

PUBLICATIONS  
July 1, 1976 to June 30, 1978

- Ahlstrom, E.H., J.L. Butler, and B.Y. Sumida. 1976. Pelagic stromateoid fishes (Pisces, Perciformes) of the eastern Pacific: Kinds, distributions, and early life histories and observations, and early life histories and observations of five of these from the northwest Atlantic. *Bull. Mar. Sci.*, 26(3): 285-402.
- Ahlstrom, E.H., and H.G. Moser. 1976. Eggs and larvae of fishes and their role in systematic investigations in fisheries. *Rev. trav. inst. peches marit.*, 40(3/4): 379-398.
- Ahlstrom, E.H., H.G. Moser, and M.J. O'Toole. 1976. Development and distribution of larvae and early juveniles of commercial lanternfish, *Lampanyctodes hectoris* (Gunter), off the west coast of southern Africa with a discussion of phylogenetic relationships of the genus. *Bull. S. Calif. Acad. Sci.*, 75: 138-152.
- Ahlstrom, E.H., H.G. Moser, and E.M. Sandknop. 1978. Distributional atlas of fish larvae in the California Current region: Rockfishes, *Sebastes* spp., 1950 through 1975. *Calif. Coop. Oceanic Fish. Invest. Atlas* 26. 178 pp.
- Alvarez, S., and R. A. Schwartzlose. 1978. Caracterización de masas de agua del Golfo de California por analisis de regresión multiple. VI Congreso Nacional de Oceanografía, Ensenada, Baja California, Mexico, p. 115. (Abstract).
- Arthur, D.K. 1976. Food and feeding of larvae of three fishes occurring in the California Current, *Sardinops sagax*, *Engraulis mordax*, and *Trachurus symmetricus*. *Fish. Bull., U.S.*, 74(3): 517-530.
- Arthur, D.K. 1977. Distribution, size and abundance of microcopepods in the California Current system and their possible influence on survival of marine teleost larvae. *Fish. Bull., U.S.*, 75(3): 601-611.
- Bakun, A., and C.S. Nelson. 1977. Climatology of upwelling related processes off Baja California. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 107-127.
- Benson, A.A. 1976. Lipids in plants (Book review, *Recent Advances in the Chemistry and Biochemistry of Plant Lipids*, by T. Galliard and E.I. Mercer, eds., Academic Press) *Science*, 192: 47.
- \_\_\_\_\_. 1977. Philosophy of the tracer method. *Radioisotopes*, 26: 348-356.
- Berner, L.H., J.H. Martin, J. McGowan and J. Teal. 1976. Sampling marine organisms, Chapter 14. 269-273. *In* E.D. Goldberg, ed., *Strategies for marine pollution monitoring*. John Wiley and Sons.
- Black, G.F. 1977. Notes on some fishes collected off the outer coast of Baja California. *Calif. Fish Game*, 63(1): 71-72.
- Boehlert, G.W. 1978. Changes in the oxygen consumption of prejuvenile rockfish, *Sebastes diploproa*, prior to migration from the surface to deep water. *Physiol. Zool.*, 51(1): 56-67.
- \_\_\_\_\_. 1978. Intraspecific evidence for the function of single and double cones in the teleost retina. *Science*, 202: 309-311.
- Brinton, E. 1978. Observations of spermatophores attached to pleopods of male euphausiids. *Crustaceana*, 35 (pt. 2): 241-248.
- Brinton, E., and J.G. Wyllie. 1977. Distribution of euphausiid growth stages off southern California, 1953 through 1956. *Calif. Coop. Oceanic Fish. Invest. Atlas* 24. 32 p., 289 charts.
- Brown, D.M., and H.W. Honegger. 1978. Design of a rapid-sampling vertical-tow net. *Mar. Biol.* 45: 93-95.
- Brown, J.C. 1977. A microprocessor-based oceanographic particle data collection system. *Oceans '77 Conf. Rec., MTS-IEEE*, 1: 3C1-3C3.
- Bull, K.R., R.K. Murton, D. Osborn, L. Cheng, and P. Ward. 1977. High levels of cadmium in Atlantic seabirds and sea-skaters. *Nature* 269: 507-509.
- Callahan, R.A., and A. Soutar. 1976. Southern California baseline studies collection of analytical samples. *Proc. Symp. on Fate of Hydrocarbons in the Marine Environment*, Washington, D.C.
- Carlucci, A.F., and R.L. Cuhel. 1977. Vitamins in the south polar seas: Distribution and significance of dissolved and particulate Vitamin B<sup>12</sup>, thiamine, and biotin in the southern Indian Ocean. *In Proc. Third SCAR Symposium on Antarctic Biology*, 115-128.
