8	7
90.0	80.0	31	45.2	121	19.0	JD	94	01	25	1942	221	464	4.78	41	100.0	12	7
90.0	90.0	31	25.0	121	59.4	JD	94	01	25	1138	238	453	5.26	27	100.0	6	4
90.0	100.0	31	05.0	122	39.7	JD	94	01	25	0333	219	463	4.72	28	100.0	6	6
90.0	110.0	30	45.1	123	19.9	JD	94	01	24	2021	231	487	4.74	31	100.0	2	41
90.0	120.0	30	25.1	123	59.9	JD	94	01	24	1250	221	489	4.53	10	100.0	0	31
93.3	28.0	32	54.8	117	23.7	JD	94	01	20	1724	210	417	5.03	36	100.0	10	56
93.3	30.0	32	50.8	117	31.9	JD	94	01	20	2121	209	421	4.96	31	100.0	20	20
93.3	35.0	32	40.8	117	52.5	JD	94	01	21	0208	216	414	5.22	31	100.0	13	47
93.3	40.0	32	30.7	118	12.8	JD	94	01	21	0648	212	416	5.11	34	100.0	167	387
93.3	45.0	32	20.8	118	33.3	JD	94	01	21	1146	216	401	5.40	15	100.0	61	312
93.3	50.0	32	10.8	118	53.6	JD	94	01	21	1630	211	418	5.05	38	100.0	4	13
93.3	55.0	32	00.8	119	14.0	JD	94	01	21	2045	208	427	4.87	56	100.0	47	41
93.3	60.0	31	50.9	119	34.0	JD	94	01	22	0120	218	401	5.43	37	100.0	34	65
93.3	70.0	31	30.8	120	14.8	JD	94	01	22	0650	211	411	5.14	53	100.0	14	24
93.3	80.0	31	10.8	120	55.1	JD	94	01	22	2130	207	428	4.84	47	100.0	14	33
93.3	90.0	30	50.9	121	35.2	JD	94	01	23	0638	202	444	4.55	23	100.0	8	44
93.3	100.0	30	31.5	122	14.1	JD	94	01	23	1434	214	402	5.32	20	100.0	14	33

Table 1. (cont.)

CalCOFI Cruise 9401

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	110.0	30	10.8	122	55.4	JD	94	01	23	2137	210	480	4.38	33	100.0	22	12
93.3	120.0	29	50.8	123	35.1	JD	94	01	24	0334	228	443	5.14	27	100.0	6	6

Table 1. (cont.)

CalCOFI Cruise 9403

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	46.3	JD	94	04	07	0940	50	117	4.25	223	100.0	101	4
76.7	51.0	35	01.3	120	55.1	JD	94	04	07	0758	187	360	5.19	33	100.0	60	56
76.7	55.0	34	53.3	121	11.9	JD	94	04	07	0422	209	452	4.62	53	100.0	95	346
76.7	60.0	34	43.3	121	32.9	JD	94	04	06	2356	212	433	4.89	83	50.0	44	60
76.7	70.0	34	23.3	122	14.8	JD	94	04	06	1733	209	454	4.61	24	100.0	75	301
76.7	80.0	34	03.3	122	56.6	JD	94	04	06	0619	208	466	4.47	39	100.0	71	89
76.7	90.0	33	43.3	123	38.0	JD	94	04	06	0114	213	455	4.68	40	100.0	119	79
76.7	100.0	33	23.2	124	19.4	JD	94	04	05	1905	210	467	4.50	17	100.0	41	130
80.0	51.0	34	27.1	120	31.5	JD	94	04	04	0022	74	199	3.72	267	45.3	27	0
80.0	55.0	34	19.0	120	48.2	JD	94	04	04	0346	218	448	4.87	83	51.4	67	62
80.0	60.0	34	09.0	121	09.0	JD	94	04	04	0701	213	455	4.67	55	100.0	41	15
80.0	70.0	33	49.0	121	50.6	JD	94	04	04	1705	214	429	4.98	168	50.0	41	34
80.0	80.0	33	29.0	122	31.9	JD	94	04	04	2342	214	452	4.74	44	100.0	56	81
80.0	90.0	33	09.0	123	13.3	JD	94	04	05	0553	210	459	4.58	33	100.0	38	275
80.0	100.0	32	49.0	123	54.4	JD	94	04	05	1210	210	455	4.63	22	100.0	15	33
81.8	46.9	34	16.5	120	01.4	JD	94	04	03	1948	213	439	4.86	121	50.9	20	126
83.3	40.6	34	13.5	119	24.7	JD	94	04	03	1445	22	46	4.75	43	100.0	20	844
83.3	42.0	34	10.7	119	30.5	JD	94	04	03	1235	170	351	4.83	97	100.0	27	106
83.3	51.0	33	52.7	120	08.0	JD	94	04	03	0544	75	216	3.46	250	53.7	74	228
83.3	55.0	33	44.7	120	24.6	JD	94	04	03	0312	220	411	5.36	61	100.0	115	299
83.3	60.0	33	34.7	120	45.3	JD	94	04	02	2310	214	459	4.65	52	100.0	95	67
83.3	70.0	33	14.7	121	26.6	JD	94	04	02	1717	212	439	4.84	50	100.0	116	121
83.3	80.0	32	54.7	122	07.7	JD	94	04	02	0730	210	464	4.53	17	100.0	123	90
83.3	90.0	32	34.7	122	48.7	JD	94	04	02	0144	216	450	4.80	20	100.0	118	65
83.3	100.0	32	14.7	123	29.5	JD	94	04	01	1916	211	455	4.64	24	100.0	101	14
83.3	110.0	31	54.7	124	10.2	JD	94	04	01	1230	208	473	4.39	21	100.0	38	15
86.7	33.0	33	53.4	118	29.4	JD	94	03	29	1430	43	95	4.48	84	100.0	34	556
86.7	35.0	33	49.4	118	37.7	JD	94	03	29	1720	213	424	5.01	59	100.0	302	101
86.7	40.0	33	39.4	118	58.4	JD	94	03	29	2125	212	437	4.86	73	50.0	114	33
86.7	45.0	33	29.4	119	19.1	JD	94	03	30	0118	211	459	4.61	131	50.0	191	469
86.7	50.0	33	19.4	119	39.7	JD	94	03	30	0452	53	135	3.96	37	100.0	122	484
86.7	55.0	33	09.4	120	00.4	JD	94	03	30	1615	211	445	4.74	16	100.0	76	97
86.7	60.0	32	59.4	120	21.0	JD	94	03	30	2030	216	438	4.94	32	100.0	13	123

Table 1. (cont.)

CalCOFI Cruise 9403

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	02.0	JD	94	03	31	0252	217	473	4.58	19	100.0	99	44
86.7	80.0	32	19.4	121	42.9	JD	94	03	31	0815	219	450	4.88	16	100.0	30	72
86.7	90.0	31	59.4	122	23.6	JD	94	03	31	1808	214	448	4.77	33	100.0	28	201
86.7	100.0	31	39.3	123	04.1	JD	94	04	01	0022	212	460	4.61	50	100.0	26	42
86.7	110.0	31	19.4	123	44.5	JD	94	04	01	0556	213	465	4.58	9	100.0	24	60
90.0	28.0	33	29.1	117	46.1	JD	94	03	29	0406	55	119	4.65	126	100.0	81	9
90.0	30.0	33	25.1	117	54.3	JD	94	03	29	0154	211	428	4.92	63	100.0	762	52
90.0	35.0	33	15.2	118	14.8	JD	94	03	28	2155	212	398	5.32	103	43.9	871	334
90.0	37.0	33	11.2	118	23.2	JD	94	03	28	1920	212	407	5.20	47	100.0	342	151
90.0	45.0	32	55.1	118	56.1	JD	94	03	28	0824	212	412	5.15	49	100.0	355	971
90.0	53.0	32	39.1	119	28.8	JD	94	03	28	0419	212	422	5.03	47	100.0	153	117
90.0	60.0	32	25.2	119	57.7	JD	94	03	27	2318	210	444	4.74	36	100.0	51	7
90.0	70.0	32	05.1	120	38.3	JD	94	03	27	1650	207	459	4.52	24	100.0	27	55
90.0	80.0	31	45.1	121	18.9	JD	94	03	27	0854	221	432	5.12	19	100.0	49	157
90.0	90.0	31	25.1	121	59.4	JD	94	03	27	0421	213	458	4.66	20	100.0	23	591
90.0	100.0	31	05.2	122	39.7	JD	94	03	26	2240	213	451	4.73	22	100.0	16	161
90.0	110.0	30	45.1	123	19.9	JD	94	03	26	1651	211	457	4.63	22	100.0	0	10
90.0	120.0	30	25.1	123	59.9	JD	94	03	26	0725	214	438	4.89	11	100.0	7	12
93.3	26.7	32	57.4	117	18.3	JD	94	03	22	1316	55	137	4.02	36	100.0	55	30
93.3	28.0	32	54.8	117	23.7	JD	94	03	22	1646	212	448	4.72	33	100.0	660	30
93.3	30.0	32	50.8	117	31.8	JD	94	03	22	2001	209	459	4.55	59	100.0	621	218
93.3	35.0	32	40.7	117	52.5	JD	94	03	23	0048	229	472	4.85	34	100.0	192	80
93.3	40.0	32	30.8	118	12.8	JD	94	03	23	0453	225	450	5.00	36	100.0	33	12
93.3	45.0	32	20.8	118	33.3	JD	94	03	23	0758	218	441	4.94	18	100.0	11	21
93.3	50.0	32	10.8	118	53.5	JD	94	03	23	1635	217	454	4.79	18	100.0	17	39
93.3	55.0	32	00.8	119	13.9	JD	94	03	23	2117	224	452	4.96	40	100.0	97	21
93.3	60.0	31	50.8	119	34.2	JD	94	03	24	0133	215	451	4.78	35	100.0	56	24
93.3	70.0	31	30.8	120	14.8	JD	94	03	24	0631	213	457	4.67	22	100.0	161	19
93.3	80.0	31	10.7	120	55.2	JD	94	03	24	1845	212	476	4.46	15	100.0	62	137
93.3	90.0	30	50.8	121	35.4	JD	94	03	25	0127	216	473	4.56	21	100.0	21	259
93.3	100.0	30	30.8	122	15.5	JD	94	03	25	0841	217	482	4.51	6	100.0	6	77
93.3	110.0	30	10.8	122	55.5	JD	94	03	25	1925	215	502	4.28	10	100.0	2	44
93.3	120.0	29	50.8	123	35.4	JD	94	03	26	0200	212	470	4.51	13	100.0	4	11

Table 1. (cont.)

CalCOFI Cruise 9408

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	NH	94	08	19	1600	67	120	5.62	117	100.0	7	145
76.7	51.0	35	01.4	120	55.1	NH	94	08	19	1342	223	443	5.04	88	46.2	2	1
76.7	55.0	34	53.3	121	11.9	NH	94	08	19	0910	202	422	4.78	47	100.0	6	0
76.7	60.0	34	43.4	121	33.0	NH	94	08	19	0605	217	409	5.31	157	51.6	5	2
76.7	70.0	34	23.3	122	14.9	NH	94	08	19	0024	233	426	5.46	101	48.8	9	2
76.7	80.0	34	03.5	122	56.6	NH	94	08	18	1820	221	437	5.06	66	51.7	1	10
76.7	90.0	33	43.2	123	38.0	NH	94	08	18	1144	223	415	5.38	63	100.0	17	551
76.7	100.0	33	23.2	124	19.4	NH	94	08	18	0516	211	452	4.67	24	100.0	21	77
80.0	51.0	34	27.0	120	31.4	NH	94	08	16	1535	84	164	5.12	98	100.0	11	112
80.0	55.0	34	18.9	120	48.1	NH	94	08	16	1845	231	408	5.66	157	50.0	11	1
80.0	60.0	34	09.0	121	09.0	NH	94	08	16	2230	213	370	5.74	197	49.3	4	4
80.0	70.0	33	48.9	121	50.5	NH	94	08	17	0417	218	395	5.51	94	45.9	9	13
80.0	80.0	33	29.1	122	31.9	NH	94	08	17	0900	213	396	5.38	56	100.0	22	167
80.0	90.0	33	09.0	123	13.5	NH	94	08	17	1638	217	421	5.15	21	100.0	46	1201
80.0	100.0	32	49.0	123	54.4	NH	94	08	17	2215	231	406	5.69	17	100.0	162	322
81.8	46.9	34	16.4	120	01.5	NH	94	08	16	0900	180	437	4.11	50	100.0	27	59
83.3	40.6	34	13.6	119	24.4	NH	94	08	16	0425	28	59	4.66	84	100.0	6	206
83.3	42.0	34	10.8	119	30.7	NH	94	08	16	0243	78	167	4.66	72	100.0	9	61
83.3	51.0	33	52.6	120	08.3	NH	94	08	15	2015	184	375	4.90	45	100.0	38	586
83.3	55.0	33	44.9	120	24.4	NH	94	08	15	1645	206	442	4.65	41	100.0	1	0
83.3	60.0	33	34.6	120	45.3	NH	94	08	15	1140	215	397	5.41	83	48.5	5	0
83.3	70.0	33	14.7	121	26.5	NH	94	08	15	0530	226	390	5.80	85	48.5	8	21
83.3	80.0	32	54.7	122	07.7	NH	94	08	14	2254	202	397	5.10	63	100.0	47	12
83.3	90.0	32	34.8	122	48.8	NH	94	08	14	1710	219	423	5.19	14	100.0	64	151
83.3	100.0	32	14.7	123	29.6	NH	94	08	14	0933	198	434	4.56	16	100.0	102	788
83.3	110.0	31	54.5	124	10.0	NH	94	08	14	0440	226	401	5.65	22	100.0	103	17
86.7	33.0	33	53.3	118	29.4	NH	94	08	11	1725	48	105	4.60	86	100.0	37	265
86.7	35.0	33	49.3	118	37.7	NH	94	08	11	1953	197	415	4.74	137	49.1	6	0
86.7	40.0	33	39.5	118	58.5	NH	94	08	11	2349	201	412	4.88	56	100.0	6	266
86.7	45.0	33	29.5	119	19.2	NH	94	08	12	0433	200	425	4.71	150	51.6	1	5
86.7	50.0	33	19.4	119	39.7	NH	94	08	12	0807	75	151	5.00	133	100.0	9	0
86.7	55.0	33	09.4	120	00.4	NH	94	08	12	1218	224	405	5.53	123	48.0	2	0
86.7	60.0	32	59.4	120	21.0	NH	94	08	12	1708	222	364	6.08	176	51.6	6	2

Table 1. (cont.)

