

## PUBLICATIONS

January 1 through December 31, 1981

- Ahlstrom, E.H., and H.G. Moser. 1981. Overview-systematics and development of early life history stages of marine fishes: achievements during the past century, present status and suggestions for the future. Pp. 541–546 in R. Lasker and K. Sherman (eds.), *The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- Alvariño, A., 1981. The relation between the distribution of zooplankton predators and anchovy larvae. Pp. 197–199 in R. Lasker and K. Sherman (eds.), *The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- Alvariño, A., and J.R. Hunter. 1981. New records of *Alloposus mollis* Verrill (Cephalopoda, Octopoda) from the Pacific Ocean. *The Nautilus* 95(1):26–32.
- Birkeland, C., L. Cheng, and R.A. Lewin. 1981. Motility of didemnid ascidian colonies. *Bull. Mar. Sci.* 3(1):170–173.
- Brown, D., and L. Cheng. 1981. New net for sampling the ocean surface neuston. *Mar. Ecol. Prog. Ser.* 5:225–227.
- Bruland, K.W., R.P. Franks, W.M. Landing, and A. Soutar. 1981. Southern California inner basin sediment trap calibration. *Earth Planet. Sci. Lett.* 53:400–408.
- Chave, A.D., R.P. Von Herzen, K.A. Poehls, and C.S. Cox. 1981. Electromagnetic induction fields in the deep ocean north-east of Hawaii: implications for mantle conductivity and source fields. *Geophys. J. R. Astr. Soc.* 66:379–406.
- Cheng, L., and M. Schulz-Baldes. 1981. Frequency and population composition of *Halobates micans* (Heteroptera: Gerridae) from the Central and South Atlantic Ocean. "Meteor" *Forsch.-Ergebnisse. Reihe D, Biologie* 33:17–21.
- Collins, R.A. 1981. Pacific Coast croaker resources. *Mar. Rec. Fish., Proc. 6 Ann. Mar. Rec. Fish. Symposium. Houston, Texas, Mar. 19 and 20, 1981, p.* 41–49.
- Cox, C.S. 1981. On the electrical conductivity of the oceanic lithosphere. *Phys. Earth and Planetary Interiors* 25:196–202.
- Cullen, J.J., and R.W. Eppley. 1981. Chlorophyll maximum layers of the Southern California Bight and possible mechanisms of their formation and maintenance. *Oceanol. Acta* 4(1):23–32.
- Dymond, J., K. Fischer, M. Clauson, R. Cobler, W. Gardner, L. Sullivan, W. Berger, and A. Soutar. 1981. A sediment trap intercomparison study in the Santa Barbara Basin. *Earth Planet. Sci. Lett.* 53:409–418.
- Eber, L.E. 1981. Large-scale sea surface temperature anomalies in the northeast Pacific Ocean. *Calif. Coop. Oceanic Fish. Invest. Rep.* 22:19–33.
- Eppley, R.W. 1981. Autotrophic production of particulate matter. In A.R. Longhurst (ed.), *Analysis of marine ecosystems.* Academic Press, p. 343–361.
- Eppley, R.W., S.G. Horrigan, J.A. Fuhrman, E.R. Brooks, C.C. Price, and K. Sellner. 1981. Origins of dissolved organic matter in southern California coastal waters: experiments on the role of zooplankton. *Mar. Ecol. Prog. Ser.* 6:149–159.
- Fine, R.A., J.L. Reid, and H.G. Östlund. 1981. Circulation of tritium in the Pacific Ocean. *J. Phys. Oceanogr.* 11(1):3–14.
- Fischer, K., J. Dymond, and A. Soutar. 1981. Sediment trap fluxes from MANOP Area S and the Equatorial Pacific. Fall meeting Am. Geophys. Union (1980). (Abstract)
- Flick, R.E., and R.T. Guza. 1980. Paddle generated waves in laboratory channels. *Journal of the Waterway, Port, Coastal and Ocean Division, Proceedings of the ASCE*, 106 (WW1), Proc. Paper 15175, 79–97.
- Flick, R.E., R.T. Guza, and D.L. Inman. 1981. Elevation and velocity measurements of laboratory shoaling waves. *J. Geophys. Res.* 86(C5):4149–4160.
- Flick, R.E., D.L. Inman, and R.T. Guza. 1980. Two-dimensional surf beat. In *Proceedings of the 17th International Coastal Engineering Conference ASCE/Sydney, Australia/March 23–28, 1980, p.* 624–638.
- Guza, R.T., and A.J. Bowen. 1981. On the amplitude of beach cusps. *J. Geophys. Res.* 86(C5):4125–4132.
