



BAHAMAN FISHES

"Fishes of the Bahamas and Adjacent Tropical Waters," by James E. Böhlke and Charles C. G. Chaplin, Livingstone Publishing Co., Wynnewood, Pa., 1968, 800 pp., 36 pls., 223 text figs., numerous unnumbered figs. This book is a tasteful and well-illustrated treatment of the shallow water (mostly above 100 ft.) fish fauna of the Bahamas. Although its primary aim is to facilitate the identification of Bahaman fishes, it is an invaluable source of information on many kinds of shallow water fishes from the entire tropical western Atlantic. The book, based chiefly on recent authoritative research, covers over 500 species. It includes discussions of each family, keys to genera and species, and a page of illustration and comment for each; some are illustrated in color. The references are a valuable guide to the species covered and to extra-limital forms as well.

--Daniel M. Cohen

BIOLOGICAL COLLECTING

"The Sea Brings Forth," by Jack Rudloe, Alfred A. Knopf, New York, 1968, 261 pp., illus., \$6.95. Where does a Washington, D. C., zoologist studying barnacles get his specimens, or an Ohio medical school staff engaged in cancer research find anomalous fishes with tumors? How does a Chicago biochemist procure sharks' livers for his study of trigger mechanisms of nitrogen metabolism? Scientific researchers often rely on a man like Jack Rudloe, a professional biological collector. Still only 23 years old, he has written a most entertaining account of his collecting experiences and his friends among the shrimpers and crabbers--whose nets he gleans for 'trash' creatures useful to him, but worthless to them. This is the story of a young man in business, a record of adventurous entrepreneurship and, at the same time, a most extraordinary nature book.

CARIBBEAN FISHES

"Caribbean Reef Fishes," by John E. Randall, T. F. H. Publications, Jersey City, 1968, illus., \$12.50. This is a very useful guide to fishes of the Caribbean. These are the species most likely to be observed by man in the sea, or caught by man near shore. The book contains formal accounts of 300 species, all illustrated with photographs; half are in color. Dr. Randall has directed a marine biology survey on the Virgin Islands and is a former Director of the University of Puerto Rico's Institute of Marine Biology.

BEACHES

"Beaches--their lives, legends, and lore," by Robert and Seon Manley, Chilton Book Co., Philadelphia, Pa., 1968, 383 pp., illus., \$9.50. The magic spell cast by a beach and the seashore's universal appeal have a particular significance for science and conservation today. The Manleys have painted a comprehensive picture of the geology, history, adventure, and conservation of the beaches of Hawaii, Puerto Rico, Mexico, the Pacific coast, the Atlantic seaboard, and the Gulf coast. The book is not only an unusual introduction to the coastal history of the U. S., it is also a vivid plea to conserve our beaches for the generations to come.

FRESH-WATER FISH

"A Systematic Study of the Greenside Darter, *Etheostoma blennioides* Rafinesque (Pisces: Percidea)," by Robert Victor Miller (reprinted from "Copeia," no. 1, Mar. 15, 1968), 40 pp., illus. The greenside darter inhabits many streams of the Great Lakes and Mississippi and Potomac River drainages. Differences have evolved among certain populations in those drainages. This paper describes the infraspecific variation and reviews the biology of this species.

LINE-FISHING

"Line-Fishing on the Continental Slope. I," by G. R. Forster, article, "J. Mar. Biol. Assoc. U. K." (1968), vol. 48, no. 2, pp. 479-483. This is a report on experimental line-fishing carried out from 150 miles WSW of Scilly to about 100 miles south of Ushant, from 1964 to 1967. During 3 different cruises, 163 deep-sea fish were caught from 28 line hauls, in depths of 1,000 to 3,300 m. Slightly more than half the catch consisted of elasmobranchs; the largest individual fish was a shark (*Pseudotriakis microdon*), 2.25 m. long, taken from 1,400 m. Catches from around 3,000 m. were just as large as those from 2,000 or 1,000. Below 3,000, only teleosts were taken. The need for baited hooks to be close to the bottom was amply confirmed.

NEW SPECIES

"A New Species of Sardine (*Sardinella*, Clupeidae) from the Marquesas Islands," by Frederick H. Berry and Peter J. P. Whitehead (reprinted from "Proc. Biol. Soc., Wash.," vol. 81, 1968, pp. 209-222), Contribution No. 65, Tropical Atlantic Biological Laboratory, BCF, Miami, Fla. 33149. A sardine from the Marquesas Islands was introduced into Hawaiian waters as a bait fish in 1957 and has successfully reproduced there. The authors, finding that it lacked a valid scientific name, have described it as a new species, *Sardinella marquesensis*.