CalCOFI Cruise 9408

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	39.3	121	02.0	NH	94	08	12	2241	239	384	6.22	125	47.9	5	1
86.7	80.0	32	19.4	121	43.1	NH	94	08	13	0415	216	427	5.06	56	100.0	25	34
86.7	90.0	31	59.4	122	23.6	NH	94	08	13	0900	233	392	5.95	38	100.0	4	28
86.7	100.0	31	39.4	123	04.2	NH	94	08	13	1638	222	423	5.25	31	100.0	29	35
86.7	110.0	31	19.4	123	44.6	NH	94	08	13	2157	216	420	5.15	33	100.0	9	196
90.0	28.0	33	28.4	117	47.7	NH	94	08	11	0948	224	368	6.09	38	100.0	21	0
90.0	30.0	33	25.1	117	54.4	NH	94	08	11	0633	213	386	5.52	41	100.0	26	5
90.0	35.0	33	15.2	118	14.9	NH	94	08	11	0238	203	392	5.18	71	100.0	20	5
90.0	37.0	33	11.2	118	23.3	NH	94	08	10	2350	207	388	5.32	64	100.0	38	0
90.0	45.0	32	55.2	118	56.1	NH	94	08	10	1855	225	386	5.82	70	100.0	4	0
90.0	53.0	32	39.1	119	28.9	NH	94	08	10	1230	207	390	5.31	41	100.0	3	1
90.0	60.0	32	25.3	119	57.6	NH	94	08	10	0732	211	386	5.48	57	100.0	9	13
90.0	70.0	32	05.0	120	38.4	NH	94	08	10	0153	204	396	5.14	114	46.7	14	11
90.0	80.0	31	45.1	121	18.9	NH	94	08	09	1943	219	421	5.20	64	100.0	16	20
90.0	90.0	31	25.1	121	59.5	NH	94	08	09	1245	201	430	4.68	61	100.0	10	70
90.0	100.0	31	05.1	122	39.7	NH	94	08	09	0613	220	410	5.38	56	100.0	14	156
90.0	110.0	30	45.1	123	20.0	NH	94	08	09	0005	210	455	4.62	40	100.0	35	359
90.0	120.0	30	25.2	123	59.8	NH	94	08	08	1815	223	422	5.28	17	100.0	26	562
93.3	26.7	32	57.4	117	18.4	NH	94	08	05	1255	53	135	3.95	82	100.0	11	45
93.3	28.0	32	54.8	117	23.7	NH	94	08	05	1910	212	420	5.05	102	46.5	21	3
93.3	30.0	32	50.8	117	31.9	NH	94	08	05	2218	205	400	5.12	72	51.7	54	5
93.3	35.0	32	40.9	117	52.6	NH	94	08	06	0153	185	431	4.29	46	100.0	15	10
93.3	40.0	32	30.8	118	12.7	NH	94	08	06	0641	210	411	5.12	29	100.0	19	32
93.3	45.0	32	20.8	118	33.3	NH	94	08	06	0921	212	428	4.96	51	100.0	21	21
93.3	50.0	32	10.8	118	53.7	NH	94	08	06	1530	229	415	5.53	58	100.0	8	5
93.3	55.0	32	00.8	119	14.0	NH	94	08	06	1915	214	424	5.05	61	100.0	7	52
93.3	60.0	31	50.9	119	35.0	NH	94	08	06	2255	233	399	5.85	75	100.0	6	20
93.3	70.0	31	30.9	120	14.8	NH	94	08	07	0502	215	413	5.22	61	100.0	5	42
93.3	80.0	31	10.8	120	55.3	NH	94	08	07	0944	203	407	4.98	81	100.0	3	54
93.3	90.0	30	50.7	121	35.3	NH	94	08	07	1735	221	408	5.43	49	100.0	18	121
93.3	100.0	30	30.8	122	15.5	NH	94	08	07	2315	218	395	5.52	71	100.0	35	222
93.3	110.0	30	10.8	122	55.5	NH	94	08	08	0602	223	418	5.33	24	100.0	26	107
93.3	120.0	29	50.7	123	35.3	NH	94	08	08	1219	226	393	5.75	15	100.0	7	339

Table 1. (cont.)

CalCOFI Cruise 9410

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	94	10	14	1134	63	164	3.83	73	100.0	10	38
76.7	51.0	35	01.3	120	55.1	NH	94	10	14	0843	211	420	5.01	38	100.0	1	6
76.7	55.0	34	53.3	121	11.9	NH	94	10	14	0440	207	456	4.54	110	52.0	4	0
76.7	80.0	34	03.2	122	56.5	NH	94	10	13	0823	216	509	4.24	49	100.0	5	16
76.7	90.0	33	43.3	123	38.1	NH	94	10	13	0110	205	481	4.26	56	100.0	37	38
76.7	100.0	33	23.3	124	19.3	NH	94	10	12	1918	217	450	4.81	18	100.0	70	32
80.0	51.0	34	27.0	120	31.3	NH	94	10	11	0311	58	118	4.90	153	100.0	108	236
80.0	55.0	34	19.0	120	48.2	NH	94	10	11	0635	209	433	4.84	37	100.0	53	38
80.0	60.0	34	09.0	121	09.0	NH	94	10	11	0949	216	435	4.95	53	100.0	12	7
80.0	70.0	33	49.0	121	50.6	NH	94	10	11	1827	216	453	4.76	71	100.0	17	8
80.0	80.0	33	29.0	122	31.9	NH	94	10	12	0030	206	444	4.64	50	100.0	79	25
80.0	90.0	33	09.0	123	13.3	NH	94	10	12	0600	209	463	4.51	15	100.0	32	15
80.0	100.0	32	49.0	123	54.3	NH	94	10	12	1258	213	468	4.55	11	100.0	66	10
81.8	46.9	34	16.5	120	01.3	NH	94	10	10	2337	204	409	4.99	61	100.0	92	344
83.3	40.6	34	13.5	119	24.7	NH	94	10	10	1827	30	62	4.79	113	100.0	35	151
83.3	42.0	34	10.6	119	30.3	NH	94	10	10	1637	169	331	5.12	39	100.0	108	712
83.3	51.0	33	52.7	120	08.0	NH	94	10	10	0900	92	183	5.03	27	100.0	24	172
83.3	55.0	33	44.6	120	24.5	NH	94	10	10	0413	210	399	5.26	38	100.0	0	0
83.3	60.0	33	34.7	120	45.4	NH	94	10	10	0009	207	421	4.91	116	53.1	4	0
83.3	70.0	33	14.7	121	26.6	NH	94	10	09	1830	215	402	5.37	90	47.2	8	6
83.3	80.0	32	54.6	122	07.7	NH	94	10	09	1225	217	409	5.32	29	100.0	54	39
83.3	90.0	32	34.8	122	48.8	NH	94	10	09	0547	209	426	4.91	45	100.0	123	57
83.3	100.0	32	14.7	123	29.7	NH	94	10	09	0031	217	417	5.21	26	100.0	152	8
83.3	110.0	31	54.6	124	10.2	NH	94	10	08	1826	211	430	4.91	42	100.0	88	32
86.7	33.0	33	53.4	118	29.4	NH	94	10	06	0615	42	90	4.65	190	100.0	14	36
86.7	35.0	33	49.4	118	37.6	NH	94	10	06	0827	203	399	5.08	73	100.0	8	2
86.7	40.0	33	39.4	118	58.4	NH	94	10	06	1233	216	407	5.31	83	100.0	2	4
86.7	45.0	33	29.4	119	18.9	NH	94	10	06	1716	220	402	5.48	32	100.0	2	0
86.7	50.0	33	19.3	119	39.8	NH	94	10	06	2047	71	141	5.01	14	100.0	0	19
86.7	55.0	33	09.5	120	00.6	NH	94	10	07	0107	214	410	5.22	54	100.0	0	3
86.7	60.0	32	59.4	120	21.0	NH	94	10	07	0452	215	399	5.39	68	100.0	2	0
86.7	70.0	32	39.4	121	01.1	NH	94	10	07	0942	214	423	5.07	21	100.0	14	14

Table 1. (cont.)

CalCOFI Cruise 9410

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	80.0	32	19.4	121	42.9	NH	94	10	07	1758	213	430	4.95	49	100.0	2	1
86.7	90.0	31	59.4	122	23.5	NH	94	10	07	2337	217	413	5.25	44	100.0	50	53
86.7	100.0	31	39.4	123	04.2	NH	94	10	08	0608	212	427	4.96	21	100.0	109	26
86.7	110.0	31	19.4	123	44.5	NH	94	10	08	1242	220	402	5.47	47	100.0	27	36
90.0	28.0	33	29.0	117	46.2	NH	94	10	05	2205	206	411	5.01	129	50.9	1	1
90.0	30.0	33	25.1	117	54.4	NH	94	10	05	1943	212	401	5.29	60	100.0	0	2
90.0	35.0	33	15.1	118	15.0	NH	94	10	05	1558	211	406	5.20	52	100.0	2	8
90.0	37.0	33	10.1	118	25.4	NH	94	10	05	1245	209	425	4.91	63	100.0	1	0
90.0	45.0	32	55.1	118	56.1	NH	94	10	05	0732	216	416	5.19	19	100.0	0	2
90.0	53.0	32	39.2	119	28.9	NH	94	10	05	0251	218	426	5.12	26	100.0	2	4
90.0	60.0	32	25.0	119	57.6	NH	94	10	04	2225	208	420	4.95	43	100.0	2	2
90.0	70.0	32	05.1	120	38.3	NH	94	10	04	1643	213	441	4.83	82	47.2	14	7
90.0	80.0	31	45.1	121	19.0	NH	94	10	04	0850	215	412	5.23	39	100.0	0	16
90.0	90.0	31	25.0	121	59.4	NH	94	10	04	0355	209	439	4.76	61	100.0	44	9
90.0	100.0	31	05.0	122	39.8	NH	94	10	03	2228	215	404	5.31	50	100.0	105	23
90.0	110.0	30	45.1	123	19.9	NH	94	10	03	1645	211	445	4.74	38	100.0	23	114
90.0	120.0	30	25.0	123	59.9	NH	94	10	03	0934	210	410	5.13	37	100.0	34	349
93.3	26.7	32	57.4	117	18.3	NH	94	09	30	1205	44	113	3.86	97	100.0	21	4
93.3	28.0	32	54.8	117	23.7	NH	94	09	30	1443	211	379	5.57	42	100.0	14	8
93.3	30.0	32	51.0	117	31.8	NH	94	09	30	1810	208	400	5.19	105	52.4	16	1
93.3	35.0	32	40.8	117	52.3	NH	94	09	30	2159	209	381	5.49	73	100.0	2	1
93.3	40.0	32	30.8	118	12.9	NH	94	10	01	0127	203	418	4.86	65	100.0	10	0
93.3	45.0	32	20.9	118	33.0	NH	94	10	01	0508	214	412	5.19	102	50.0	0	1
93.3	50.0	32	10.8	118	53.5	NH	94	10	01	0902	213	383	5.57	39	100.0	1	0
93.3	55.0	32	00.8	119	13.9	NH	94	10	01	1521	215	393	5.46	79	48.4	1	3
93.3	60.0	31	50.8	119	34.2	NH	94	10	01	1915	212	401	5.30	82	51.5	0	1
93.3	70.0	31	30.8	120	14.7	NH	94	10	02	0040	210	400	5.24	100	47.5	22	1
93.3	80.0	31	10.8	120	55.2	NH	94	10	02	0600	210	400	5.26	60	100.0	108	231
93.3	90.0	30	50.8	121	35.3	NH	94	10	02	1217	208	389	5.34	54	100.0	2	6
93.3	100.0	30	30.8	122	15.5	NH	94	10	02	1812	213	398	5.36	80	100.0	64	34
93.3	110.0	30	10.8	122	55.2	NH	94	10	02	2349	218	400	5.44	37	100.0	65	48
93.3	120.0	29	50.8	123	35.2	NH	94	10	03	0501	212	399	5.32	20	100.0	80	114

TABLE 2. Pooled occurrences of fish larvae taken on CalCOFI cruises in 1994.

Rank	Taxon	Occurrences
1	*Engraulis mordax*	121
2	*Stenobrachius leucopsarus*	97
3	*Protomyctophum crockeri*	95
4	*Vinciguerria lucetia*	92
5	*Cyclothone signata*	85
6	*Merluccius productus*	76
7	*Sebastes* spp.	74
8	*Bathylagus ochotensis*	71
9	*Symbolophorus californiensis*	69
9	*Lampanyctus* spp.	69
11	*Bathylagus wesethi*	64
12	*Leuroglossus stilbius*	63
13	*Diogenichthys atlanticus*	59
14	*Ceratoscopelus townsendi*	55
14	*Lampanyctus ritteri*	55
16	*Sardinops sagax*	53
17	*Argyropelecus sladeni*	47
18	*Triphoturus mexicanus*	45
19	*Citharichthys stigmaeus*	43
19	*Citharichthys sordidus*	43
21	*Lestidiops ringens*	37
22	*Trachurus symmetricus*	32
23	*Sebastes jordani*	29
24	*Sternoptyx* spp.	28
25	Myctophidae	27
26	*Tarletonbeania crenularis*	26
27	*Citharichthys* spp.	24
28	*Diaphus* spp.	23
29	*Idiacanthus antrostomus*	22
30	*Danaphos oculatus*	21
30	*Tetragonurus cuvieri*	21
32	*Melamphaes lugubris*	17
32	*Coryphopterus nicholsii*	17
34	*Oxyjulis californica*	15
34	*Chauliodus macouni*	15
36	*Stomias atriventer*	14
36	*Genyonemus lineatus*	14
36	*Sebastes paucispinis*	14
39	*Argentina sialis*	13
39	*Microstoma* spp.	13
39	*Lampanyctus regalis*	13
42	*Argyropelecus affinis*	12
42	Disintegrated fish larvae	12
44	*Hygophum reinhardtii*	11
45	*Arctozenus risso*	9
46	*Electrona risso*	8
46	*Chromis punctipinnis*	8
46	*Sebastes diploproa*	8
49	*Aristostomias scintillans*	7
50	*Cyclothone acclinidens*	6

TABLE 2. (cont.)

Rank	Taxon	Occurrences
50	*Hypsoblennius jenkinsi*	6
50	*Notoscopelus resplendens*	6
53	Unidentified fish larvae	5
53	Cottidae	5
53	*Myctophum nitidulum*	5
53	*Argyropelecus hemigymnus*	5
53	*Scomber japonicus*	5
53	*Cyclothone* spp.	5
53	*Cyclothone pseudopallida*	5
60	*Parophrys vetulus*	4
60	*Lyopsetta exilis*	4
60	*Melamphaes* spp.	4
60	*Peprilus simillimus*	4
60	*Sphyraena argentea*	4
60	*Poromitra crassiceps*	4
60	*Scopelogadus bispinosus*	4
60	*Bathylagus pacificus*	4
60	*Paralichthys californicus*	4
69	*Oxylebius pictus*	3
69	*Loweina rara*	3
69	Bathylagidae	3
69	*Microstomus pacificus*	3
69	*Chiasmodon niger*	3
69	*Rosenblattichthys volucris*	3
69	*Tactostoma macropus*	3
69	*Lepidogobius lepidus*	3
69	*Notolychnus valdiviae*	3
69	*Liparis mucosus*	3
69	*Scorpaenichthys marmoratus*	3
69	*Ichthyococcus irregularis*	3
69	*Benthalbella dentata*	3
69	*Lampadena urophaos*	3
69	*Sebastes aurora*	3
84	*Hippoglossina stomata*	2
84	*Icichthys lockingtoni*	2
84	*Bathylagus* spp.	2
84	*Neoclinus stephensae*	2
84	*Medialuna californiensis*	2
84	*Chilara taylori*	2
84	*Bathophilus flemingi*	2
84	*Symphurus atricaudus*	2
84	*Paralabrax* spp.	2
84	*Icelinus quadriseriatus*	2
84	Sternoptychidae	2
84	*Cololabis saira*	2
84	*Trachipterus altivelis*	2
97	Scopelarchidae	1
97	*Nansenia crassa*	1
97	Stomiiformes	1
97	Melanostomiinae	1
97	*Diplophos taenia*	1

TABLE 2. (cont.)