- Guza, R.T., and E. B. Thornton. 1980. Local and shoaled comparisons of sea surface elevations, pressures and velocities. *J. Geophys. Res.* 85(C3):1524–1530.
- . 1981. Wave set-up on a natural beach. *J. Geophys. Res.* 86(C5):4133–4137.
- Hayward, T.L. 1981. Mating and the depth distribution of an oceanic copepod. *Limnol. Oceanogr.* 26:374–377.
- Hayward, T.L., and J.A. McGowan. 1981. The shallow salinity minimum and variance maximum in the central North Pacific. *Deep-Sea Res.* 28:1131–1146.
- Heaney, S.I., and R.W. Eppley. 1981. Light, temperature and nitrogen as interacting factors affecting diel vertical migrations of dinoflagellates in culture. *J. Plankton Res.* 3(2):331–344.
- Hewitt, R. 1981. The value of pattern in the distribution of young fish. Pp. 229–236 in R. Lasker and K. Sherman (eds.), *The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- . 1981. Eddies and speciation in the California Current. *Calif. Coop. Oceanic Fish. Invest. Rep.* 22:96–98.
- Hodson, R.E., F. Azam, A.F. Carlucci, J.A. Fuhrman, D.M. Karl, and O. Holm-Hansen. 1981. Microbial uptake of dissolved organic matter in McMurdo Sound, Antarctica. *Mar. Biol.* 61:89–94.
- Horrigan, S.G., A.F. Carlucci, and P.M. Williams. 1981. Light inhibition of nitrification in sea-surface films. *J. Mar. Res.* 39:557–565.
- Hunter, J.R. 1981. Feeding ecology and predation of marine fish larvae. Pp. 33–77 in R. Lasker (ed.), *Marine fish larvae: morphology, ecology, and relation to fisheries.* Washington Sea Grant Program. Univ. Wash. Press, Seattle.
- Hunter, J.R., S.E. Kaupp, and J.H. Taylor. 1981. Effects of solar and artificial ultraviolet-B radiation on larval northern anchovy, *Engraulis mordax*. *Photochemistry and Photobiology* 34:477–486.
- Hunter, J.R., and C. Kimbrell. 1981. Some aspects of the life history of laboratory-reared Pacific mackerel larvae, (*Scomber japonicus*). P. 344 in R. Lasker and K. Sherman (eds.), *The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- Hunter J.R., and R. Leong. 1981. The spawning energetics of female northern anchovy, *Engraulis mordax*. *Fish Bull., U.S.* 79(2):215–230.
- Huntley, D.A., R.T. Guza, and E.B. Thornton. 1981. Field observations of surf beat, I. progressive edge waves. *J. Geophys. Res.* 86(C7):6451–6466.
- Huppert, D.D. 1981. Economic analysis for northern anchovy management. Pp. 41–80 in L. G. Anderson (ed.), *Economic*

- analysis for fisheries management plans. Ann Arbor Science Publishers, Inc., Ann Arbor, Michigan.
- Kaupp, S.E., and J.R. Hunter. 1981. Photorepair in larval anchovy, *Engraulis mordax*. Photochemistry and Photobiology 33:253-256.
- Lasker, R. 1981. Factors contributing to variable recruitment of the northern anchovy (*Engraulis mordax*) in the California Current: contrasting years, 1975 through 1978. Pp. 375-388 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- . 1981. The role of a stable ocean in larval fish survival and subsequent recruitment. Pp. 80-87 in R. Lasker (ed.), Marine fish larvae: morphology, ecology, and relation to fisheries. Washington Sea Grant Program, Univ. Wash. Press, Seattle.
- , ed. 1981. Marine fish larvae: morphology, ecology, and relation to fisheries. Washington Sea Grant Program, Univ. Wash. Press, Seattle, 131 p.
- Lasker, R., J. Peláez, and R.M. Laurs. 1981. The use of satellite infrared imagery for describing ocean processes in relation to spawning of the northern anchovy (*Engraulis mordax*). Rem. Sens. Environ. 11:439-453.
- Lasker, R., and K. Sherman, eds. 1981. The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- Mais, K.F. 1981. Age-composition changes in the anchovy *Engraulis mordax* central population. Calif. Coop. Oceanic Fish. Invest. Rep. 22:82-87.
- . 1981. California Department of Fish and Game assessment of commercial fisheries resources cruises, 1980. Calif. Coop. Oceanic Fish. Invest. Data Rep. 30:1-64.
- Mallicoate, D.L., and R.H. Parrish. 1981. Seasonal growth patterns of California stocks of northern anchovy, *Engraulis mordax*, Pacific mackerel, *Scomber japonicus*, and jack mackerel, *Trachurus symmetricus*. Calif. Coop. Oceanic Fish. Invest. Rep. 22:69-81.