- Carlucci, A.F., S.L. Shimp, P.A. Jumars, and H.W. Paerl. 1976. *In situ* morphologies of deep-sea and sediment bacteria. *Can. J. Microbiol.*, 22(11): 1667-1671.
- Chavez, H., S. Silva, and J.S. Sunada. 1977. The fishery for northern anchovy, *Engraulis mordax*, off California and Baja California in 1975. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 147-165.
- Cheng, L. 1976. A new species of *Hermatobates* (Hemiptera-Heteroptera). *Pan-Pacific Entomol.*, 52: 209-212.
- \_\_\_\_\_. 1976. Insects in marine environments. *In* L. Cheng, ed., *Marine insects*, North-Holland Publishing Co., Amsterdam and Oxford: Amer. Elsevier Pub. Co., New York, pp. 1-4.
- \_\_\_\_\_. (ed.) 1976. *Marine insects*. North-Holland Publishing Co., Amsterdam and Oxford; Amer. Elsevier Pub. Co., New York 585 p.
- \_\_\_\_\_. 1978. The elusive sea bug *Hermatobates* (Heteroptera). *Pan-Pacific entomol.*, 53: 87-97.
- Cheng, L., G.V. Alexander, and P.J. Franco. 1977. Cadmium and other metals in sea-skaters. *Air, Water, Soil Pollut.*, 6: 33-38.
- Cheng, L., and T.F. Bidleman. 1977. Chlorinated hydrocarbons in marine insects. *Estuar. Coast. Mar. Sci.*, 5: 289-291.
- Cheng, L., and M.C. Birch. 1977. Terrestrial insects at sea. *J. Mar. Biol. Assn. U.K.*, 57: 995-997.
- \_\_\_\_\_. 1978. Insect flotsam—an unstudied marine resource. *Ecol. Entomol.*, 3(2): 87-97.
- Cheng, L., V.F. Hodge, and R.A. Lewin. 1977. Polonium and plutonium in an intertidal food chain. *Nature*, 269: 795-796.
- Cheng, L., M. Doeck, and D.A.I. Goring. 1978. UV absorption by gerrid cuticles. *Limnol. Oceanogr.*, 23(3): 554-556.
- Cheng, L., and R.A. Lewin. 1976. Goose barnacle on flotsam. *Fish. Bull., U.S.*, 74(1): 212-217.
- Colebrook, J.M. 1977. Annual fluctuations in biomass of taxonomic groups of zooplankton in the California Current, 1955-59. *Fish. Bull., U.S.*, 75(2): 357-368.
- Collins, R., and A. MacCall. 1977. California's Pacific bonito resource, its status and management. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.*, (35): 1-42.
- Cox, C.S., J. H. Filloux, and D. Cayan. 1976. Electromagnetic observations during MODE-I: Sea floor electric field and transport. *Polymode News*, No. 14.
- Cox, C., N. Kroll, P. Pistek and K. Watson. 1978. Electromagnetic fluctuations induced by wind waves on the deep sea floor. *J. Geophys. Res.*, 83(C1): 431-442.
- Davis, R., T.P. Barnett, and C.S. Cox. 1978. Variability of near-surface currents observed during the pole experiment. *J. Phys. Oceanogr.*, 8(2): 290-301.
- Davies, I.E., R.J. Vent, and J.C. Brown. 1977. Fish school acoustic target strength. *J. du Cons.*, 37(3): 17-21.
- Eber, L.E. 1977. Contoured depth-time charts (0 to 200 m, 1950 to 1966) of depth temperature, salinity, oxygen and sigma-t at 23 CalCOFI stations in the California Current. *Calif. Coop. Oceanic Fish. Invest. Atlas* 25. ix + 231 p.

PUBLICATIONS  
CalCOFI Rep., Vol. XX

- Eppley, R.W. 1977. The growth and culture of diatoms. In D. Werner, ed., *Biology of diatoms*. Blackwell Scientific Publ., Ltd., Oxford, England.
- Eppley, R.W., E. H. Renger, and P.M. Williams. 1976. Chlorine reactions with seawater constituents and the inhibition of photosynthesis of natural marine phytoplankton. *Estuar. Coast. Mar. Sci.* 4: 147-161.
- Eppley, R.W., J.H. Sharp, E.H. Renger, M.J. Perry, and W.G. Harrison. 1977. Nitrogen assimilation by phytoplankton and other microorganisms in the surface waters of the central North Pacific Ocean. *Mar. Biol.* 39: 111-120.
- Fiedler, P.C. 1978. The precision of simulated transect surveys of northern anchovy, *Engraulis mordax*, school groups. *Fish. Bull., U.S.*, 76(3): 679-685.