Rank	Taxon	Occurrences
97	*Valenciennellus tripunctulatus*	1
97	*Dolichopteryx longipes*	1
97	*Icosteus aenigmaticus*	1
97	*Xenistius californiensis*	1
97	Sciaenidae	1
97	*Hypsypops rubicundus*	1
97	*Halichoeres semicinctus*	1
97	*Rathbunella* spp.	1
97	Stichaeidae	1
97	*Gigantactis* spp.	1
97	*Neoclinus blanchardi*	1
97	*Artedius fenestralis*	1
97	*Lythrypnus dalli*	1
97	*Lythrypnus zebra*	1
97	*Typhlogobius californiensis*	1
97	*Xystreurys liolepis*	1
97	*Hypsopsetta guttulata*	1
97	*Pleuronichthys ritteri*	1
97	*Pleuronichthys verticalis*	1
97	*Gibbonsia* spp.	1
97	*Scopeloberyx robustus*	1
97	*Scopelosaurus harryi*	1
97	*Diogenichthys laternatus*	1
97	*Albatrossia pectoralis*	1
97	*Brosmophycis marginata*	1
97	*Oneirodes* spp.	1
97	Clupeiformes	1
97	*Atherinopsis californiensis*	1
97	*Howella* spp.	1
97	*Melamphaes parvus*	1
97	*Odontopyxis trispinosa*	1
97	*Eutaeniophorus festivus*	1
97	*Aulorhynchus flavidus*	1
97	*Sebastolobus alascanus*	1
97	*Sebastolobus altivelis*	1
97	*Zaniolepis latipinnis*	1
97	*Artedius creaseri*	1
97	*Scopelarchus analis*	1
97	*Cheilopogon pinnatibarbatus*	1
	Total	2090

TABLE 3. Pooled counts of fish larvae taken on CalCOFI cruises in 1994. Counts are adjusted for percent of sample sorted and standard haul factor (see text).

Rank	Taxon	Count
1	*Engraulis mordax*	41252
2	*Vinciguerria lucetia*	9140
3	*Merluccius productus*	8330
4	*Stenobrachius leucopsarus*	8293
5	*Sebastes* spp.	4248
6	*Leuroglossus stilbius*	3853
7	*Sardinops sagax*	3484
8	*Trachurus symmetricus*	1759
9	*Cyclothone signata*	1385
10	*Bathylagus ochotensis*	1337
11	*Sebastes jordani*	1142
12	*Lampanyctus* spp.	1137
13	*Genyonemus lineatus*	986
14	*Protomyctophum crockeri*	933
15	*Ceratoscopelus townsendi*	802
16	*Triphoturus mexicanus*	785
17	*Bathylagus wesethi*	758
18	*Symbolophorus californiensis*	715
19	*Lampanyctus ritteri*	532
20	*Diogenichthys atlanticus*	514
21	*Citharichthys sordidus*	449
22	*Citharichthys* spp.	396
23	*Citharichthys stigmaeus*	374
24	*Argyropelecus sladeni*	318
25	*Lestidiops ringens*	270
26	*Diaphus* spp.	260
27	*Tarletonbeania crenularis*	227
28	Myctophidae	210
29	*Sternoptyx* spp.	201
30	*Idiacanthus antrostomus*	188
31	*Tetragonurus cuvieri*	170
32	*Danaphos oculatus*	149
33	*Argentina sialis*	133
34	*Coryphopterus nicholsii*	131
35	*Chromis punctipinnis*	125
36	*Oxyjulis californica*	117
37	*Melamphaes lugubris*	98
38	*Sebastes paucispinis*	97
39	*Chauliodus macouni*	93
40	*Parophrys vetulus*	92
41	*Stomias atriventer*	87
42	*Microstoma* spp.	81
43	*Argyropelecus affinis*	80
44	*Hypsoblennius jenkinsi*	75
45	*Lampanyctus regalis*	72
46	Disintegrated fish larvae	61
47	*Arctozenus risso*	55
48	*Sebastes diploproa*	54
48	*Hygophum reinhardtii*	54

TABLE 3. (cont.)

Rank	Taxon	Count
50	*Scomber japonicus*	48
50	*Paralabrax* spp.	48
50	*Aristostomias scintillans*	48
53	*Electrona risso*	43
54	*Sphyraena argentea*	42
55	*Cyclothone pseudopallida*	36
55	*Icelinus quadriseriatus*	36
55	*Notoscopelus resplendens*	36
58	*Cyclothone acclinidens*	35
58	*Argyropelecus hemigymnus*	35
60	Cottidae	34
61	*Liparis mucosus*	33
62	*Lyopsetta exilis*	32
63	Unidentified fish larvae	30
64	*Paralichthys californicus*	28
65	*Sebastes aurora*	26
65	*Melamphaes* spp.	26
67	*Cyclothone* spp.	25
67	*Lepidogobius lepidus*	25
69	*Myctophum nitidulum*	24
70	*Bathylagus* spp.	23
70	*Bathylagus pacificus*	23
72	*Rosenblattichthys volucris*	21
72	*Poromitra crassiceps*	21
74	*Tactostoma macropus*	20
75	*Loweina rara*	19
75	*Scopelogadus bispinosus*	19
75	*Peprilus simillimus*	19
78	*Neoclinus stephensae*	18
79	*Symphurus atricaudus*	16
79	*Chiasmodon niger*	16
81	*Benthalbella dentata*	15
81	*Scorpaenichthys marmoratus*	15
81	*Lampadena urophaos*	15
81	*Notolychnus valdiviae*	15
81	*Microstomus pacificus*	15
81	*Ichthyococcus irregularis*	15
81	Bathylagidae	15
81	*Lythrypnus dalli*	15
89	*Rathbunella* spp.	14
90	*Sebastolobus alascanus*	13
90	*Oxylebius pictus*	13
92	*Dolichopteryx longipes*	12
93	*Medialuna californiensis*	11
93	*Xenistius californiensis*	11
95	*Bathophilus flemingi*	10
95	Sternoptychidae	10
95	*Cololabis saira*	10
95	*Chilara taylori*	10
95	*Sebastolobus altivelis*	10
95	*Trachipterus altivelis*	10

TABLE 3. (cont.)

Rank	Taxon	Count
101	*Icichthys lockingtoni*	9
101	*Hippoglossina stomata*	9
103	Stichaeidae	6
103	*Odontopyxis trispinosa*	6
103	*Neoclinus blanchardi*	6
103	Sciaenidae	6
103	*Cheilopogon pinnatibarbatus*	6
108	*Nansenia crassa*	5
108	*Artedius creaseri*	5
108	Clupeiformes	5
108	*Artedius fenestralis*	5
108	*Hypsopsetta guttulata*	5
108	*Albatrossia pectoralis*	5
108	*Pleuronichthys ritteri*	5
108	*Typhlogobius californiensis*	5
108	*Gigantactis* spp.	5
108	*Lythrypnus zebra*	5
108	*Aulorhynchus flavidus*	5
108	*Xystreurys liolepis*	5
108	*Gibbonsia* spp.	5
108	Melanostomiinae	5
108	Scopelarchidae	5
108	*Atherinopsis californiensis*	5
108	*Scopelarchus analis*	5
108	*Eutaeniophorus festivus*	5
108	*Oneirodes* spp.	5
108	*Howella* spp.	5
108	*Melamphaes parvus*	5
108	Stomiiformes	5
108	*Icosteus aenigmaticus*	5
108	*Hypsypops rubicundus*	5
108	*Zaniolepis latipinnis*	5
108	*Diogenichthys laternatus*	5
108	*Diplophos taenia*	5
108	*Scopeloberyx robustus*	5
136	*Brosmophycis marginata*	4
136	*Valenciennellus tripunctulatus*	4
136	*Halichoeres semicinctus*	4
136	*Pleuronichthys verticalis*	4
136	*Scopelosaurus harryi*	4
	Total	97469

TABLE 4. Number of fish larvae taken at stations occupied on CalCOFI cruises in 1994. Counts are adjusted for percent of sample sorted and standard haul factor (see text). Unoccupied stations are indicated by a dash.

Clupeiformes

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 55.0	-	0.0	-	5.4	-	-	-	0.0	-	0.0	-	-

Sardinops sagax

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	37.0	-	-	-	0.0	-	0.0	-	-
76.7 60.0	-	0.0	-	29.3	-	-	-	0.0	-	-	-	-
76.7 70.0	-	0.0	-	18.4	-	-	-	0.0	-	-	-	-
76.7 80.0	-	0.0	-	8.9	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	0.0	-	28.1	-	-	-	0.0	-	0.0	-	-
76.7 100.0	-	0.0	-	13.5	-	-	-	0.0	-	0.0	-	-
80.0 51.0	-	23.1	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 60.0	-	70.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 70.0	-	18.7	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 80.0	-	0.0	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0 90.0	-	0.0	-	41.2	-	-	-	0.0	-	0.0	-	-
81.8 46.9	-	0.0	-	0.0	-	-	-	4.1	-	0.0	-	-
83.3 40.6	-	103.7	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 42.0	-	0.0	-	4.8	-	-	-	0.0	-	20.5	-	-
83.3 51.0	-	0.0	-	0.0	-	-	-	0.0	-	35.2	-	-
83.3 55.0	-	10.0	-	107.2	-	-	-	0.0	-	0.0	-	-
83.3 60.0	-	0.0	-	134.9	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	92.0	-	-	-	0.0	-	0.0	-	-
83.3 100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3 110.0	0.0	-	-	92.2	-	-	-	0.0	-	0.0	-	-
86.7 33.0	0.0	-	22.4	-	-	-	-	23.0	-	14.0	-	-
86.7 35.0	4.9	-	10.0	-	-	-	-	0.0	-	0.0	-	-
86.7 40.0	38.7	-	9.7	-	-	-	-	0.0	-	0.0	-	-
86.7 50.0	13.0	-	285.1	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Sardinops sagax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	55.0	0.0	-	90.1	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	0.0	-	19.5	-	-	-	-	5.1	-	0.0	-	-
90.0	28.0	8.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
90.0	35.0	0.0	-	0.0	-	-	-	-	25.9	-	0.0	-	-
90.0	37.0	14.7	-	795.6	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	0.0	-	370.8	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	281.7	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	80.0	0.0	-	15.4	-	-	-	-	0.0	-	0.0	-	-
93.3	28.0	0.0	-	0.0	-	-	-	-	86.9	0.0	-	-	-
93.3	30.0	0.0	-	4.5	-	-	-	-	29.7	0.0	-	-	-
93.3	35.0	10.4	-	126.1	-	-	-	-	0.0	0.0	-	-	-
93.3	50.0	0.0	-	19.2	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	188.5	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	0.0	-	38.2	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	9.3	-	-	-	-	0.0	-	0.0	-	-

Engraulis mordax

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	83.8	-	55.3	-	-	-	0.0	-	0.0	-	-
76.7	51.0	-	106.5	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	0.0	-	9.2	-	-	-	9.6	-	0.0	-	-
76.7	60.0	-	30.3	-	9.8	-	-	-	0.0	-	-	-	-
76.7	70.0	-	0.0	-	4.6	-	-	-	0.0	-	-	-	-
76.7	90.0	-	0.0	-	14.0	-	-	-	0.0	-	0.0	-	-
76.7	100.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
80.0	51.0	-	2129.8	-	16.4	-	-	-	46.1	-	450.8	-	-
80.0	55.0	-	95.7	-	56.8	-	-	-	90.6	-	159.7	-	-
80.0	60.0	-	336.7	-	9.3	-	-	-	23.3	-	0.0	-	-
80.0	70.0	-	140.4	-	0.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8	46.9	-	368.2	-	19.1	-	-	-	98.6	-	294.4	-	-
83.3	40.6	-	1871.3	-	71.3	-	-	-	28.0	-	143.7	-	-
83.3	42.0	-	3206.2	-	4.8	-	-	-	14.0	-	501.8	-	-
83.3	51.0	-	759.9	-	257.7	-	-	-	137.2	-	55.3	-	-
83.3	55.0	-	435.0	-	10.7	-	-	-	4.7	-	0.0	-	-
83.3	60.0	-	145.5	-	9.3	-	-	-	11.2	-	0.0	-	-
83.3	70.0	-	102.6	-	9.7	-	-	-	0.0	-	0.0	-	-
83.3	100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	110.0	0.0	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7	33.0	25.0	-	53.8	-	-	-	-	78.2	-	37.2	-	-
86.7	35.0	1212.8	-	806.6	-	-	-	-	9.7	-	25.4	-	-
86.7	40.0	222.6	-	447.1	-	-	-	-	4.9	-	10.6	-	-
86.7	45.0	239.8	-	1567.4	-	-	-	-	9.1	-	0.0	-	-
86.7	50.0	108.7	-	23.8	-	-	-	-	30.0	-	0.0	-	-
86.7	55.0	149.6	-	4.7	-	-	-	-	11.5	-	0.0	-	-
86.7	60.0	23.7	-	0.0	-	-	-	-	47.1	-	0.0	-	-
86.7	70.0	4.9	-	18.3	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	4.9	-	4.9	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	159.6	-	302.3	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	136.6	-	3242.3	-	-	-	-	5.5	-	0.0	-	-
90.0	35.0	257.0	-	9876.5	-	-	-	-	15.5	-	0.0	-	-
90.0	37.0	83.1	-	582.4	-	-	-	-	69.2	-	4.9	-	-
90.0	45.0	174.4	-	700.4	-	-	-	-	11.6	-	0.0	-	-
90.0	53.0	50.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	132.0	-	0.0	-	-	-	-	16.4	-	0.0	-	-
90.0	90.0	0.0	-	0.0	-	-	-	-	4.7	-	0.0	-	-
93.3	26.7	0.0	-	176.9	-	-	-	-	39.5	73.3	-	-	-
93.3	28.0	20.1	-	2827.3	-	-	-	-	108.6	72.4	-	-	-
93.3	30.0	9.9	-	2379.7	-	-	-	-	277.3	118.9	-	-	-
93.3	35.0	0.0	-	446.2	-	-	-	-	47.2	0.0	-	-	-
93.3	40.0	480.3	-	10.0	-	-	-	-	56.3	-	0.0	-	-

TABLE 4. (cont.)