- Methot, R.D., Jr. 1981. Spatial covariation of daily growth rates of larval northern anchovy, *Engraulis mordax*, and northern lampfish, *Stenobranchius leucopsarus*. Pp. 424-431 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- Miller, D.J., and R.S. Collier. 1981. Shark attacks in California and Oregon, 1926-1979. Calif. Fish Game 67(2):76-104.
- Moffatt, N.M. 1981. Survival and growth of northern anchovy larvae on low zooplankton densities as affected by the presence of a *Chlorella* bloom. Pp. 475-480 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- Moser, G.H. 1981. Morphological and functional aspects of marine fish larvae. Pp. 90-131 in R. Lasker (ed.), Marine fish larvae: morphology, ecology, and relation to fisheries. Washington Sea Grant Program, Univ. Wash. Press, Seattle.
- Moser, G.H., and J.L. Butler. 1981. Description of reared larvae and early juveniles of the calico rockfish, *Sebastes dallii*. Calif. Coop. Oceanic Fish. Invest. Rep. 22:88-95.
- O'Connell, C.P. 1981. Estimation by histological methods of the percent of starving larvae of the northern anchovy (*Engraulis mordax*) in the sea. Pp. 357-360 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- . 1981. Development of organ systems in the northern anchovy, *Engraulis mordax*, and other teleosts. Amer. Zool. 21:429-446.
- Owen, R.W. 1981. Fronts and eddies in the sea: mechanisms, interactions and biological effects. In A.R. Longhurst (ed.), Analysis of marine ecosystems. Academic Press, p. 197-233.
- . 1981. Microscale plankton patchiness in the larval anchovy environment. Pp. 364-368 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- Parrish, R.H., C.S. Nelson, and A. Bakun. 1981. Transport mechanisms and reproductive success of fishes in the California Current. Biol. Oceanogr. 1(2):175-203.
- Paulson, C.A., and J.J. Simpson. 1981. The temperature difference across the cool skin of the ocean. J. Geophys. Res. 86(C11):11,044-11,054.
- Perry, M.J., and R.W. Eppley. 1981. Phosphate uptake by phytoplankton in the central North Pacific Ocean. Deep-Sea Res. 28:39-49.
- Reid, J.L. 1981. Role of the southern ocean in the general circulation, EOS, Trans. Amer. Geophys. Un. 62(45):920. (Abstract)
- . 1981. On the mid-depth circulation of the world ocean. In B.A. Warren and C. Wunsch (eds.), Evolution of physical oceanography. MIT Press, Cambridge, Massachusetts, and London, p. 70-111.
- . 1981. On the deep circulation of the Pacific Ocean. In Proceedings of a Workshop on Physical Oceanography Related to the Subseabed Disposal of High-Level Nuclear Waste, Big Sky, Montana, 14-16 January 1980, edited by Mel G. Marietta. Albuquerque, N.M. Sandia Corp., p. 144-184.
- Schmitt, W.R. 1981. Ocean energy on parade. In G. L. Wick and W. R. Schmitt (eds.), Harvesting ocean energy. Unesco Press, p. 17-28.
- . 1981. Wind energy. In G.L. Wick and W.R. Schmitt (eds.), Harvesting ocean energy. Unesco Press, p. 149-171.
- Schulz-Baldes, M., and L. Cheng. 1981. Flux of radioactive cadmium through the sea-skater *Halobates* (Heteroptera: Gerridae). Mar. Biol. 62:173-177.
- Shulenberg, E., and J.L. Reid. 1981. The Pacific shallow oxygen maximum, deep chlorophyll maximum, and primary productivity, reconsidered. Deep-Sea Res. 28:901-919.
- Simpson, J.J., and T.D. Dickey. 1981. The relationship between downward irradiance and upper ocean structure. J. Phys. Oceanogr. 11(3):309-323.
- . 1981. Alternative parameterizations of downward irradiance and their dynamical significance. J. Phys. Oceanogr. 11(6):876-882.
- Smith, P.E. 1981. Time series of anchovy larvae and juvenile abundance. P. 201 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. Rapp. P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- . 1981. Fisheries on coastal pelagic schooling fish. Pp. 1-31 in R. Lasker (ed.), Marine fish larvae: morphology, ecology, and relation to fisheries. Washington Sea Grant Program, Univ. Wash. Press, Seattle.
- Smith, P.E., L.E. Eber, and J.R. Zweifel. 1981. Large-scale environmental events associated with changes in the mortality rate of the larval northern anchovy. P. 200 in R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979.

- Rapp, P.-v. Réun. Cons. Int. Explor. Mer 178, 605 p.