- Fitch, J., and S. Schultz. 1978. Some rare and unusual occurrences of fishes of California and Baja California. *Calif. Dept. Fish Game*, 64(2): 74-92.
- Fleming, E., and E. Knaggs. 1977. The southern California jack mackerel fishery and age, length and sex composition of the catch for the 1967-68 through 1971-72 seasons. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.* (37): 1-44.
- Fleminger, A., and K. Hulsemann. 1977. Geographical range and taxonomic divergence in North Atlantic *Calanus* (*C. helgolandicus*, *C. finmarchicus* and *C. glacialis*). *Mar. Biol.*, 40: 233-248.
- Fleminger, A., and E. Moore. 1977. Two new species of *Labidocera* (Copepoda, Calanoida) from the western tropical North Atlantic region. *Bull. Mar. Sci.*, 27(3): 520-529.
- Garcia-Castro, G., S. Alvarez, and R. Schwartzlose. 1978. Sistema del bioxido de carbona en el Golfo de California. VI Congreso Nacional de Oceanografía, Ensenada, Baja California, Mexico, pp. 138-139. (Abstract)
- Gastil, G., R. Berry, C. Bishop, V.J. Grauzinis, R. Hildreth, W.C. Kellogg, R. Ontell, R. Schwartzlose, R.C. Sharp, and H.D. Solomon. 1977. Report of the Offshore Oil Committee of the Quality of Life Board.
- Gaxiola-Castro, G., S. Alvarez, and R. Schwartzlose. 1978. Sistema del bioxido de carbona en el Golfo de California. VI Congreso Nacional de Oceanografía, Ensenada, Baja California, Mexico, pp. 138-139. (Abstract)
- Geibel, J., and R. Heimann. 1976. Assessment of ocean shrimp management in California resulting from widely fluctuating recruitment. *Calif. Fish Game*, 62(4): 255-273.
- Gendrop-Funes, V., M.J. Acosta-Ruiz and R. Schwartzlose. 1978. Distribución horizontal de clorofila *a* durante la primavera en la parte norte del Golfo de California. *Cien. Marín.*, 5(1): 71-89.
- Graves, J. 1977. Photographic method for measuring spacing and density within pelagic fish schools at sea. *Fish. Bull., U.S.*, 75(1): 230-234.
- Gregory, P.A. 1977. Photographic method for measuring spacing and density within pelagic fish schools at sea. *Fish. Bull., U.S.*, 75(1): 230-234.
- Harrison, W.G., F. Azam, E.H. Renger, and R.W. Eppley. 1977. Some experiments on phosphate assimilation by coastal marine plankton. *Mar. Biol.*, 40: 9-18.
- Harrison, W.G., R.W. Eppley, and E.H. Renger. 1977. Phytoplankton nitrogen metabolism, nitrogen budgets and observations on copper toxicity: controlled ecosystem pollution experiment. *Bull. Mar. Sci.*, 27(1): 44-57.
- Haury, L.R., J.A. MacGowan, and P.H. Weibe. 1977. Patterns and processes in the time-space scales of plankton distribution. In, J.H. Steele, ed., *Spatial pattern in plankton communities*. Plenum Press, New York, p. 277-327.
- Hemingway, G.T. 1978. Evidence for a paralytic venom in the intertidal snail, *Acanthina spirata* (Neogastropoda: Thaisidae). *Comp. Biochem. Physiol.* 60C: 79-81.
- Holm-Hansen, O., F. Azam, A.F. Carlucci, R.E. Hodson, and D.M. Karl. 1977. Microbial distribution and activity in and around McMurdo Sound. *Ant. J. U.S.*, XII(4): 29-32.
- Hubbs, C.L. 1976. Lancefish strategy. *Copeia*, 1976 (2): 421.
- \_\_\_\_\_. 1976. [Obituary of] Deogracias V. Villadolid. *Copeia*, 1976(3): 617.
- \_\_\_\_\_. 1976. [Review of] This living reef, by Douglas Faulkner. *Pacific Discovery*. 29(1): 33.
- \_\_\_\_\_. 1977. [Review of] Fish and fisheries of India, by V.G. Jhingran. *Copeia*, 1977(1): 195.
- Hubbs, C.L., L.J.V. Compagno, and W.I. Follett. 1976. Comment on the proposed suppression of *Rhiniodon* Smith, 1828, in favour of *Rhincodon* Smith, 1829. *Z.N.(S.) 2090. Bull. Zool. Nomencl.*, 33(2): 70-71.
- Hubbs, C.L., and J.R. Jehl, Jr. 1976. Remains of Pleistocene birds from Isla de Guadalupe, Mexico. *Condor*, 78(3): 421-422.