Engraulis mordax (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	45.0	5.4	-	9.9	-	-	-	-	64.5	-	0.0	-	-
93.3	50.0	0.0	-	0.0	-	-	-	-	38.7	-	0.0	-	-
93.3	55.0	24.4	-	39.7	-	-	-	-	10.1	-	0.0	-	-
93.3	60.0	5.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	439.0	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-

Argentina sialis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	5.1	-	0.0	-	-	-	10.9	-	0.0	-	-
76.7	60.0	-	0.0	-	9.8	-	-	-	0.0	-	-	-	-
81.8	46.9	-	0.0	-	0.0	-	-	-	0.0	-	25.0	-	-
83.3	42.0	-	0.0	-	9.7	-	-	-	0.0	-	0.0	-	-
83.3	51.0	-	0.0	-	0.0	-	-	-	4.9	-	0.0	-	-
83.3	55.0	-	5.0	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	35.0	9.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	20.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	9.7	-	12.1	-	-	-	-	0.0	-	0.0	-	-
93.3	28.0	0.0	-	4.7	-	-	-	-	0.0	0.0	-	-	-

***Microstoma* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.3	-	-
76.7	100.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	0.0	-	0.0	-	-	-	11.3	-	0.0	-	-
80.0	60.0	-	0.0	-	4.7	-	-	-	0.0	-	5.0	-	-
80.0	70.0	-	0.0	-	10.0	-	-	-	0.0	-	0.0	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	0.0	-	0.0	-	-
83.3	90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
86.7	80.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-

TABLE 4. (cont.)

***Microstoma* spp.** (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 45.0	0.0	-	0.0	-	-	-	-	9.9	-	0.0	-	-
93.3 50.0	0.0	-	0.0	-	-	-	-	0.0	-	5.6	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Nansenia crassa

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 55.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Bathylagidae

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

***Bathylagus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 28.0	0.0	-	4.7	-	-	-	-	0.0	0.0	-	-	-
93.3 30.0	0.0	-	18.2	-	-	-	-	0.0	0.0	-	-	-

Bathylagus ochotensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	35.5	-	20.8	-	-	-	0.0	-	0.0	-	-
76.7 55.0	-	28.7	-	50.8	-	-	-	0.0	-	0.0	-	-
76.7 60.0	-	25.3	-	29.3	-	-	-	0.0	-	-	-	-
76.7 70.0	-	9.5	-	27.7	-	-	-	0.0	-	-	-	-
76.7 80.0	-	0.0	-	40.2	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	0.0	-	32.8	-	-	-	0.0	-	4.3	-	-
76.7 100.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
80.0 51.0	-	0.0	-	0.0	-	-	-	5.1	-	0.0	-	-
80.0 55.0	-	34.8	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 60.0	-	35.4	-	9.3	-	-	-	0.0	-	0.0	-	-
80.0 70.0	-	9.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 80.0	-	14.8	-	14.2	-	-	-	0.0	-	0.0	-	-
80.0 90.0	-	13.7	-	9.2	-	-	-	0.0	-	0.0	-	-
83.3 51.0	-	0.0	-	6.4	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Bathylagus ochotensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	55.0	-	5.0	-	21.4	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	22.1	-	14.0	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	18.6	-	19.4	-	-	-	12.0	-	0.0	-	-
83.3	80.0	19.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7	35.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	24.2	-	19.4	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	30.5	-	18.4	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	4.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	46.4	-	37.9	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	14.2	-	9.9	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	9.2	-	-	-	-	0.0	-	0.0	-	-
86.7	90.0	0.0	-	14.3	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	0.0	-	-	9.2	-	-	-	0.0	-	0.0	-	-
90.0	28.0	16.0	-	9.3	-	-	-	-	6.1	-	0.0	-	-
90.0	30.0	25.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	9.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	24.4	-	20.8	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	41.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	4.6	-	20.1	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	4.9	-	19.0	-	-	-	-	0.0	-	0.0	-	-
90.0	100.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	28.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	0.0	-	4.5	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	31.3	-	14.5	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	61.3	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	27.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	50.0	5.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	19.5	-	14.9	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	48.9	-	19.1	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	32.7	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Bathylagus pacificus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
76.7	80.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	0.0	-	5.4	-	-	-	0.0	-	0.0	-	-

Bathylagus wesethi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	0.0	-	0.0	-	-	-	26.9	-	25.6	-	-
76.7	100.0	-	0.0	-	0.0	-	-	-	4.7	-	4.8	-	-
80.0	70.0	-	0.0	-	0.0	-	-	-	36.0	-	4.8	-	-
80.0	80.0	-	0.0	-	0.0	-	-	-	32.3	-	4.6	-	-
80.0	90.0	-	0.0	-	4.6	-	-	-	10.3	-	0.0	-	-
80.0	100.0	-	0.0	-	0.0	-	-	-	5.7	-	0.0	-	-
83.3	60.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	0.0	-	4.8	-	-	-	12.0	-	11.4	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	0.0	-	26.6	-	-
83.3	90.0	0.0	-	-	4.8	-	-	-	10.4	-	4.9	-	-
83.3	100.0	0.0	-	-	4.6	-	-	-	0.0	-	10.4	-	-
83.3	110.0	0.0	-	-	4.4	-	-	-	0.0	-	29.5	-	-
86.7	55.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	0.0	-	-	-	-	13.0	-	15.2	-	-
86.7	80.0	0.0	-	4.9	-	-	-	-	5.1	-	0.0	-	-
86.7	90.0	0.0	-	0.0	-	-	-	-	6.0	-	31.5	-	-
86.7	100.0	0.0	-	-	0.0	-	-	-	15.8	-	5.0	-	-
86.7	110.0	0.0	-	-	0.0	-	-	-	0.0	-	16.4	-	-
90.0	35.0	0.0	-	0.0	-	-	-	-	0.0	-	5.2	-	-
90.0	60.0	0.0	-	9.5	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	18.1	-	-	-	-	33.0	-	20.5	-	-
90.0	80.0	0.0	-	5.1	-	-	-	-	5.2	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	4.7	-	4.8	-	-
90.0	100.0	14.2	-	0.0	-	-	-	-	5.4	-	0.0	-	-
90.0	110.0	4.7	-	0.0	-	-	-	-	0.0	-	19.0	-	-

TABLE 4. (cont.)

Bathylagus wesethi (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
93.3	40.0	0.0	-	10.0	-	-	-	-	5.1	-	0.0	-	-
93.3	55.0	0.0	-	24.8	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	5.4	-	0.0	-	-	-	-	5.8	-	0.0	-	-
93.3	70.0	0.0	-	0.0	-	-	-	-	0.0	-	11.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	21.0	-	-
93.3	90.0	0.0	-	9.1	-	-	-	-	16.3	-	0.0	-	-
93.3	100.0	0.0	-	0.0	-	-	-	-	5.5	-	37.5	-	-
93.3	110.0	4.4	-	0.0	-	-	-	-	16.0	-	10.9	-	-

Leuroglossus stilbius

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	20.3	-	5.2	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	33.5	-	4.6	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	25.3	-	19.6	-	-	-	0.0	-	-	-	-
76.7	80.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	52.2	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	44.3	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	9.4	-	10.0	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	9.1	-	13.7	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	13.5	-	28.6	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	9.8	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3	51.0	-	4.5	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	730.0	-	32.2	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	30.9	-	9.3	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	9.3	-	38.7	-	-	-	0.0	-	0.0	-	-
83.3	80.0	57.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	35.0	167.6	-	110.2	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	304.9	-	116.6	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	196.2	-	64.5	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	211.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Leuroglossus stilbius (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	60.0	9.5	-	4.9	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	4.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	131.6	-	113.2	-	-	-	-	5.5	-	0.0	-	-
90.0	35.0	4.8	-	193.9	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	78.2	-	93.6	-	-	-	-	5.3	-	0.0	-	-
90.0	45.0	27.5	-	123.6	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	9.1	-	25.2	-	-	-	-	0.0	-	5.1	-	-
93.3	28.0	0.0	-	113.3	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	0.0	-	127.4	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	5.2	-	92.1	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	76.7	-	30.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	16.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	9.9	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	65.2	-	28.7	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	37.4	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-

Dolichopteryx longipes

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	60.0	0.0	-	0.0	-	-	-	-	11.8	-	0.0	-	-

Stomiiformes

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	110.0	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-

***Cyclothone* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	100.0	-	0.0	-	0.0	-	-	-	4.7	-	0.0	-	-
80.0	90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
83.3	110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
86.7	100.0	4.8	-	-	0.0	-	-	-	0.0	-	5.0	-	-

Cyclothone acclinidens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-

TABLE 4. (cont.)

Cyclothone acclinidens (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
83.3 100.0	4.8	-	-	0.0	-	-	-	0.0	-	10.4	-	-
86.7 90.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 110.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
93.3 120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Cyclothone pseudopallida

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
86.7 90.0	0.0	-	0.0	-	-	-	-	0.0	-	15.8	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
93.3 90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3 120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Cyclothone signata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	18.9	-	0.0	-	-	-	0.0	-	-	-	-
76.7 80.0	-	19.7	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	43.0	-	0.0	-	-	-	5.4	-	17.0	-	-
76.7 100.0	-	12.5	-	9.0	-	-	-	14.0	-	28.9	-	-
80.0 60.0	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
80.0 70.0	-	0.0	-	0.0	-	-	-	0.0	-	9.5	-	-
80.0 80.0	-	0.0	-	9.5	-	-	-	0.0	-	4.6	-	-
80.0 90.0	-	27.4	-	4.6	-	-	-	10.3	-	4.5	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	34.1	-	4.5	-	-
83.3 60.0	-	0.0	-	46.5	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	0.0	-	-	-	12.0	-	0.0	-	-
83.3 80.0	0.0	-	-	0.0	-	-	-	15.3	-	37.2	-	-
83.3 90.0	25.0	-	-	57.6	-	-	-	5.2	-	44.2	-	-
83.3 100.0	23.9	-	-	37.1	-	-	-	4.6	-	46.9	-	-
83.3 110.0	14.9	-	-	13.2	-	-	-	22.6	-	44.2	-	-
86.7 55.0	5.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 60.0	9.5	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Cyclothone signata (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 70.0	4.9	-	9.2	-	-	-	-	0.0	-	0.0	-	-
86.7 80.0	19.8	-	0.0	-	-	-	-	5.1	-	0.0	-	-
86.7 90.0	14.6	-	0.0	-	-	-	-	0.0	-	15.8	-	-
86.7 100.0	9.7	-	-	23.1	-	-	-	0.0	-	14.9	-	-
86.7 110.0	25.0	-	-	9.2	-	-	-	0.0	-	5.5	-	-
90.0 37.0	0.0	-	5.2	-	-	-	-	0.0	-	0.0	-	-
90.0 60.0	0.0	-	28.4	-	-	-	-	0.0	-	0.0	-	-
90.0 70.0	0.0	-	4.5	-	-	-	-	11.0	-	0.0	-	-
90.0 80.0	14.3	-	5.1	-	-	-	-	15.6	-	0.0	-	-
90.0 90.0	0.0	-	18.6	-	-	-	-	0.0	-	9.5	-	-
90.0 100.0	0.0	-	14.2	-	-	-	-	0.0	-	15.9	-	-
90.0 110.0	4.7	-	0.0	-	-	-	-	9.2	-	4.7	-	-
90.0 120.0	0.0	-	4.9	-	-	-	-	10.6	-	0.0	-	-
93.3 50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3 55.0	0.0	-	24.8	-	-	-	-	0.0	-	0.0	-	-
93.3 60.0	5.4	-	14.3	-	-	-	-	0.0	-	0.0	-	-
93.3 70.0	5.1	-	0.0	-	-	-	-	0.0	-	33.1	-	-
93.3 80.0	9.7	-	44.6	-	-	-	-	0.0	-	31.6	-	-
93.3 90.0	13.6	-	13.7	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	5.5	-	10.7	-	-
93.3 110.0	35.0	-	0.0	-	-	-	-	10.7	-	5.4	-	-
93.3 120.0	10.3	-	4.5	-	-	-	-	5.8	-	10.6	-	-

Diplophos taenia

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 80.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Sternoptychidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7 55.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Argyropelecus affinis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	9.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 90.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3 60.0	-	4.4	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3 100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
86.7 70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7 100.0	9.7	-	-	0.0	-	-	-	0.0	-	0.0	-	-
90.0 100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
93.3 70.0	10.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 80.0	4.8	-	0.0	-	-	-	-	0.0	-	10.5	-	-
93.3 120.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Argyropelecus hemigymnus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 80.0	0.0	-	-	0.0	-	-	-	0.0	-	10.6	-	-
86.7 70.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
93.3 100.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Argyropelecus sladeni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	-	-
76.7 80.0	-	19.7	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	9.6	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 55.0	-	5.0	-	5.4	-	-	-	0.0	-	0.0	-	-
83.3 60.0	-	4.4	-	4.7	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3 80.0	28.5	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 90.0	0.0	-	-	0.0	-	-	-	5.2	-	0.0	-	-
83.3 100.0	0.0	-	-	4.6	-	-	-	0.0	-	5.2	-	-
83.3 110.0	0.0	-	-	0.0	-	-	-	5.7	-	4.9	-	-

TABLE 4. (cont.)

Argyropelecus sladeni (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	9.5	-	4.9	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	90.0	4.9	-	0.0	-	-	-	-	0.0	-	5.3	-	-
86.7	100.0	0.0	-	-	9.2	-	-	-	0.0	-	0.0	-	-
86.7	110.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0	35.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	0.0	-	0.0	-	-	-	-	5.8	-	0.0	-	-
90.0	60.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-
90.0	80.0	4.8	-	5.1	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
93.3	30.0	0.0	-	4.5	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	0.0	-	0.0	-	-	-	-	0.0	5.5	-	-	-
93.3	40.0	0.0	-	5.0	-	-	-	-	5.1	-	0.0	-	-
93.3	45.0	5.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	50.0	5.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	14.0	-	-	-	-	0.0	-	11.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	5.3	-	-
93.3	100.0	10.6	-	0.0	-	-	-	-	0.0	-	10.7	-	-
93.3	110.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Danaphos oculatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	0.0	-	-	-	0.0	-	8.7	-	-
76.7	80.0	-	19.7	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	0.0	-	10.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Danaphos oculatus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
83.3	80.0	9.5	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	0.0	-	0.0	-	-	-	-	0.0	-	5.0	-	-
90.0	70.0	0.0	-	4.5	-	-	-	-	0.0	-	10.2	-	-
90.0	80.0	0.0	-	0.0	-	-	-	-	5.2	-	0.0	-	-
90.0	100.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-
93.3	30.0	0.0	-	0.0	-	-	-	-	0.0	9.9	-	-	-
93.3	55.0	9.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	4.5	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3	110.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-

***Sternoptyx* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	-	-
76.7	80.0	-	24.6	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	4.7	-	-	-	0.0	-	0.0	-	-
76.7	100.0	-	0.0	-	0.0	-	-	-	4.7	-	4.8	-	-
80.0	70.0	-	9.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	100.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	4.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	90.0	0.0	-	-	4.8	-	-	-	10.4	-	4.9	-	-
86.7	40.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	4.8	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0	80.0	0.0	-	15.4	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	0.0	-	9.3	-	-	-	-	4.7	-	0.0	-	-

TABLE 4. (cont.)