- Soutar, A., S.R. Johnson, T.R. Baumgartner. 1981. In search of modern depositional analogs to the Monterey formation. *In* The Monterey formation and related siliceous rocks of California. Soc. Econ. Pal. & Min. Special Publ. Pacific Sect., p. 123-147.
- Soutar, A., S. Johnson, K. Fischer, and J. Dymond. 1981. Sampling the sediment-water interface—evidence for an organic-rich surface layer. Fall Meeting Am. Geophys. Union (1981). (Abstract).
- Spencer, D.W., and A.W. Mantyla. 1981. Hydrographic, nutrient and oxygen data. *In* A.E. Bainbridge (ed.), GEOSECS Atlantic Expedition Atlas, Vol. 1. National Science Foundation, Washington, D.C.
- Spieß, F.N., K.C. Macdonald, T. Atwater, R. Ballard, A. Carranza, D. Cordoba, C. Cox, V.M. Diaz Garcia, J. Francheteau, J. Guerrero, J. Hawkins, R. Haymon, R. Hessler, T. Juteau, M. Kastner, R. Larson, B. Luyendyk, J.D. Macdougall, S. Miller, W. Normark, J. Orcutt, C. Rangin. 1980. East Pacific Rise: hot springs and geophysical experiments. *Science* 207(4438):1421-1433.
- Spratt, J.D. 1981. California grunion, *Leuresthes tenuis*, spawn in Monterey Bay, California. *Calif. Fish Game*, 67(2):134.
- . 1981. Status of the Pacific herring, *Clupea harengus pallasii*, resource in California 1972 to 1980. *Calif. Dept. Fish Game, Fish Bull.* (171):1-99.
- Stauffer, G.D., and S.J. Picquelle. 1981. Estimate of the spawning biomass of the northern anchovy central subpopulation for the 1980-81 fishing season. *Calif. Coop. Oceanic Fish. Invest. Rep.* 22:8-13.
- Sunada, J.S., P.R. Kelly, I.S. Yamashita, and F. Gress. 1981. The brown pelican as a sampling instrument of age group structure in the northern anchovy population. *Calif. Coop. Oceanic Fish. Invest. Rep.* 22:65-68.
- Swift, J.H., and K. Aagaard. 1981. Seasonal transitions and water mass formation in the Iceland and Greenland seas. *Deep-Sea Res.* 28(10A):1107-1129.
- Swift, J.H., and T. Takahashi. 1981. The contribution of the Greenland Sea to the deep water of the Arctic Ocean. *EOS, Trans. Amer. Geophys. Un.* 62(45):934. (Abstract)
- Theilacker, G.H. 1981. Effects of feeding history and egg size on the morphology of jack mackerel, *Trachurus symmetricus*, larvae. Pp. 432-440 *in* R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. *Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- Vrooman, A.M., P.A. Paloma, and J.R. Zweifel. 1981. Electrophoretic, morphometric, and meristic studies of subpopulations of northern anchovy, *Engraulis mordax*. *Calif. Fish Game* 67(1):39-51.
- Webb, P.W. 1981. The effect of the bottom on the fast start of flatfish *Citharichthys stigmaeus*. *Fish. Bull.*, U.S. 79(2): 271-276.
- Webb, P.W., and R.T. Corolla. 1981. Burst swimming performance of northern anchovy, *Engraulis mordax*, larvae. *Fish. Bull.* U.S. 79(1):143-150.
- Weih, D. 1981. Swimming of yolk-sac larval anchovy (*Engraulis mordax*) as a respiratory mechanism. P. 327 *in* R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. *Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.
- Weih, D., and H.G. Moser. 1981. Stalked eyes as an adaptation towards more efficient foraging in marine fish larvae. *Bull. Mar. Sci.* 31(1):31-36.
- Wick, G.L., and W.R. Schmitt, eds. 1981. Harvesting ocean energy. *Unesco Press*, 173 p.
- Wilson, K.C., A.J. Mearns, and J.J. Grant. 1981. Changes in kelp forests at Palos Verdes. Pp 77-91 *in* Coastal Water Research Project Biennial Report for the Years 1979-1980. SCCWRP, Long Beach, Calif. 363 p.
- Young, Y.D., and C.S. Cox. 1981. Electromagnetic active source sounding near the East Pacific Rise. *Geophys. Res. Lett.* 8(10):1043-1046.
- Zweifel, J.R., and P.E. Smith. 1981. Estimates of abundance and mortality of larval anchovies (1951-75): application of a new method. P. 248-259 *in* R. Lasker and K. Sherman (eds.), The early life history of fish: recent studies. The Second ICES Symposium, Woods Hole, 2-5 April 1979. *Rapp. P.-v. Réun. Cons. Int. Explor. Mer* 178, 605 p.