- Hubbs, C.L., and K. Kuronuma. 1977. [Obituary of] Yaichiro Okada. *Copeia*, 1977(1): 206-207.
- Hunter, J.R. 1977. Behavior and survival of northern anchovy *Engraulis mordax* larvae. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 138-146.
- Hunter, J.R., and C. Sanches. 1976. Diel changes in swim bladder inflation of the larvae of the northern anchovy, *Engraulis mordax*. *Fish. Bull., U.S.*, 74(4): 847-855.
- Huppert, D.D. 1977. Constraints to welfare gains under extended jurisdiction fisheries. *Amer. J. Agri. Econ.*, 59(5): 877-882.
- Huppert, D.D., and J. McMillan. 1978. California's wetfish and market fish fisheries—economic values. *West. Proc. 58th Ann. Conf. West. Assoc. Fish Wildl. Agencies*, San Diego, CA, July 17-20, 1978: 412-426.
- Hurley, A.C. 1978. School structure of the squid *Loligo opalescens*. *Fish. Bull., U.S.*, 76(2): 433-442.
- Isaacs, J.D. 1976. Sanity and other factors in aquatic resource development. (Plenary address) In, R. F. Scagel, ed., *Mankind's future in the Pacific*. Plenary and Special Lectures, 13th Pacific Sci. Congr., August 1975, Vancouver, B.C., Univ. British Columbia Press, p. 72-85.
- \_\_\_\_\_. 1976. Reproductive products in marine food webs. *S. Calif. Acad. Sci. Bull.*, Carl L. Hubbs Honorary Issue, 75(2): 220-223.
- \_\_\_\_\_. 1976. The sea, the marine mystique, and the challenge to the scientific paradigm. In, Richard Astro, ed., *Literature and the Sea Proc. Conf. at Mar. Sci. Center*, 8 May 1976, Newport, Oregon. Oregon State Univ. Sea Grant College Program, Publ. No. ORESU-W-76-001: 25-30.
- \_\_\_\_\_. 1976. Some ideas and frustrations about fishery science. *Proc. Symp. of CalCOFI Conf. "Fishery Science: Fact, Fiction and Dogma."* November 1973, San Clemente, Calif., Calif. Coop. Oceanic Fish. Invest. Rep., 18:34-43.
- \_\_\_\_\_. 1977. The life of the open sea. *Nature*, 267: 778-779 [special issue on Oceans].
- \_\_\_\_\_. 1978. Power from the sea—Forms and prospects. *Proc. Spring Meeting/STAR Symposium, Soc. Naval Architects and Mar. Engin.*, New London, Conn. April 26-29, p. 5-1—5-14.
- Isaacs, J.D., D. Castel, and G.L. Wick, 1976. Utilization of the energy in ocean waves. *Ocean Engin.*, 3: 175-187.
- Isaacs, J.D., J.W. Stork, and G.L. Wick. 1976. Tornado forum. Isaacs, Stork, and Wick reply to Kessler, Morton, Smith, McIntyre, Manton, Lilly, Darkow, and Court. *Nature*, 260(5550): 457-461.

- Isaacs, J.D., G.L. Wick, and W.R. Schmitt. 1976. Utilization of the energy from ocean waves. Paper presented at ERDA Wave and Salinity Gradient Energy Conversion Workshop, Univ. Delaware, May 1976 (also published as Univ. Calif. Inst. Mar. Resources Ref. No. 76-10, 37 p.).
- Johnson, C.L., C.S. Cox, and B. Gallagher. 1978. The separation of wave-induced and intrusive oceanic finestructure. *J. Phys. Oceanogr.*, 8: 846-860.
- Johnson, M.W. 1977. On a hitherto unknown phyllosoma larval species of the slipper lobster *Scyllarus* in the Hawaiian Archipelago. *Pac. Sci.*, 31(2): 187-190.
- \_\_\_\_\_. 1977. The final phyllosoma larval stage of the slipper lobster *Scyllarides squamosus* (H. Milne Edwards) from the Hawaiian Islands (Decapoda: Scyllaridae). *Bull. Mar. Sci.*, 27(2): 338-340.
- Jumars, P.A., and R.R. Hessler. 1976. Hadal community structure: Implications from the Aleutian Trench. *J. Mar. Res.*, 34: 547-560.
- Kaneen, R.G. 1977. California's view of anchovy management. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 25-27.
- Keeling, C.D., R.B. Bacastow, A.R. Bainbridge, C.A. Ekdahl, Jr., P.R. Guenther, and L.S. Waterman. 1976. Atmospheric carbon dioxide variations at Mauna Loa Observatory Hawaii, Tellus 38, 6.