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

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	100.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	120.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
93.3	45.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-
93.3	55.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	10.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	110.0	0.0	-	0.0	-	-	-	-	10.7	-	10.9	-	-

Valenciennellus tripunctulatus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	0.0	-	0.0	-	-	-	0.0	-	4.2	-	-

Ichthyococcus irregularis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
86.7	70.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Vinciguerria lucetia

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	9.9	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	9.6	-	0.0	-	-	-	10.8	-	42.6	-	-
76.7	100.0	-	4.2	-	0.0	-	-	-	32.7	-	230.9	-	-
80.0	70.0	-	0.0	-	0.0	-	-	-	36.0	-	0.0	-	-
80.0	80.0	-	0.0	-	0.0	-	-	-	32.3	-	301.6	-	-
80.0	90.0	-	0.0	-	0.0	-	-	-	144.2	-	90.2	-	-
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	100.0	-	0.0	-	0.0	-	-	-	790.9	-	245.7	-	-
83.3	70.0	-	0.0	-	0.0	-	-	-	12.0	-	34.1	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	137.7	-	175.6	-	-
83.3	90.0	15.0	-	-	38.4	-	-	-	254.3	-	461.5	-	-
83.3	100.0	43.0	-	-	9.3	-	-	-	437.8	-	593.9	-	-
83.3	110.0	14.9	-	-	8.8	-	-	-	474.6	-	284.8	-	-
86.7	55.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Vinciguerria lucetia (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	60.0	14.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	36.6	-	-	-	-	0.0	-	15.2	-	-
86.7	80.0	14.8	-	9.8	-	-	-	-	25.3	-	5.0	-	-
86.7	90.0	19.5	-	4.8	-	-	-	-	0.0	-	126.0	-	-
86.7	100.0	4.8	-	-	13.8	-	-	-	120.8	-	471.2	-	-
86.7	110.0	5.0	-	-	9.2	-	-	-	20.6	-	87.5	-	-
90.0	37.0	0.0	-	5.2	-	-	-	-	5.3	-	0.0	-	-
90.0	53.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
90.0	60.0	0.0	-	47.4	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	4.5	-	-	-	-	22.0	-	81.9	-	-
90.0	80.0	4.8	-	25.6	-	-	-	-	5.2	-	0.0	-	-
90.0	90.0	0.0	-	9.3	-	-	-	-	4.7	-	142.8	-	-
90.0	100.0	9.4	-	0.0	-	-	-	-	21.5	-	462.0	-	-
90.0	110.0	0.0	-	0.0	-	-	-	-	115.5	-	66.4	-	-
90.0	120.0	0.0	-	9.8	-	-	-	-	89.8	-	123.1	-	-
93.3	40.0	0.0	-	5.0	-	-	-	-	0.0	-	34.0	-	-
93.3	55.0	0.0	-	34.7	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	0.0	-	14.3	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	0.0	-	-	-	-	0.0	-	176.5	-	-
93.3	80.0	0.0	-	93.7	-	-	-	-	0.0	-	389.2	-	-
93.3	90.0	4.5	-	0.0	-	-	-	-	43.4	-	0.0	-	-
93.3	100.0	10.6	-	0.0	-	-	-	-	121.4	-	235.8	-	-
93.3	110.0	0.0	-	4.3	-	-	-	-	90.6	-	255.7	-	-
93.3	120.0	10.3	-	4.5	-	-	-	-	28.8	-	308.6	-	-

Chauliodus macouni

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.9	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	4.7	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
80.0	70.0	-	0.0	-	10.0	-	-	-	0.0	-	4.8	-	-
83.3	60.0	-	0.0	-	0.0	-	-	-	0.0	-	18.5	-	-

TABLE 4. (cont.)

Chauliodus macouni (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	90.0	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	80.0	0.0	-	0.0	-	-	-	-	5.1	-	0.0	-	-
86.7	90.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
90.0	53.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	4.9	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-
93.3	120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Stomias atriventer

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	0.0	-	0.0	-	-	-	5.2	-	0.0	-	-
83.3	60.0	-	8.8	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	80.0	0.0	-	-	0.0	-	-	-	0.0	-	5.3	-	-
86.7	80.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0	70.0	4.8	-	9.0	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	40.0	10.2	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	9.9	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	5.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Melanostomiinae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	70.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Bathophilus flemingi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-	-

Tactostoma macropus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	0.0	-	0.0	-	-	-	0.0	-	4.6	-	-

TABLE 4. (cont.)

Tactostoma macropus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 80.0	0.0	-	9.8	-	-	-	-	0.0	-	0.0	-	-
93.3 40.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Aristostomias scintillans

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	4.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 100.0	-	4.2	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 100.0	-	0.0	-	18.5	-	-	-	0.0	-	0.0	-	-
83.3 90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
83.3 100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0 100.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3 90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-

Idiacanthus antrostomus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.3	-	-
76.7 100.0	-	0.0	-	0.0	-	-	-	4.7	-	4.8	-	-
80.0 70.0	-	0.0	-	0.0	-	-	-	12.0	-	14.3	-	-
80.0 80.0	-	0.0	-	0.0	-	-	-	10.8	-	0.0	-	-
80.0 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	17.1	-	0.0	-	-
83.3 70.0	-	0.0	-	0.0	-	-	-	12.0	-	0.0	-	-
83.3 90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
83.3 110.0	0.0	-	-	0.0	-	-	-	11.3	-	9.8	-	-
86.7 80.0	0.0	-	0.0	-	-	-	-	20.2	-	0.0	-	-
86.7 90.0	0.0	-	0.0	-	-	-	-	6.0	-	5.3	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	5.3	-	5.0	-	-
90.0 90.0	0.0	-	0.0	-	-	-	-	0.0	-	4.8	-	-
90.0 110.0	0.0	-	0.0	-	-	-	-	4.6	-	0.0	-	-
90.0 120.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
93.3 40.0	0.0	-	0.0	-	-	-	-	0.0	-	4.9	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	0.0	-	16.1	-	-

TABLE 4. (cont.)

Scopelarchidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-

Benthalbella dentata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
76.7 100.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
86.7 70.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Rosenblattichthys volucris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-	-
83.3 110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-

Scopelarchus analis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Scopelosaurus harryi

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

Arctozenus risso

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.3	-	-
80.0 70.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
80.0 100.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
86.7 70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7 90.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0 70.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-
90.0 120.0	0.0	-	0.0	-	-	-	-	10.6	-	10.3	-	-
93.3 110.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Lestidiops ringens

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	5.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
76.7 100.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-

TABLE 4. (cont.)

Lestidiops ringens (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 60.0	-	8.9	-	0.0	-	-	-	0.0	-	5.0	-	-
80.0 70.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
80.0 80.0	-	0.0	-	0.0	-	-	-	5.4	-	9.3	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	5.7	-	0.0	-	-
83.3 60.0	-	0.0	-	9.3	-	-	-	0.0	-	0.0	-	-
83.3 80.0	0.0	-	-	4.5	-	-	-	20.4	-	5.3	-	-
83.3 90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3 110.0	0.0	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7 40.0	0.0	-	0.0	-	-	-	-	4.9	-	0.0	-	-
86.7 70.0	4.9	-	0.0	-	-	-	-	13.0	-	0.0	-	-
86.7 80.0	9.9	-	0.0	-	-	-	-	5.1	-	0.0	-	-
86.7 90.0	0.0	-	14.3	-	-	-	-	0.0	-	0.0	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	10.5	-	0.0	-	-
86.7 110.0	0.0	-	-	13.7	-	-	-	0.0	-	5.5	-	-
90.0 35.0	0.0	-	0.0	-	-	-	-	5.2	-	0.0	-	-
90.0 80.0	0.0	-	5.1	-	-	-	-	15.6	-	0.0	-	-
90.0 90.0	0.0	-	0.0	-	-	-	-	4.7	-	14.3	-	-
90.0 110.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-
90.0 120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
93.3 40.0	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	-	4.8	-	-	-	-	5.8	-	0.0	-	-
93.3 70.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Myctophidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	10.1	-	0.0	-	-	-	0.0	-	-	-	-
76.7 80.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	4.8	-	37.4	-	-	-	5.4	-	0.0	-	-
76.7 100.0	-	4.2	-	4.5	-	-	-	0.0	-	4.8	-	-
80.0 51.0	-	0.0	-	8.2	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Myctophidae (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	0.0	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
80.0	100.0	-	0.0	-	9.3	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	4.4	-	9.3	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	0.0	-	4.8	-	-	-	12.0	-	0.0	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	0.0	-	0.0	-	-
86.7	55.0	5.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	9.2	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	9.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	0.0	-	10.4	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
93.3	50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Ceratoscopelus townsendi

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	70.0	-	9.5	-	0.0	-	-	-	0.0	-	-	-	-
76.7	80.0	-	14.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	0.0	-	-	-	0.0	-	21.3	-	-
76.7	100.0	-	8.3	-	4.5	-	-	-	4.7	-	19.2	-	-
80.0	70.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
80.0	80.0	-	0.0	-	0.0	-	-	-	0.0	-	13.9	-	-
80.0	90.0	-	4.6	-	4.6	-	-	-	20.6	-	4.5	-	-
80.0	100.0	-	0.0	-	13.9	-	-	-	17.1	-	18.2	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	25.5	-	10.6	-	-
83.3	90.0	10.0	-	-	0.0	-	-	-	0.0	-	19.6	-	-
83.3	100.0	28.7	-	-	23.2	-	-	-	9.1	-	41.7	-	-
83.3	110.0	9.9	-	-	0.0	-	-	-	22.6	-	9.8	-	-
86.7	55.0	5.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Ceratoscopelus townsendi (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 70.0	4.9	-	18.3	-	-	-	-	0.0	-	0.0	-	-
86.7 80.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 90.0	0.0	-	0.0	-	-	-	-	0.0	-	15.8	-	-
86.7 100.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
86.7 110.0	15.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0 60.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0 70.0	4.8	-	0.0	-	-	-	-	11.0	-	0.0	-	-
90.0 90.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0 100.0	0.0	-	28.4	-	-	-	-	0.0	-	21.2	-	-
90.0 120.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
93.3 80.0	0.0	-	13.4	-	-	-	-	0.0	-	63.1	-	-
93.3 90.0	0.0	-	13.7	-	-	-	-	0.0	-	5.3	-	-
93.3 100.0	0.0	-	13.5	-	-	-	-	5.5	-	0.0	-	-
93.3 110.0	13.1	-	0.0	-	-	-	-	5.3	-	27.2	-	-
93.3 120.0	5.1	-	0.0	-	-	-	-	0.0	-	74.5	-	-

***Diaphus* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	0.0	-	-	-	11.2	-	-	-	-
76.7 90.0	-	0.0	-	0.0	-	-	-	16.1	-	4.3	-	-
76.7 100.0	-	0.0	-	0.0	-	-	-	18.7	-	0.0	-	-
80.0 70.0	-	0.0	-	29.9	-	-	-	0.0	-	14.3	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	5.7	-	4.5	-	-
83.3 70.0	-	0.0	-	0.0	-	-	-	12.0	-	0.0	-	-
83.3 80.0	0.0	-	-	18.1	-	-	-	10.2	-	0.0	-	-
83.3 110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
86.7 35.0	0.0	-	10.0	-	-	-	-	0.0	-	0.0	-	-
86.7 80.0	0.0	-	0.0	-	-	-	-	10.1	-	0.0	-	-
86.7 90.0	0.0	-	0.0	-	-	-	-	6.0	-	15.8	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
90.0 70.0	0.0	-	0.0	-	-	-	-	22.0	-	0.0	-	-
90.0 80.0	0.0	-	0.0	-	-	-	-	10.4	-	0.0	-	-

TABLE 4. (cont.)

***Diaphus* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	100.0	0.0	-	0.0	-	-	-	-	0.0	-	10.6	-	-
93.3	40.0	0.0	-	0.0	-	-	-	-	5.1	-	0.0	-	-
93.3	70.0	0.0	-	0.0	-	-	-	-	10.4	-	0.0	-	-
93.3	80.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Lampadena urophaos

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	100.0	0.0	-	-	0.0	-	-	-	4.6	-	5.2	-	-
93.3	110.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

***Lampanyctus* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	5.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	9.6	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	10.1	-	9.8	-	-	-	0.0	-	-	-	-
76.7	70.0	-	33.1	-	18.4	-	-	-	0.0	-	-	-	-
76.7	80.0	-	14.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	9.6	-	70.2	-	-	-	10.8	-	0.0	-	-
76.7	100.0	-	4.2	-	45.0	-	-	-	4.7	-	9.6	-	-
80.0	60.0	-	88.6	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	37.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	80.0	-	0.0	-	75.8	-	-	-	10.8	-	0.0	-	-
80.0	90.0	-	27.4	-	32.1	-	-	-	0.0	-	0.0	-	-
80.0	100.0	-	0.0	-	9.3	-	-	-	17.1	-	4.5	-	-
83.3	55.0	-	0.0	-	5.4	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	4.4	-	32.6	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	9.3	-	24.2	-	-	-	0.0	-	0.0	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	0.0	-	0.0	-	-
83.3	90.0	35.1	-	-	14.4	-	-	-	10.4	-	0.0	-	-
83.3	100.0	9.6	-	-	46.4	-	-	-	0.0	-	5.2	-	-
83.3	110.0	9.9	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7	55.0	0.0	-	14.2	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	9.2	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

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

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	80.0	14.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	90.0	9.8	-	9.5	-	-	-	-	0.0	-	5.3	-	-
86.7	100.0	0.0	-	-	13.8	-	-	-	0.0	-	0.0	-	-
86.7	110.0	5.0	-	-	27.5	-	-	-	0.0	-	0.0	-	-
90.0	30.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	0.0	-	15.6	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	28.4	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	13.6	-	-	-	-	11.0	-	0.0	-	-
90.0	90.0	0.0	-	14.0	-	-	-	-	0.0	-	0.0	-	-
90.0	100.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	110.0	0.0	-	0.0	-	-	-	-	4.6	-	0.0	-	-
93.3	30.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	45.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-
93.3	50.0	0.0	-	23.9	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	5.4	-	33.5	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	14.0	-	-	-	-	5.2	-	0.0	-	-
93.3	80.0	0.0	-	26.8	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	0.0	-	9.1	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Lampanyctus regalis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	55.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
76.7	70.0	-	0.0	-	4.6	-	-	-	11.2	-	-	-	-
76.7	90.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
86.7	60.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-
86.7	80.0	0.0	-	0.0	-	-	-	-	5.1	-	0.0	-	-
86.7	90.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
90.0	60.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-

TABLE 4. (cont.)