"*Centropyge eibli* n. sp. from Nicobar (Pisces, Percoidae, Pomacanthidae)," by Wolfgang Klausewitz, trans. from the German by Alexander Dragovich, 6 pp., illus., BCF Trans. No. 17, Tropical Atlantic Biological Laboratory, Miami, Fla. 33149. Among the fishes collected during the last Xarifa-Expedition in the region of Nicobar, three specimens of *Centropyge* seemed to be a new species. Finding no previous description, the author has described *Centropyge eibli* in this paper.

OCEANOGRAPHY

"National Oceanographic Data Center Highlights 1968," 20 pp., illus. Single copies available free from National Oceanographic Data Center, Washington, D. C. 20390. The mission of the Center is to "acquire, process, preserve, and disseminate unclassified oceanographic data for scientific, industrial,

and defense purposes." This booklet summarizes the Center's activities for fiscal year 1968.

"Eastropac Information Paper 8," Fishery-Oceanography Center, La Jolla, Calif., 1968. This information paper is the second of a series of working documents for those processing or interested in EASTROPAC data. It consists of station lists summarizing the observations made. It covers the period April 1967 to January 1968.

OIL POLLUTION AND
OIL-SPILL REMOVERS

"Oil from the 'Torrey Canyon'," by Angela Croome, article, "Sea Frontiers," vol. 14, no. 3, May-June 1968, pp. 138-149, illus. The wreck of the Torrey Canyon and its pollution of the beaches of southwest England and Brittany was a squalid disaster with squalid consequences. Although the gross bird mortality was due, directly or indirectly, to oil pollution; the principal damage to marine life came from detergents used to remove the oil. This was especially true along the shoreline, where the chemicals were applied indiscriminately, in heavy concentrations, and persistently. Littoral life was relatively unaffected by the oil, even on heavily contaminated beaches. There was some damage to anemones, but most molluscs were impervious; limpets and winkles continued to browse and move about on oil-contaminated rocks. The enormous quantities of detergents dispensed on the shore changed the scene dramatically. Molluscs, crustacea, rockpool fish, worms, anemones, marine algae, and other littoral flora and fauna were decimated. Many bivalves, starfish, and sea urchins died, and many of the inshore crabs still alive were without claws and legs. How serious the effect was on plankton and fish larvae is still unknown, but emulsifying chemicals rupture the membranes of their cells. Miss Croome, telling the whole sad tale, has recommended rules to be followed in any like disasters.

"Toxicity of Oil-Spill Removers ('Detergents') to Marine Life; An Assessment Using the Intertidal Barnacle *Elminius modestus*," by E. D. S. Corner, A. J. Southward, and E. C. Southward, "J. Mar. Biol. Assoc. U. K.," 1968, vol. 48, pp. 29-47. During the first few weeks following the stranding of the 'Torrey Canyon,' and the release of its cargo of crude oil, information was urgently needed on the

poisonous effect of the detergents used to emulsify the floating oil and to remove oil washed up on the rocks and sand along the coast. As evidence about a widely distributed intertidal animal would have general significance, the barnacle Elminius modestus Darwin was chosen for the experiments described in the article. Evidence was found that very low concentrations of detergent can have long-term toxic effects, inhibiting growth and normal development, and even causing death. There is also reason to suppose that some animals, encountering the detergent for only a short time before moving into uncontaminated areas, will carry with them the seeds of eventual destruction.

"Long-Term Effects of Low Concentrations of an Oil-Spill Remover ('Detergent') Studies with the Larvae of Sabellaria spinulosa," and "Temporary Adsorption on a Substrate of an Oil-Spill Remover ('Detergent'): Tests with Larvae of Sabellaria spinulosa," by Douglas P. Wilson, article, "J. Mar. Biol. Assoc. U. K.," 1968, vol. 48, pp. 177-208. The articles describe two experiments with the detergent BP 1002. Larvae immediately detected the detergent, at concentrations of 1 ppm, and were intensely irritated by it. Placed in loosely covered vessels (the solvent fraction was allowed to evaporate) larvae seemed to recover at first but died several weeks later; control larvae remained active and normal. Surfactant and stabilizer fractions at concentrations of 2.5 ppm killed the larvae within a day or two. In the second experiment, sand was soaked for 90 min. in sea water containing the detergent in concentrations of 1,000 and 100 ppm (-mg/l.) and then thoroughly washed. Larvae crawling on it soon afterwards were damaged, but the toxic effect disappeared after some days.