- Kling, S.A. 1976. Relation of radiolarian distributions to subsurface hydrography in the North Pacific. *Deep-Sea Res.*, 23: 1043-1058.
- Knight, M.D. 1976. Larval development of *Euphausia sanzoi* Torelli (Crustacea: Euphausiacea). *Bull. Mar. Sci.*, 26(4): 538-557.
- \_\_\_\_\_. 1978. Larval development of *Euphausia fallax* (Crustacea: Euphausiacea) with a comparison of larval morphology within the *E. gibboides* species group. *Bull. Mar. Sci.*, 28(2): 255-281.
- Kramer, D. 1977. Book review: Zooplankton fixation and preservation. H.R. Steedman, ed., *Bull. Mar. Sci.*, 27(4): 834-836.
- Lal, K., R. Lasker, and A. Kuljis. 1977. Acclimation and rearing of striped bass larvae in seawater. *Calif. Fish Game*, 63(4): 210-218.
- Lasker, R. 1976. Induced maturation and spawning of marine fish at the Southwest Fisheries Center. La Jolla, California. Proc. 5th Ann. Meet. World Mariculture Soc., Jan 21-25, 1974: 313-318.
- \_\_\_\_\_. 1978. Fishing for anchovies off California. *Mar. Pollut. Bull.*, 9: 320-321.
- Lasker, R., and P.E. Smith. 1977. Estimation of the effects of environmental variations on the eggs and larvae of the northern anchovy. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 128-137.
- Leong, R. 1977. Maturation and induced spawning of captive Pacific mackerel, *Scomber japonicus*. *Fish. Bull., U.S.*, 75(1): 205-211.
- Mais, K.F. 1979. California Department of Fish and Game assessment of commercial fisheries resources cruises, 1978. *Calif. Coop. Oceanic Fish. Invest. Data Rep.*, 28: 1-52.
- Mantyla, A.W., and J.L. Reid. 1978. Measurements of water characteristics at depths greater than 10 km in the Marianas Trench. *Deep-Sea Res.*, 25: 169-173.
- Mattison, J.E., A. Shanks, J. Trent, T.B. Akin, and J.S. Pearse. 1977. Movement and feeding activity of the red sea urchins (*Strongylocentrotus franciscanus*) adjacent to a kelp forest. *Mar. Biol.* 39: 25-30.
- Milhaud, G., J.C. Rankin, L. Bolis, and A.A. Benson. 1977. Calcitonin: Its hormonal action on the gill. *Proc. Nat. Acad. Sci. USA*, 74: 4693-4696.
- McClure, V.E. 1976. Transport of heavy chlorinated hydrocarbons in the atmosphere. *Envir. Sci. Tech.*, 10(13): 1223-1229.
- McGowan, J.A. 1976. Integrative marine biology. Book review of D.H. Cushing, *Marine ecology and fisheries*. Cambridge Univ. Press. Science, 192: 881-882.
- \_\_\_\_\_. 1977. What regulates pelagic community structure in the Pacific? In, N.R. Anderson and B.J. Zahuranec, eds., *Oceanic sound scattering prediction*. Plenum Press, p. 423-443.
- McGowan, J.A., and T. Hayward. 1978. Mixing and oceanic productivity. *Deep-Sea Res.*, 25: 771-793.
- Moser, H.G., and E.H. Ahlstrom. 1978. Larvae and pelagic juveniles of blackgill rockfish, *Sebastes melanostomus*, taken in midwater trawls off southern California. *J. Fish. Res. Board Can.*, 35: 981-996.
- Moser, H.G., E.H. Ahlstrom, and E.M. Sandkop. 1977. Guide to the identification of scorpionfish larvae (family Scorpaenidae) in the Eastern Pacific with comparative notes on species of *Sebastes* and *Helicolenus* from other oceans. NOAA Tech. Rep. NMFS Circ. 402. 71 p.
- Nemoto, T., E. Brinton, and K. Kamada. 1977. Reproduction and growth of the deep sea *Thysanopoda* euphausiids. *Bull. Plankton Soc. Japan*, 1(24): 36-43.
- O'Connell, C.P. 1976. Histological criteria for diagnosing the starving condition in early post yolk sac larvae of the northern anchovy, *Engraulis mordax* Girard. *J. Exp. Mar. Biol. Ecol.*, 25: 285-312.
- Pacific Fishery Management Council. 1978. Northern anchovy fishery management plan. *Fed. Register*, 43(141): 31655-31783.
- Patton, J.S., S. Abraham, and A.A. Benson. 1977. Lipogenesis in the intact coral *Pocillopora capitata* and its isolated zooxanthellae: Evidence for a light-driven carbon cycle between symbiont and host. *Mar. Biol.*, 44: 235-247.