Lampanyctus regalis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	100.0	0.0	-	4.7	-	-	-	-	5.4	-	0.0	-	-
90.0	120.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-
93.3	100.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-

Lampanyctus ritteri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	0.0	-	9.8	-	-	-	0.0	-	-	-	-
76.7	70.0	-	14.2	-	0.0	-	-	-	11.2	-	-	-	-
76.7	80.0	-	14.8	-	4.5	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	9.4	-	-	-	0.0	-	4.3	-	-
76.7	100.0	-	0.0	-	27.0	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	18.3	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	0.0	-	5.4	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	0.0	-	29.0	-	-	-	0.0	-	11.4	-	-
83.3	90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3	100.0	0.0	-	-	9.3	-	-	-	0.0	-	0.0	-	-
83.3	110.0	0.0	-	-	8.8	-	-	-	0.0	-	4.9	-	-
86.7	35.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	4.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	24.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	0.0	-	19.5	-	-	-	-	10.1	-	0.0	-	-
86.7	110.0	0.0	-	-	0.0	-	-	-	0.0	-	5.5	-	-
90.0	28.0	4.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	0.0	-	24.2	-	-	-	-	5.2	-	0.0	-	-
90.0	37.0	0.0	-	20.8	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	10.1	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Lampanyctus ritteri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	60.0	0.0	-	19.0	-	-	-	-	0.0	-	0.0	-	-
90.0	80.0	14.3	-	0.0	-	-	-	-	10.4	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	4.7	-	0.0	-	-
90.0	100.0	0.0	-	4.7	-	-	-	-	0.0	-	5.3	-	-
90.0	120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
93.3	30.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	0.0	-	4.8	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	0.0	-	10.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	34.1	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	5.4	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	10.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	9.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	4.5	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-
93.3	110.0	4.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Notolychnus valdiviae

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
86.7	80.0	0.0	-	0.0	-	-	-	-	5.1	-	0.0	-	-
90.0	90.0	0.0	-	0.0	-	-	-	-	0.0	-	4.8	-	-

Notoscopelus resplendens

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	90.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	90.0	10.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
86.7	110.0	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
93.3	120.0	0.0	-	0.0	-	-	-	-	5.8	-	0.0	-	-

Stenobrachius leucopsarus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	134.1	-	76.5	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Station		*Stenobrachius leucopsarus* (cont.)											
		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	134.1	-	76.5	-	-	-	0.0	-	0.0	-	-
76.7	51.0	-	294.1	-	264.7	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	100.4	-	277.2	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	151.5	-	254.3	-	-	-	0.0	-	-	-	-
76.7	70.0	-	56.8	-	170.6	-	-	-	0.0	-	-	-	-
76.7	80.0	-	0.0	-	129.6	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	0.0	-	262.1	-	-	-	0.0	-	0.0	-	-
76.7	100.0	-	4.2	-	27.0	-	-	-	0.0	-	0.0	-	-
80.0	51.0	-	119.9	-	147.8	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	130.5	-	473.7	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	327.8	-	126.1	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	112.3	-	179.3	-	-	-	0.0	-	0.0	-	-
80.0	80.0	-	49.4	-	52.1	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	86.8	-	13.7	-	-	-	0.0	-	0.0	-	-
80.0	100.0	-	4.2	-	0.0	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	107.8	-	66.8	-	-	-	0.0	-	0.0	-	-
83.3	40.6	-	4.0	-	9.5	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	58.6	-	24.1	-	-	-	0.0	-	0.0	-	-
83.3	51.0	-	4.5	-	96.6	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	230.0	-	294.8	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	149.9	-	27.9	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	130.5	-	106.5	-	-	-	0.0	-	0.0	-	-
83.3	80.0	19.0	-	-	36.2	-	-	-	0.0	-	0.0	-	-
83.3	90.0	5.0	-	-	33.6	-	-	-	0.0	-	0.0	-	-
83.3	100.0	0.0	-	-	13.9	-	-	-	0.0	-	0.0	-	-
83.3	110.0	0.0	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7	33.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-
86.7	35.0	64.1	-	420.8	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	87.1	-	155.5	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	100.3	-	27.7	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	17.4	-	0.0	-	-	-	-	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	55.0	82.6	-	90.1	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	99.5	-	4.9	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	92.5	-	9.2	-	-	-	-	0.0	-	0.0	-	-
86.7	90.0	0.0	-	19.1	-	-	-	-	0.0	-	0.0	-	-
86.7	110.0	0.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0	28.0	115.7	-	27.9	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	55.7	-	152.5	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	38.8	-	278.7	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	136.9	-	67.6	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	45.9	-	30.9	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	31.9	-	20.1	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	19.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	9.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	26.7	0.0	-	8.0	-	-	-	-	0.0	0.0	-	-	-
93.3	28.0	15.1	-	47.2	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	14.9	-	63.7	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	5.2	-	63.0	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	81.8	-	20.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	0.0	-	14.8	-	-	-	-	0.0	-	0.0	-	-
93.3	50.0	5.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	34.1	-	29.8	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	5.4	-	23.9	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	5.1	-	37.4	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	40.1	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Triphoturus mexicanus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	55.0	-	0.0	-	0.0	-	-	-	11.3	-	0.0	-	-
80.0	100.0	-	0.0	-	0.0	-	-	-	5.7	-	0.0	-	-
81.8	46.9	-	0.0	-	0.0	-	-	-	4.1	-	0.0	-	-

TABLE 4. (cont.)

Triphoturus mexicanus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	80.0	0.0	-	-	0.0	-	-	-	15.3	-	0.0	-	-
83.3	90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3	100.0	0.0	-	-	0.0	-	-	-	0.0	-	10.4	-	-
86.7	33.0	0.0	-	0.0	-	-	-	-	4.6	-	0.0	-	-
86.7	35.0	0.0	-	0.0	-	-	-	-	9.7	-	0.0	-	-
86.7	40.0	0.0	-	0.0	-	-	-	-	9.8	-	0.0	-	-
86.7	80.0	0.0	-	14.6	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	0.0	-	-	13.8	-	-	-	0.0	-	0.0	-	-
86.7	110.0	0.0	-	-	0.0	-	-	-	5.2	-	5.5	-	-
90.0	30.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
90.0	35.0	0.0	-	0.0	-	-	-	-	46.6	-	0.0	-	-
90.0	37.0	0.0	-	0.0	-	-	-	-	111.7	-	0.0	-	-
90.0	53.0	0.0	-	5.0	-	-	-	-	0.0	-	5.1	-	-
90.0	60.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
90.0	80.0	0.0	-	0.0	-	-	-	-	5.2	-	0.0	-	-
90.0	90.0	0.0	-	4.7	-	-	-	-	0.0	-	4.8	-	-
90.0	100.0	0.0	-	0.0	-	-	-	-	16.1	-	0.0	-	-
90.0	110.0	0.0	-	0.0	-	-	-	-	18.5	-	0.0	-	-
90.0	120.0	0.0	-	4.9	-	-	-	-	0.0	-	15.4	-	-
93.3	28.0	0.0	-	0.0	-	-	-	-	21.7	0.0	-	-	-
93.3	30.0	0.0	-	0.0	-	-	-	-	188.2	9.9	-	-	-
93.3	35.0	0.0	-	4.8	-	-	-	-	12.9	0.0	-	-	-
93.3	40.0	0.0	-	20.0	-	-	-	-	20.5	-	0.0	-	-
93.3	45.0	0.0	-	4.9	-	-	-	-	9.9	-	0.0	-	-
93.3	50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	0.0	-	0.0	-	-	-	-	15.1	-	11.3	-	-
93.3	60.0	0.0	-	14.3	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	0.0	-	-	-	-	10.4	-	0.0	-	-
93.3	80.0	0.0	-	13.4	-	-	-	-	0.0	-	10.5	-	-
93.3	90.0	0.0	-	0.0	-	-	-	-	21.7	-	0.0	-	-
93.3	100.0	0.0	-	0.0	-	-	-	-	16.6	-	0.0	-	-

TABLE 4. (cont.)

Triphoturus mexicanus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 110.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Diogenichthys atlanticus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 51.0	-	5.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	-	-
76.7 80.0	-	0.0	-	0.0	-	-	-	9.8	-	0.0	-	-
76.7 90.0	-	9.6	-	0.0	-	-	-	0.0	-	8.5	-	-
76.7 100.0	-	4.2	-	0.0	-	-	-	0.0	-	9.6	-	-
80.0 60.0	-	17.7	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 70.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
80.0 80.0	-	9.9	-	0.0	-	-	-	0.0	-	13.9	-	-
80.0 90.0	-	0.0	-	0.0	-	-	-	5.2	-	0.0	-	-
80.0 100.0	-	4.2	-	0.0	-	-	-	11.4	-	9.1	-	-
83.3 60.0	-	4.4	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	9.3	-	0.0	-	-	-	0.0	-	11.4	-	-
83.3 80.0	0.0	-	-	0.0	-	-	-	5.1	-	16.0	-	-
83.3 90.0	0.0	-	-	0.0	-	-	-	36.3	-	19.6	-	-
83.3 100.0	0.0	-	-	13.9	-	-	-	4.6	-	10.4	-	-
83.3 110.0	5.0	-	-	0.0	-	-	-	22.6	-	9.8	-	-
86.7 70.0	9.7	-	0.0	-	-	-	-	0.0	-	5.1	-	-
86.7 80.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
86.7 90.0	4.9	-	0.0	-	-	-	-	0.0	-	5.3	-	-
86.7 100.0	0.0	-	-	4.6	-	-	-	0.0	-	5.0	-	-
86.7 110.0	0.0	-	-	9.2	-	-	-	5.2	-	5.5	-	-
90.0 60.0	14.7	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0 70.0	4.8	-	13.6	-	-	-	-	0.0	-	10.2	-	-
90.0 90.0	0.0	-	9.3	-	-	-	-	0.0	-	9.5	-	-
90.0 100.0	0.0	-	0.0	-	-	-	-	5.4	-	10.6	-	-
90.0 110.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-
90.0 120.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
93.3 30.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-

TABLE 4. (cont.)

Diogenichthys atlanticus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 40.0	0.0	-	5.0	-	-	-	-	5.1	-	0.0	-	-
93.3 55.0	9.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 80.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-
93.3 90.0	0.0	-	9.1	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-
93.3 110.0	4.4	-	0.0	-	-	-	-	0.0	-	10.9	-	-
93.3 120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Diogenichthys laternatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 90.0	4.5	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Electrona risso

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	-	-
83.3 60.0	-	4.4	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 110.0	0.0	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7 55.0	5.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-
90.0 70.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
93.3 110.0	4.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Hygophum reinhardtii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
83.3 100.0	4.8	-	-	0.0	-	-	-	4.6	-	5.2	-	-
86.7 110.0	5.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
93.3 80.0	0.0	-	4.5	-	-	-	-	0.0	-	5.3	-	-
93.3 90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3 110.0	0.0	-	0.0	-	-	-	-	0.0	-	5.4	-	-
93.3 120.0	0.0	-	4.5	-	-	-	-	0.0	-	5.3	-	-

Loweina rara

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 70.0	-	0.0	-	10.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Loweina rara (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	80.0	-	4.9	-	0.0	-	-	-	0.0	-	0.0	-	-
93.3	80.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Myctophum nitidulum

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	90.0	-	4.8	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	4.4	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
93.3	90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Protomyctophum crockeri

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec
76.7	51.0	-	5.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	0.0	-	13.9	-	-	-	4.8	-	0.0	-	-
76.7	70.0	-	4.7	-	9.2	-	-	-	0.0	-	-	-	-
76.7	80.0	-	9.9	-	4.5	-	-	-	0.0	-	4.2	-	-
76.7	90.0	-	19.1	-	37.4	-	-	-	5.4	-	0.0	-	-
76.7	100.0	-	8.3	-	9.0	-	-	-	0.0	-	4.8	-	-
80.0	60.0	-	8.9	-	4.7	-	-	-	0.0	-	9.9	-	-
80.0	70.0	-	4.7	-	10.0	-	-	-	24.0	-	14.3	-	-
80.0	80.0	-	4.9	-	19.0	-	-	-	0.0	-	9.3	-	-
80.0	90.0	-	13.7	-	22.9	-	-	-	5.2	-	0.0	-	-
80.0	100.0	-	0.0	-	9.3	-	-	-	0.0	-	4.5	-	-
83.3	60.0	-	0.0	-	23.3	-	-	-	0.0	-	18.5	-	-
83.3	70.0	-	18.6	-	4.8	-	-	-	0.0	-	11.4	-	-
83.3	80.0	19.0	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	90.0	5.0	-	-	4.8	-	-	-	0.0	-	4.9	-	-
83.3	100.0	14.3	-	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3	110.0	9.9	-	-	4.4	-	-	-	11.3	-	4.9	-	-
86.7	35.0	0.0	-	0.0	-	-	-	-	19.3	-	0.0	-	-
86.7	40.0	0.0	-	9.7	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	5.2	-	9.5	-	-	-	-	11.5	-	0.0	-	-

TABLE 4. (cont.)

Protomyctophum crockeri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	60.0	0.0	-	9.9	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
86.7	80.0	14.8	-	9.8	-	-	-	-	0.0	-	0.0	-	-
86.7	90.0	0.0	-	9.5	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
86.7	110.0	5.0	-	-	4.6	-	-	-	0.0	-	0.0	-	-
90.0	30.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
90.0	53.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	9.5	-	-	-	-	5.5	-	5.0	-	-
90.0	70.0	9.6	-	9.0	-	-	-	-	0.0	-	10.2	-	-
90.0	80.0	19.1	-	10.2	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	15.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	100.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	110.0	0.0	-	0.0	-	-	-	-	4.6	-	4.7	-	-
90.0	120.0	0.0	-	4.9	-	-	-	-	0.0	-	10.3	-	-
93.3	28.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	0.0	-	0.0	-	-	-	-	4.3	5.5	-	-	-
93.3	40.0	10.2	-	15.0	-	-	-	-	0.0	-	0.0	-	-
93.3	50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	4.9	-	14.9	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	21.7	-	23.9	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	10.3	-	4.7	-	-	-	-	0.0	-	11.0	-	-
93.3	80.0	24.2	-	0.0	-	-	-	-	0.0	-	10.5	-	-
93.3	90.0	4.5	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	0.0	-	-	-	-	5.5	-	5.4	-	-
93.3	110.0	13.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	120.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Symbolophorus californiensis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	60.0	-	5.0	-	0.0	-	-	-	10.3	-	-	-	-
76.7	70.0	-	9.5	-	0.0	-	-	-	22.4	-	-	-	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	80.0	-	4.9	-	4.5	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	4.8	-	0.0	-	-	-	10.8	-	4.3	-	-
76.7	100.0	-	4.2	-	4.5	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	9.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	80.0	-	4.9	-	4.7	-	-	-	10.8	-	0.0	-	-
80.0	90.0	-	0.0	-	0.0	-	-	-	15.5	-	0.0	-	-
80.0	100.0	-	0.0	-	0.0	-	-	-	11.4	-	0.0	-	-
83.3	80.0	0.0	-	-	18.1	-	-	-	10.2	-	0.0	-	-
83.3	100.0	0.0	-	-	60.3	-	-	-	0.0	-	5.2	-	-
83.3	110.0	9.9	-	-	4.4	-	-	-	5.7	-	0.0	-	-
86.7	55.0	10.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	9.5	-	0.0	-	-	-	-	0.0	-	5.4	-	-
86.7	70.0	4.9	-	27.5	-	-	-	-	13.0	-	15.2	-	-
86.7	80.0	9.9	-	4.9	-	-	-	-	15.2	-	0.0	-	-
86.7	90.0	9.8	-	4.8	-	-	-	-	0.0	-	0.0	-	-
86.7	100.0	9.7	-	-	18.4	-	-	-	0.0	-	0.0	-	-
86.7	110.0	10.0	-	-	18.3	-	-	-	15.5	-	0.0	-	-
90.0	37.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
90.0	53.0	0.0	-	10.1	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	14.2	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	18.1	-	-	-	-	0.0	-	10.2	-	-
90.0	80.0	0.0	-	15.4	-	-	-	-	0.0	-	0.0	-	-
90.0	90.0	0.0	-	9.3	-	-	-	-	0.0	-	9.5	-	-
90.0	100.0	0.0	-	0.0	-	-	-	-	0.0	-	10.6	-	-
90.0	110.0	0.0	-	0.0	-	-	-	-	4.6	-	0.0	-	-
93.3	26.7	0.0	-	0.0	-	-	-	-	4.0	0.0	-	-	-
93.3	35.0	0.0	-	9.7	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
93.3	50.0	5.0	-	9.6	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Symbolophorus californiensis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 55.0	14.6	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3 60.0	10.9	-	19.1	-	-	-	-	5.8	-	0.0	-	-
93.3 70.0	0.0	-	9.3	-	-	-	-	0.0	-	0.0	-	-
93.3 80.0	9.7	-	8.9	-	-	-	-	0.0	-	0.0	-	-
93.3 90.0	0.0	-	4.6	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 110.0	13.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Tarletonbeania crenularis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	0.0	-	9.2	-	-	-	9.6	-	0.0	-	-
76.7 60.0	-	0.0	-	0.0	-	-	-	10.3	-	-	-	-
76.7 70.0	-	0.0	-	0.0	-	-	-	22.4	-	-	-	-
80.0 55.0	-	17.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 80.0	-	0.0	-	4.7	-	-	-	5.4	-	0.0	-	-
80.0 90.0	-	0.0	-	4.6	-	-	-	0.0	-	0.0	-	-
83.3 51.0	-	0.0	-	0.0	-	-	-	4.9	-	0.0	-	-
83.3 60.0	-	0.0	-	0.0	-	-	-	22.3	-	0.0	-	-
86.7 35.0	0.0	-	0.0	-	-	-	-	19.3	-	0.0	-	-
86.7 45.0	4.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 55.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
86.7 70.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	6.1	-	0.0	-	-
90.0 30.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
90.0 45.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0 53.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
90.0 80.0	0.0	-	0.0	-	-	-	-	5.2	-	0.0	-	-
90.0 90.0	0.0	-	0.0	-	-	-	-	4.7	-	0.0	-	-
93.3 30.0	0.0	-	0.0	-	-	-	-	19.8	0.0	-	-	-
93.3 50.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
93.3 60.0	0.0	-	0.0	-	-	-	-	5.8	-	0.0	-	-

TABLE 4. (cont.)