- Patton, J.S., T.G. Warner, and A.A. Benson. 1977. Partial characterization of the bile salt-dependent triacylglycerol lipase from the leopard shark pancreas. *Biochim. Biophys. Acta*, 486: 322-330.
- Patzert, W.C. 1976. Physical and chemical oceanography sections: Marine science programme for the Red Sea. Recommendations of the workshop held in Bremerhaven. Federal Republic of Germany, October 1974 [Patzert, chairman and ed.] UNESCO Technical Papers in Marine Science (25) 6-9.
- \_\_\_\_\_. 1976. El Niño expedition—A step toward ocean prediction. *Naval Res. Rev.*, 29(4): 18-21.
- \_\_\_\_\_. 1976. Results of 1975 El Niño Cruises. Scripps Institution of Oceanography publications of Transactions of Joint CICESE/ SIO meeting 1975.
- Patzert, W.C., and R. Bernstein. 1976. Eddy structure in the central South Pacific Ocean. *J. Phys. Oceanogr.*, 6(3): 392-394.
- Patzert, W.C., and R. Harvey. 1976. Deep current measurements suggest long waves in the eastern Equatorial Pacific. *Science*, 193: 883-885.
- Patzert, W.C., K. Wyrki, D. McLain, and G. Meyers. 1977. Variability of the thermal structure in the central Pacific Ocean, Hawaii Inst. Geophys. Rep., 77-1, 32p., 43 figs.
- Polhemus, J.T., and L. Cheng. 1976. A new *Rheumatobates* from Costa Rica (Hemiptera: Gerridae). *Pan-Pacific Entomol.*, 52: 321-323.
- Reid, J.L. 1977. Some thoughts on the dependence of sound speed and the scattering layers upon ocean circulation. In, N. R. Anderson and B. J. Zahuranec, eds., *Oceanic sound scattering prediction*. Plenum, New York, p. 15-64.
- \_\_\_\_\_. 1977. Deep currents in the northwestern part of the Argentine Basin. *Antarctic J., U.S.*, 12(4): 58.
- \_\_\_\_\_. 1977. Circulation of the Mediterranean water in the North Atlantic Ocean. *Trans. Amer. Geophys. Un.*, 58(12): 1168.
- Reid, J.L., E. Brinton, A. Fleminger, E.L. Venrick, and J.A. McGowan. 1978. Ocean circulation and marine life. In, H. Charnock and G. Deacon, eds., *Advances in oceanography*. Plenum Press, New York, p. 65-130.

## PUBLICATIONS

CalCOFI Rep., Vol. XX

- Reid, J.L., J.A. McGowan, E. Brinton, A. Fleminger, and E.L. Venrick. 1976. Ocean circulation and marine life. Abstracts of papers presented at General Symposia. Joint Oceanographic Assembly, 13-24 September 1976. Edinburgh, Scotland. p. 5 (Abstract).
- Reid, J.L., W.D. Nowlin, Jr., and W.C. Patzert. 1976. Circulation and distribution of characteristics in the southwestern Atlantic Ocean. *P.V. Assoc. Int. Sci. Oceano (IAPSO), Un. Géod. Géophys. Int. (IUGG)*, No. 14—XVI General Assembly at Grenoble, Aug.-Sept. 1975. p. 173 (Abstract only; final publication).
- \_\_\_\_\_. 1977. On the characteristics and circulation of the southwestern Atlantic Ocean. *J. Phys. Oceanogr.*, 7(1): 62-91.
- Rivera, J.A., M. J. Acosta-Ruiz, R. Schwartzlose, and S. Alvarez. 1978. Nutrientes en el Golfo de California. VI Congreso Nacional de Oceanografía, Ensenada, Baja California, Mexico, p. 126-127.
- Rosenblatt, R.H., and J.L. Butler. 1977. The ribbonfish genus *Desmodema*, with the description of a new species (Pisces, Trachipteridae). *Fish. Bull.*, U.S., 75(4): 843-855.
- Sarmiento, J.L., H.W. Feely, W.S. Moore, A.E. Bainbridge, and W.S. Broecker. 1976. The relationship between vertical eddy diffusion and buoyancy gradient in the deep sea. *Earth Plan. Sci. Letters* 32: 357-370.
- Schultze, D., and R. Collins. 1977. Age composition of California landings of bluefin tuna, *Thunnus thynnus*, 1963 through 1969. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.* (38): 1-44.
- Scura, E.D., and C.W. Jerde. 1977. Various species of phytoplankton as food for larval northern anchovy, *Engraulis mordax*, and relative nutritional value of the dinoflagellates *Gymnodinium splendens* and *Gonyaulax polyedra*. *Fish. Bull.*, U.S., 75(3): 577-583.