Tarletonbeania crenularis (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3	70.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3	90.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-

Trachipterus altivelis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	5.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	70.0	-	4.7	-	0.0	-	-	-	0.0	-	-	-	-

Albatrossia pectoralis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	90.0	5.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Merluccius productus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	259.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	51.0	-	486.7	-	10.4	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	4.8	-	18.5	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	55.5	-	19.6	-	-	-	0.0	-	-	-	-
76.7	70.0	-	0.0	-	55.3	-	-	-	0.0	-	-	-	-
76.7	80.0	-	0.0	-	93.9	-	-	-	0.0	-	0.0	-	-
76.7	90.0	-	0.0	-	32.8	-	-	-	0.0	-	0.0	-	-
80.0	51.0	-	0.0	-	24.6	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	104.4	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	549.3	-	9.3	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	224.6	-	89.6	-	-	-	0.0	-	0.0	-	-
80.0	80.0	-	0.0	-	61.6	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	0.0	-	9.2	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	31.4	-	66.8	-	-	-	0.0	-	5.0	-	-
83.3	40.6	-	4.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	39.0	-	14.5	-	-	-	0.0	-	0.0	-	-
83.3	51.0	-	9.1	-	12.9	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	520.0	-	75.0	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	194.0	-	83.7	-	-	-	0.0	-	0.0	-	-
83.3	70.0	-	1566.3	-	198.4	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Merluccius productus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	80.0	66.5	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	110.0	9.9	-	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	33.0	12.5	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	35.0	123.3	-	20.0	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	101.6	-	87.5	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	257.2	-	27.7	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	26.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	134.2	-	80.6	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	436.1	-	29.6	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	112.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	20.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	116.4	-	162.4	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	63.0	-	96.9	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	58.7	-	104.0	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	371.8	-	56.7	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	22.8	-	40.2	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	53.8	-	33.2	-	-	-	-	0.0	-	0.0	-	-
90.0	70.0	0.0	-	9.0	-	-	-	-	0.0	-	0.0	-	-
93.3	26.7	0.0	-	4.0	-	-	-	-	0.0	0.0	-	-	-
93.3	28.0	5.0	-	66.1	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	0.0	-	154.7	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	0.0	-	106.7	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	56.2	-	15.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	156.6	-	9.9	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	9.7	-	24.8	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	37.4	-	-	-	-	0.0	-	0.0	-	-

Chilara taylori

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-

TABLE 4. (cont.)

Chilara taylori (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 45.0	0.0	-	0.0	-	-	-	-	0.0	-	5.5	-	-

Brosmophycis marginata

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	0.0	-	4.0	-	-	-	-	0.0	-	0.0	-	-

***Oneirodes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-

***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	-	4.9	-	-

Atherinopsis californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-

Cololabis saira

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
93.3 120.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Cheilopogon pinnatibarbatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	0.0	-	0.0	-	-	-	-	6.1	-	0.0	-	-

***Melamphaes* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 80.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	0.0	-	-	-	12.0	-	0.0	-	-
93.3 80.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
93.3 100.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Melamphaes lugubris

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	4.6	-	-	-	0.0	-	-	-	-
76.7 90.0	-	9.6	-	4.7	-	-	-	0.0	-	0.0	-	-
80.0 80.0	-	4.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Melamphaes lugubris (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 110.0	0.0	-	-	4.4	-	-	-	0.0	-	0.0	-	-
86.7 70.0	0.0	-	4.6	-	-	-	-	13.0	-	0.0	-	-
86.7 90.0	0.0	-	4.8	-	-	-	-	6.0	-	0.0	-	-
86.7 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.0	-	-
90.0 60.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0 80.0	0.0	-	0.0	-	-	-	-	5.2	-	0.0	-	-
93.3 45.0	0.0	-	4.9	-	-	-	-	0.0	-	0.0	-	-
93.3 70.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
93.3 110.0	4.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Melamphaes parvus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-

Poromitra crassiceps

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 100.0	-	0.0	-	0.0	-	-	-	4.7	-	0.0	-	-
90.0 120.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-
93.3 70.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-

Scopeloberyx robustus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 90.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Scopelogadus bispinosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.3	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
83.3 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-	-
90.0 110.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-

Eutaeniophorus festivus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 120.0	0.0	-	0.0	-	-	-	-	5.3	-	0.0	-	-

TABLE 4. (cont.)

Aulorhynchus flavidus

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

Sebastes spp.

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	4.2	-	191.3	-	-	-	0.0	-	11.5	-	-
76.7	51.0	-	167.3	-	5.2	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	9.6	-	0.0	-	-	-	4.8	-	8.7	-	-
76.7	60.0	-	0.0	-	19.6	-	-	-	0.0	-	-	-	-
80.0	51.0	-	78.4	-	8.2	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	8.7	-	47.4	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	132.9	-	23.4	-	-	-	11.6	-	0.0	-	-
80.0	70.0	-	51.5	-	49.8	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	9.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	68.3	-	53.1	-	-	-	0.0	-	15.4	-	-
83.3	51.0	-	13.6	-	96.6	-	-	-	24.5	-	0.0	-	-
83.3	55.0	-	420.0	-	21.4	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	35.3	-	0.0	-	-	-	11.2	-	0.0	-	-
83.3	70.0	-	0.0	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7	33.0	95.7	-	62.7	-	-	-	-	0.0	-	0.0	-	-
86.7	35.0	212.0	-	70.1	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	92.0	-	175.0	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	4.4	-	46.1	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	126.1	-	154.4	-	-	-	-	15.0	-	0.0	-	-
86.7	55.0	20.6	-	9.5	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	8.0	-	14.0	-	-	-	-	6.1	-	0.0	-	-
90.0	30.0	0.0	-	39.4	-	-	-	-	5.5	-	0.0	-	-
90.0	35.0	29.1	-	48.5	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	4.9	-	46.8	-	-	-	-	5.3	-	0.0	-	-
90.0	45.0	45.9	-	499.6	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

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

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	53.0	91.2	-	311.9	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-
93.3	26.7	0.0	-	8.0	-	-	-	-	0.0	0.0	-	-	-
93.3	28.0	0.0	-	33.0	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	24.8	-	27.3	-	-	-	-	9.9	0.0	-	-	-
93.3	35.0	15.7	-	58.2	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	15.3	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	81.0	-	4.9	-	-	-	-	5.0	-	0.0	-	-
93.3	55.0	29.2	-	24.8	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	51.4	-	-	-	-	0.0	-	0.0	-	-

Sebastes aurora

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	55.0	-	5.0	-	0.0	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	10.1	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	10.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Sebastes diploproa

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	51.0	-	10.1	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	0.0	-	0.0	-	-	-	10.3	-	-	-	-
81.8	46.9	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
86.7	35.0	0.0	-	0.0	-	-	-	-	0.0	-	10.2	-	-
86.7	45.0	4.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	30.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Sebastes jordani

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	4.2	-	106.3	-	-	-	0.0	-	0.0	-	-
76.7	51.0	-	25.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	26.1	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	60.0	-	35.4	-	0.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Sebastes jordani (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	70.0	-	4.7	-	0.0	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	18.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	40.6	-	4.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	102.5	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	70.0	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	35.0	69.0	-	30.1	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	150.0	-	58.3	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	21.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	143.5	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	8.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	35.4	-	4.9	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	72.8	-	12.1	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	9.2	-	25.8	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	30.0	9.9	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	35.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	45.0	27.0	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	70.0	0.0	-	23.4	-	-	-	-	0.0	-	0.0	-	-

Sebastes paucispinis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	70.0	-	4.7	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	90.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	15.0	-	5.4	-	-	-	0.0	-	0.0	-	-
86.7	40.0	0.0	-	9.7	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	8.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	50.0	0.0	-	4.0	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	5.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Sebastes paucispinis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 30.0	9.9	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3 40.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 55.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Sebastolobus alascanus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 70.0	0.0	-	0.0	-	-	-	-	13.0	-	0.0	-	-

Sebastolobus altivelis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 60.0	-	0.0	-	9.8	-	-	-	0.0	-	-	-	-

Oxylebius pictus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 50.0	4.3	-	4.0	-	-	-	-	0.0	-	0.0	-	-
90.0 45.0	0.0	-	5.2	-	-	-	-	0.0	-	0.0	-	-

Zaniolepis latipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 40.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-

Cottidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	0.0	-	3.8	-	-
80.0 51.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
81.8 46.9	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
83.3 51.0	-	9.1	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	0.0	-	-	-	0.0	-	11.4	-	-

Artedius creaseri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	0.0	-	-	-	4.9	-	0.0	-	-

Artedius fenestralis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-

Icelinus quadriseriatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	11.2	-	0.0	-	-

TABLE 4. (cont.)

Icelinus quadriseriatus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	0.0	-	-	-	0.0	-	25.2	-	-

Scorpaenichthys marmoratus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 60.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
93.3 45.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-

Odontopyxis trispinosa

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	5.6	-	0.0	-	-

Liparis mucosus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	16.9	-	0.0	-	-
80.0 51.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 55.0	-	0.0	-	0.0	-	-	-	11.3	-	0.0	-	-

***Paralabrax* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8 46.9	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	42.6	-	0.0	-	-

***Howella* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 100.0	0.0	-	-	0.0	-	-	-	0.0	-	5.2	-	-

Trachurus symmetricus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	27.7	-	-	-	0.0	-	-	-	-
76.7 80.0	-	0.0	-	13.4	-	-	-	0.0	-	0.0	-	-
76.7 90.0	-	0.0	-	4.7	-	-	-	0.0	-	0.0	-	-
76.7 100.0	-	0.0	-	22.5	-	-	-	0.0	-	0.0	-	-
80.0 80.0	-	0.0	-	0.0	-	-	-	5.4	-	0.0	-	-
80.0 90.0	-	0.0	-	4.6	-	-	-	5.2	-	0.0	-	-
81.8 46.9	-	0.0	-	9.5	-	-	-	0.0	-	0.0	-	-
83.3 60.0	-	0.0	-	27.9	-	-	-	0.0	-	0.0	-	-
83.3 70.0	-	0.0	-	14.5	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Trachurus symmetricus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 80.0	0.0	-	-	448.5	-	-	-	0.0	-	0.0	-	-
83.3 90.0	0.0	-	-	374.4	-	-	-	0.0	-	0.0	-	-
83.3 100.0	0.0	-	-	222.7	-	-	-	0.0	-	0.0	-	-
83.3 110.0	0.0	-	-	4.4	-	-	-	5.7	-	0.0	-	-
86.7 35.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
86.7 70.0	0.0	-	256.5	-	-	-	-	0.0	-	0.0	-	-
86.7 80.0	0.0	-	43.9	-	-	-	-	5.1	-	0.0	-	-
86.7 90.0	0.0	-	42.9	-	-	-	-	0.0	-	0.0	-	-
90.0 45.0	0.0	-	5.2	-	-	-	-	0.0	-	0.0	-	-
90.0 53.0	0.0	-	10.1	-	-	-	-	0.0	-	0.0	-	-
90.0 70.0	0.0	-	4.5	-	-	-	-	11.0	-	0.0	-	-
90.0 80.0	0.0	-	143.4	-	-	-	-	0.0	-	0.0	-	-
90.0 90.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0 100.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-
93.3 55.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3 60.0	0.0	-	9.6	-	-	-	-	5.8	-	0.0	-	-
93.3 70.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3 80.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Xenistius californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 28.0	0.0	-	0.0	-	-	-	-	10.9	0.0	-	-	-

Sciaenidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	0.0	-	0.0	-	-	-	-	6.1	-	0.0	-	-

Genyonemus lineatus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	8.4	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 60.0	-	5.0	-	0.0	-	-	-	0.0	-	-	-	-
80.0 51.0	-	428.7	-	0.0	-	-	-	0.0	-	14.7	-	-
80.0 55.0	-	8.7	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 40.6	-	407.0	-	9.5	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Genyonemus lineatus (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	14.6	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7 33.0	37.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0 28.0	8.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3 26.7	0.0	-	24.1	-	-	-	-	0.0	0.0	-	-	-
93.3 28.0	0.0	-	4.7	-	-	-	-	0.0	0.0	-	-	-
93.3 30.0	0.0	-	9.1	-	-	-	-	0.0	0.0	-	-	-

Medialuna californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 45.0	0.0	-	0.0	-	-	-	-	5.8	-	0.0	-	-
93.3 80.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-

Chromis punctipinnis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	0.0	-	0.0	-	-	-	5.1	-	0.0	-	-
81.8 46.9	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
83.3 40.6	-	0.0	-	0.0	-	-	-	0.0	-	14.4	-	-
83.3 42.0	-	0.0	-	0.0	-	-	-	14.0	-	5.1	-	-
86.7 33.0	0.0	-	0.0	-	-	-	-	36.8	-	0.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	12.2	-	0.0	-	-
90.0 30.0	0.0	-	0.0	-	-	-	-	33.1	-	0.0	-	-

Hypsypops rubicundus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	0.0	-	-	-	4.9	-	0.0	-	-

Halichoeres semicinctus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 26.7	0.0	-	0.0	-	-	-	-	0.0	3.9	-	-	-

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	-	9.7	-	-
80.0 60.0	-	0.0	-	0.0	-	-	-	11.6	-	0.0	-	-
81.8 46.9	-	0.0	-	0.0	-	-	-	4.1	-	5.0	-	-
86.7 35.0	0.0	-	10.0	-	-	-	-	0.0	-	0.0	-	-
86.7 40.0	0.0	-	9.7	-	-	-	-	4.9	-	0.0	-	-

TABLE 4. (cont.)