- Scura, E.D., and G.H. Theilacker. 1977. Transfer of the chlorinated hydrocarbon PCB in a laboratory marine food chain. *Mar. Biol.*, 40: 317-325.
- Sessions, M., T.P. Barnett, and W.S. Wilson. 1976. The airborne expendable bathythermograph. *Deep-Sea Res.*, 23: 779-782.
- Seymour, R.J., M. Sessions, S.L. Wald, and A.E. Woods. 1977. Coastal engineering data network. *IMR Reference* 77-103.
- Siebenaller, J.F., and R.R. Hessler. 1977. The Nannoniscidae (Isopoda, Asellota): *Hebefustis* n. gen. and *Nanniscoides* Hansen. *Trans. San Diego Soc. Nat. Hist.*, 19(2): 43 p.
- Silver, M.W., J.D. Trent, and A. Shanks. 1978. Marine snow: microplankton habitat and source of small-scale patchiness in pelagic populations. *Science*, 201: 371-373.
- Smith, P.E. 1977. The effects of internal waves on fish school mapping with sonar in the California Current area. *Rap. et proc.-verb. reun. cons. internat. pour l'explor. de la mer*, 170: 223-231.
- \_\_\_\_\_. 1978. Precision of sonar mapping for pelagic fish assessment in the California Current. *J. cons. int. explor. mer.* 38(1): 33-40.
- Smith, P.E., and S.L. Richardson. 1977. Standard techniques for pelagic fish egg and larva surveys. *FAO Fish. Tech. Paper No.* 175. 100 p.
- Soutar, A., R. Byrne, and J. Michaelsen. 1977. Fossil charcoal as a measure of wildfire frequency in southern California: A preliminary analysis. *Symp. Environmental Consequences of Fire and Fuel Management in Mediterranean Ecosystems*. Palo Alto, Calif., Aug. 1-5, 1977.
- Soutar, A., and P.A. Crill. 1977. Sedimentation and climatic patterns in the Santa Barbara Basin during the 19th and 20th Centuries. *Geo. Soc. Amer. Bull.*, 88: 1161-1172.
- Soutar, A., S.A. Kling, K. Bruland, P.A. Crill, and E. Duffrin. 1977. Monitoring the marine environment through sedimentation. *Nature*, 266: 136-139.
- Spratt, J.D. 1976. The Pacific herring resource of Tomales and San Francisco Bays: Its size and structure. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.*, (33): 1-44.
- Squire, J.L., Jr. 1977. Surface currents as determined by drift card releases over the continental shelf off central and southern California. *NOAA Tech. Rep. NMFS SSRF-718*. 12 p.
- \_\_\_\_\_. 1978. Northern anchovy school shapes as related to problems in school size estimations. *Fish. Bull.*, U.S., 76(2): 443-448.
- \_\_\_\_\_. 1978. Sea surface temperature distributions off San Diego, California, using an airborne infrared radiometer. *NOAA Tech. Rep. NMFS SSRF-720*. 30 p.
- Squire, J.L., Jr., and S.E. Smith. 1977. Angler's guide to the United States Pacific coast. U.S. Dept. Commerce, NOAA, Nat. Mar. Fish. Serv., Seattle, Washington. 139 p.
- Sunada, J.S. 1976. Age and length composition of northern anchovies, *Engraulis mordax*, in the California anchovy reduction fishery 1973-74 season. *Calif. Fish Game*, 62(3): 213-244.
- \_\_\_\_\_. 1977. Northern anchovy age and size composition, 1974-75 season. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.*, (36): 1-21.
- \_\_\_\_\_. 1977. The northern anchovy fishery for the 1975-76 season. *Calif. Dept. Fish Game, Mar. Res. Tech. Rep.*, (39): 1-27.
- \_\_\_\_\_. 1977. Review of the pelagic wet-fisheries for 1975. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 19-20.
- Takahashi, T., P. Kaiteris, W.S. Broecker, and A.E. Bainbridge. 1976. An evaluation of the apparent dissociation constants of carbonic acid in seawater. *Earth. Planet. Sci. Letters*, 32: 458-467.
- Theilacker, G.H. 1978. Effect of starvation on the histological and morphological characteristics of jack mackerel, *Trachurus symmetricus*, larvae. *Fish. Bull.*, U.S., 76(2): 403-414.
- Thistle, D., and R.R. Hessler. 1976. Origin of a deep-sea family, the Ilyarachnidae (Crustacea: Isopoda). *Syst. Zool.*, 25: 110-116.
- \_\_\_\_\_. 1977. A revision of *Betamorpha* (Isopoda: Asellota) in the world ocean with three new species. *Zool. J. Linn. Soc.*, 60(3): 273-295.