Oxyjulis californica (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 70.0	0.0	-	0.0	-	-	-	-	0.0	-	5.1	-	-
90.0 35.0	0.0	-	0.0	-	-	-	-	0.0	-	5.2	-	-
90.0 53.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
90.0 60.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
90.0 70.0	0.0	-	0.0	-	-	-	-	11.0	-	0.0	-	-
90.0 90.0	0.0	-	0.0	-	-	-	-	9.4	-	0.0	-	-
90.0 100.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-
93.3 30.0	0.0	-	0.0	-	-	-	-	9.9	0.0	-	-	-

***Rathbunella* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	13.8	-	0.0	-	-	-	0.0	-	0.0	-	-

Stichaeidae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	0.0	-	6.4	-	-	-	0.0	-	0.0	-	-

Chiasmodon niger

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
83.3 90.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
93.3 100.0	0.0	-	0.0	-	-	-	-	5.5	-	0.0	-	-

***Gibbonsia* spp.**

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	4.5	-	0.0	-	-	-	0.0	-	0.0	-	-

Neoclinus blanchardi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	5.6	-	0.0	-	-

Neoclinus stephensae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	0.0	-	0.0	-	-	-	0.0	-	3.8	-	-
80.0 51.0	-	13.8	-	0.0	-	-	-	0.0	-	0.0	-	-

Hypsoblennius jenkinsi

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	0.0	-	-	-	4.7	-	5.1	-	-

TABLE 4. (cont.)

Hypsoblennius jenkinsi (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	0.0	-	-	-	-	4.6	-	0.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	18.3	-	0.0	-	-
90.0 30.0	0.0	-	0.0	-	-	-	-	22.1	-	0.0	-	-
93.3 30.0	0.0	-	0.0	-	-	-	-	0.0	19.8	-	-	-

Icosteus aenigmaticus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	4.9	-	0.0	-	-	-	0.0	-	0.0	-	-

Coryphopterus nicholsii

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 55.0	-	4.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7 60.0	-	0.0	-	0.0	-	-	-	20.6	-	-	-	-
80.0 51.0	-	4.6	-	0.0	-	-	-	0.0	-	4.9	-	-
80.0 55.0	-	0.0	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0 60.0	-	0.0	-	0.0	-	-	-	0.0	-	9.9	-	-
83.3 40.6	-	4.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 42.0	-	0.0	-	0.0	-	-	-	4.7	-	0.0	-	-
83.3 51.0	-	4.5	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 60.0	-	8.8	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7 40.0	9.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 50.0	0.0	-	4.0	-	-	-	-	0.0	-	0.0	-	-
90.0 37.0	0.0	-	5.2	-	-	-	-	0.0	-	0.0	-	-
93.3 30.0	5.0	-	0.0	-	-	-	-	0.0	0.0	-	-	-
93.3 50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3 55.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
93.3 70.0	0.0	-	18.7	-	-	-	-	0.0	-	0.0	-	-

Lepidogobius lepidus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 40.6	-	16.0	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7 33.0	4.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3 40.0	5.1	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

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	-	15.0	-	-

Lythrypnus zebra

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 42.0	-	0.0	-	0.0	-	-	-	4.7	-	0.0	-	-

Typhlogobius californiensis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 51.0	-	4.5	-	0.0	-	-	-	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	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7 33.0	0.0	-	0.0	-	-	-	-	13.8	-	0.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	6.1	-	0.0	-	-
90.0 30.0	0.0	-	0.0	-	-	-	-	16.6	-	0.0	-	-

Scomber japonicus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
81.8 46.9	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
83.3 90.0	0.0	-	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7 33.0	0.0	-	0.0	-	-	-	-	9.2	-	0.0	-	-
90.0 28.0	0.0	-	0.0	-	-	-	-	12.2	-	0.0	-	-
90.0 30.0	0.0	-	0.0	-	-	-	-	16.6	-	0.0	-	-

Icichthys lockingtoni

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 60.0	-	4.4	-	0.0	-	-	-	0.0	-	0.0	-	-
90.0 60.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-

Tetragonurus cuvieri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 80.0	-	0.0	-	0.0	-	-	-	5.4	-	0.0	-	-
80.0 90.0	-	0.0	-	0.0	-	-	-	15.5	-	13.5	-	-
80.0 100.0	-	0.0	-	0.0	-	-	-	0.0	-	4.5	-	-
83.3 90.0	5.0	-	-	0.0	-	-	-	0.0	-	9.8	-	-
83.3 100.0	0.0	-	-	0.0	-	-	-	0.0	-	20.8	-	-

TABLE 4. (cont.)

Tetragonurus cuvieri (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	110.0	0.0	-	-	0.0	-	-	-	0.0	-	4.9	-	-
86.7	70.0	0.0	-	13.7	-	-	-	-	0.0	-	5.1	-	-
86.7	80.0	0.0	-	0.0	-	-	-	-	5.1	-	0.0	-	-
86.7	90.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-
90.0	90.0	5.3	-	4.7	-	-	-	-	0.0	-	4.8	-	-
90.0	100.0	0.0	-	4.7	-	-	-	-	0.0	-	10.6	-	-
93.3	70.0	15.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	80.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	100.0	5.3	-	0.0	-	-	-	-	0.0	-	5.4	-	-

Peprilus simillimus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	-	4.6	-	0.0	-	-	-	0.0	-	4.9	-	-
80.0	55.0	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
83.3	40.6	-	4.0	-	0.0	-	-	-	0.0	-	0.0	-	-

***Citharichthys* spp.**

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	0.0	-	7.7	-	-
76.7	51.0	-	0.0	-	0.0	-	-	-	10.9	-	0.0	-	-
80.0	51.0	-	55.3	-	0.0	-	-	-	0.0	-	34.3	-	-
80.0	55.0	-	8.7	-	0.0	-	-	-	0.0	-	72.6	-	-
80.0	60.0	-	0.0	-	0.0	-	-	-	0.0	-	5.0	-	-
80.0	70.0	-	14.0	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0	80.0	-	0.0	-	0.0	-	-	-	0.0	-	4.6	-	-
81.8	46.9	-	0.0	-	0.0	-	-	-	0.0	-	34.9	-	-
83.3	40.6	-	31.9	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	42.0	-	48.8	-	0.0	-	-	-	0.0	-	5.1	-	-
83.3	55.0	-	0.0	-	5.4	-	-	-	0.0	-	0.0	-	-
86.7	35.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	0.0	-	0.0	-	-	-	-	0.0	-	5.5	-	-
90.0	30.0	0.0	-	4.9	-	-	-	-	5.5	-	0.0	-	-

TABLE 4. (cont.)

***Citharichthys* spp.** (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	35.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	9.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	30.0	0.0	-	4.5	-	-	-	-	0.0	0.0	-	-	-

Citharichthys sordidus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	0.0	-	0.0	-	-	-	0.0	-	11.5	-	-
76.7	51.0	-	25.4	-	5.2	-	-	-	0.0	-	5.0	-	-
76.7	55.0	-	0.0	-	4.6	-	-	-	0.0	-	17.5	-	-
76.7	60.0	-	5.0	-	0.0	-	-	-	0.0	-	-	-	-
76.7	70.0	-	0.0	-	0.0	-	-	-	11.2	-	-	-	-
80.0	51.0	-	4.6	-	16.4	-	-	-	0.0	-	0.0	-	-
80.0	55.0	-	0.0	-	9.5	-	-	-	0.0	-	4.8	-	-
80.0	60.0	-	8.9	-	0.0	-	-	-	0.0	-	9.9	-	-
80.0	70.0	-	9.4	-	0.0	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	4.5	-	0.0	-	-	-	0.0	-	15.0	-	-
83.3	42.0	-	9.8	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3	55.0	-	5.0	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	22.1	-	0.0	-	-	-	11.2	-	0.0	-	-
83.3	70.0	-	46.6	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7	35.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
86.7	45.0	0.0	-	9.2	-	-	-	-	0.0	-	0.0	-	-
86.7	55.0	25.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	14.2	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7	70.0	4.9	-	4.6	-	-	-	-	0.0	-	0.0	-	-
90.0	30.0	0.0	-	9.8	-	-	-	-	0.0	-	0.0	-	-
90.0	37.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	0.0	-	10.3	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	14.7	-	0.0	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Citharichthys sordidus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	70.0	4.8	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	80.0	0.0	-	5.1	-	-	-	-	0.0	-	0.0	-	-
93.3	28.0	0.0	-	4.7	-	-	-	-	0.0	0.0	-	-	-
93.3	30.0	5.0	-	13.6	-	-	-	-	0.0	0.0	-	-	-
93.3	50.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3	55.0	24.4	-	0.0	-	-	-	-	0.0	-	0.0	-	-
93.3	60.0	0.0	-	4.8	-	-	-	-	5.8	-	0.0	-	-

Citharichthys stigmaeus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7	49.0	-	4.2	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	51.0	-	15.2	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	55.0	-	4.8	-	0.0	-	-	-	0.0	-	0.0	-	-
76.7	60.0	-	5.0	-	9.8	-	-	-	0.0	-	-	-	-
76.7	70.0	-	0.0	-	0.0	-	-	-	11.2	-	-	-	-
76.7	80.0	-	0.0	-	0.0	-	-	-	0.0	-	12.7	-	-
80.0	51.0	-	4.6	-	0.0	-	-	-	0.0	-	14.7	-	-
80.0	55.0	-	0.0	-	9.5	-	-	-	0.0	-	4.8	-	-
80.0	60.0	-	17.7	-	0.0	-	-	-	0.0	-	5.0	-	-
80.0	70.0	-	4.7	-	0.0	-	-	-	0.0	-	0.0	-	-
81.8	46.9	-	13.5	-	0.0	-	-	-	0.0	-	39.9	-	-
83.3	42.0	-	0.0	-	4.8	-	-	-	0.0	-	0.0	-	-
83.3	51.0	-	0.0	-	0.0	-	-	-	4.9	-	0.0	-	-
83.3	55.0	-	0.0	-	16.1	-	-	-	0.0	-	0.0	-	-
83.3	60.0	-	13.2	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3	80.0	0.0	-	-	4.5	-	-	-	0.0	-	0.0	-	-
86.7	33.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-
86.7	35.0	0.0	-	15.0	-	-	-	-	0.0	-	0.0	-	-
86.7	40.0	0.0	-	0.0	-	-	-	-	4.9	-	0.0	-	-
86.7	50.0	0.0	-	4.0	-	-	-	-	0.0	-	0.0	-	-
86.7	60.0	4.7	-	0.0	-	-	-	-	11.8	-	0.0	-	-
86.7	110.0	0.0	-	-	0.0	-	-	-	0.0	-	10.9	-	-

TABLE 4. (cont.)

Citharichthys stigmaeus (cont.)

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	30.0	0.0	-	9.8	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	4.8	-	0.0	-	-	-	-	5.2	-	0.0	-	-
90.0	37.0	0.0	-	5.2	-	-	-	-	0.0	-	0.0	-	-
90.0	45.0	4.6	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	53.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-
90.0	60.0	0.0	-	0.0	-	-	-	-	0.0	-	5.0	-	-
93.3	28.0	0.0	-	4.7	-	-	-	-	0.0	5.6	-	-	-
93.3	30.0	0.0	-	13.6	-	-	-	-	0.0	0.0	-	-	-
93.3	35.0	0.0	-	4.8	-	-	-	-	0.0	0.0	-	-	-
93.3	40.0	5.1	-	0.0	-	-	-	-	0.0	-	9.7	-	-
93.3	55.0	0.0	-	0.0	-	-	-	-	5.0	-	0.0	-	-
93.3	90.0	0.0	-	0.0	-	-	-	-	0.0	-	5.3	-	-

Hippoglossina stomata

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	33.0	0.0	-	0.0	-	-	-	-	0.0	-	4.7	-	-
93.3	26.7	0.0	-	0.0	-	-	-	-	0.0	3.9	-	-	-

Paralichthys californicus

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0	51.0	-	13.8	-	0.0	-	-	-	0.0	-	4.9	-	-
83.3	40.6	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-
86.7	33.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Xystreurys liolepis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3	40.6	-	0.0	-	0.0	-	-	-	0.0	-	4.8	-	-

Hypsopsetta guttulata

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0	28.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-

Lyopsetta exilis

Station		Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7	35.0	9.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
90.0	28.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
90.0	35.0	0.0	-	12.1	-	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Lyopsetta exilis (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
93.3 28.0	0.0	-	4.7	-	-	-	-	0.0	0.0	-	-	-

Microstomus pacificus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 70.0	-	0.0	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7 110.0	0.0	-	-	0.0	-	-	-	0.0	-	5.5	-	-
90.0 90.0	0.0	-	0.0	-	-	-	-	4.7	-	0.0	-	-

Parophrys vetulus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 49.0	-	8.4	-	0.0	-	-	-	0.0	-	0.0	-	-
80.0 51.0	-	73.8	-	0.0	-	-	-	0.0	-	0.0	-	-
83.3 42.0	-	0.0	-	4.8	-	-	-	0.0	-	0.0	-	-
86.7 35.0	0.0	-	5.0	-	-	-	-	0.0	-	0.0	-	-

Pleuronichthys ritteri

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
80.0 51.0	-	4.6	-	0.0	-	-	-	0.0	-	0.0	-	-

Pleuronichthys verticalis

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
86.7 33.0	0.0	-	4.5	-	-	-	-	0.0	-	0.0	-	-

Symphurus atricaudus

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 28.0	0.0	-	0.0	-	-	-	-	6.1	-	9.8	-	-

Disintegrated fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
76.7 70.0	-	0.0	-	4.6	-	-	-	0.0	-	-	-	-
76.7 90.0	-	0.0	-	0.0	-	-	-	0.0	-	4.3	-	-
76.7 100.0	-	0.0	-	4.5	-	-	-	0.0	-	0.0	-	-
80.0 55.0	-	0.0	-	9.5	-	-	-	0.0	-	0.0	-	-
80.0 100.0	-	4.2	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7 80.0	4.9	-	0.0	-	-	-	-	0.0	-	0.0	-	-
86.7 90.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
86.7 100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-

TABLE 4. (cont.)

Disintegrated fish larvae (cont.)

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
90.0 100.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-
93.3 60.0	0.0	-	4.8	-	-	-	-	0.0	-	0.0	-	-
93.3 110.0	0.0	-	4.3	-	-	-	-	0.0	-	5.4	-	-

Unidentified fish larvae

Station	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sep.	Oct.	Nov.	Dec.
83.3 100.0	4.8	-	-	0.0	-	-	-	0.0	-	0.0	-	-
86.7 40.0	4.8	-	9.7	-	-	-	-	0.0	-	0.0	-	-
90.0 60.0	0.0	-	4.7	-	-	-	-	0.0	-	0.0	-	-
93.3 90.0	0.0	-	0.0	-	-	-	-	5.4	-	0.0	-	-

PHYLOGENETIC INDEX TO TABLE 4

ALPHABETICAL INDEX TO TABLE 4

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