- Tont, S.A. 1977. The long journey into the end of the artificial night. *Nature*, 269: 458.
- \_\_\_\_\_. 1977. Daytime depths of sound scattering layers in the major biogeographic regions of the Pacific Ocean. *In*, N.R. Andersen and B.J. Zahuranec, eds. *Oceanic sound scattering prediction*. Plenum Press, New York, p. 81-85.
- Tont, S.A., and D.A. Delistraty. 1977. Food resources of the oceans: An outline of status and potentials. *Environ. Cons.*, 4(4): 243-252.
- Tont, S.A., W.G. Percy, and J.S. Arnold. 1977. Bone structure of some marine vertebrates. *Mar. Biol.* 39: 191-196.
- Tooby, P.F., G.L. Wick, and J.D. Isaacs. 1977. The motion of a small sphere in a rotating velocity field: A possible mechanism for suspending particles in turbulence. *J. Geophys. Res.*, 82(15): 2096-2100.
- Trent, J.D., A. Shanks, and M.W. Silver. 1978. In situ and laboratory measurements on macroscopic aggregates in Monterey Bay, California. *Limnol. Oceanogr.*, 23(4): 626-635.
- Uye, S., and A. Fleminger. 1976. Effects of various environmental factors on egg development of several species of *Acartia* in southern California. *Mar. Biol.*, 38: 253-262.
- Venrick, E.L. 1978. Systematic sampling in a planktonic ecosystem. *Fish. Bull.*, U.S., 76(3): 617-627.
- Venrick, E.L., J.R. Beers, and J.F. Heinbokel. 1977. Possible consequences of containing microplankton for physiological rate measurements. *J. Exp. Mar. Biol. Ecol.*, 26: 55-76.

## PUBLICATIONS

CalCOFI Rep., Vol. XX

- Vidal, V.M.V., F.V. Vidal, J.D. Isaacs, and D.R. Young. 1978. Coastal submarine hydrothermal activity off northern Baja California. *J. Geophys. Res.*, 83: 1757-1774.
- Vlymen, W.J. 1977. A mathematical model of the relationship between larval anchovy (*Engraulis mordax*) growth, prey microdistribution, and larval behavior. *Envir. Biol. Fishes*, 2(3): 211-233.
- Vrooman, A.M., and P.A. Paloma. 1977. Dwarf hake off the coast of Baja California, Mexico. *Calif. Coop. Oceanic Fish. Invest. Rep.*, 19: 67-72.
- Warner, T.G., and A.A. Benson. 1977. An improved method for the preparation of unsaturated phosphatidylcholines: Acylation of *sn*-glycero-3-phosphorylcholine in the presence of sodium methylsulfinylmethide. *J. Lipid Res.*, 18: 548-552.
- Weiss, R.F., J.E. Lupton, P.F. Lonsdale, A.E. Bainbridge, and H. Craig. 1977. Hydrothermal plumes in the Galapagos Rift. *Nature*, 267(5612): 600-603.
- Wick, G.L. 1975. Winding up the winds. *Science Year, The World Book Science Annual 1976*. p. 308.
- Wick, G.L., and J.D. Isaacs. 1976. Utilization of the energy from salinity gradients. Paper presented at ERDA Wave and Salinity Gradient Energy Conversion Workshop, Univ. Delaware, May 1976 (also published as Univ. Calif. Inst. Mar. Resources Ref. No. 76-9, 34 p.).
- \_\_\_\_\_. 1978. Salt domes: Is there more energy available from their salt than from their oil? *Science*, 199: 1436-1437.
- Wick, G.L., and W.R. Schmitt. 1977. Prospects for renewable energy from the sea. *Mar. Tech. Soc. J.*, 11: 16-20.
- Wick, G.L., and P.F. Tooby. 1977. Centrifugal buoyancy forces. *Amer. J. Phys.*, 45: 1074-1076.
- Williams, P.M., and A.F. Carlucci. 1976. Bacterial utilization of organic matter in the deep sea. *Nature*, 262: 810-811.
- Wilson, G.D., D. Thistle, and R.R. Hessler. 1976. The *Plakarthriidae* (Isopoda: Flabellifera): Dejà vu. *Zool. J. Linn. Soc.*, 58: 332-343.
- Wyrki, K., G. Meyers, D. McLain, and W.C. Patzert. 1977. Variability of the thermal structure in the central Pacific Ocean. *Hawaii Inst. Geophys. Rep.*, 77-1. 32 p., 43 figs.
- Zweifel, J.R., and R. Lasker. 1976. Prehatch and posthatch growth of fishes, a general model. *Fish. Bull., U.S.*, 74(3): 621.