OYSTERS

"The Mississippi Oyster Industry," by Bruce W. Maghan, Fish and Wildlife Service, Dept. of the Interior, FL-607, Dec. 1967, 12 pp., illus. Available free from Branch of Reports, Publications Unit, 1801 N. Moore St., Arlington, Va. 22209. Mississippi coastal waters have been a source of oysters since precolonial days; the eastern oyster reaches marketable size in 2 years in Mississippi. This report describes how productive areas are maintained and how certain reefs are lost because of municipal and industrial wastes. The report includes methods and equipment used to harvest oysters, annual

landings and value, and the number of men in the fishery.

"Oyster Mortalities, with Particular Reference to Chesapeake Bay and the Atlantic Coast of North America," by Carl J. Sindermann, Fish and Wildlife Service, Dept. of the Interior, SSR-569, 1968, 10 pp., illus. Available free from Branch of Reports, Publications Unit, 1801 N. Moore St., Arlington, Va. 22209. A number of recent mass mortalities of oysters of the Middle Atlantic States, and elsewhere, have been attributed to the effects of disease. This paper summarizes recent information about mass mortalities, their effects on the American oyster, Crassostrea virginica, and industry--and offers methods of disease control.

REARING EXPERIMENTS

"Rearing Herring Larvae to Metamorphosis and Beyond," by J. H. S. Blaxter, "J. Mar. Biol. Assoc. U. K.," 1968, vol. 48, pp. 17-28. The use of natural plankton and other foods, and of transfer techniques during phases of mortality before metamorphoses, has made it possible for substantial numbers of herring larvae to be reared beyond this stage; these supply requirements for experimental work. It had been hard to prevent a steady mortality in previous rearing methods. This paper describes modifications derived from experiments during the spring herring spawning seasons in 1963, 1964, 1966, and 1967.

SALMON

"The Sockeye Salmon," by Russell E. Foerster, Fisheries Research Board of Canada, illus., C\$8.00. Available from the Queen's Printer, Ottawa, Ont., Canada. The author presents the information he has gathered during 40 years of research into the life history, propagation, and ecology of the sockeye salmon. His studies include the fishery, spawning, migrations, lake life, marine life, artificial propagation, and crossbreeding the species.

"Canada's Pacific Salmon," by Roderick Haig Brown, Department of Fisheries, Ottawa, 1967, 29 pp., illus. Available from the Queen's Printer, Ottawa, Ont., Canada, cat. no.: Fs 34-1967/1. Scientists have learned much about the movements and habits of the genus Oncorhynchus in recent years. Research and fishing experience have yielded

sufficient information to enable conservation-minded governments to ensure that the salmon's existence is not jeopardized. This is the story of the 5 species of Pacific salmon as it has emerged to the present time. It is a dramatic story that should be widely known. No other resource offers mankind so much in return for so little.

"Models of Oceanic Migrations of Pacific Salmon and Comments on Guidance Mechanisms," by William F. Royce, Lynwood S. Smith, and Allan C. Hartt, Fish and Wildlife Service, Dept. of the Interior, 1968. (Reprinted from Contribution No. 269, College of Fisheries, Univ. of Wash.) Fishery Bulletin, vol. 66, no. 3, pp. 441-62, illus. Available free from Branch of Reports, Publications Unit, 1801 N. Moore St., Arlington, Va. 22209. The return of the salmon to its home stream, to the part of the stream where its parents spawned, or even to the hatchery where it was reared as a fry, has been well documented. The appearance of the salmon in coastal waters and its final ascent of the stream are only the last acts in a most remarkable series of migrations that has been studied only recently in enough detail to permit a reasonably comprehensive description. This report constructs models of the ocean migrations of 3 typical stocks originating in diverse geographical areas: southeastern Alaska and central British Columbia pink salmon; East Kamchatka pink salmon; and Bristol Bay sockeye salmon. The models illustrate the features of the migration, the navigational problems, and the kinds of position- and direction-finding information presumed to be available to the fish.

TRANSLATIONS

"Translations on USSR Fishing Industry and Marine Resources," 1968, Clearinghouse,

U. S. Department of Commerce, Springfield, Va. 22151. A series of reports formerly sold by the Joint Publications Research Service, now available only from the Clearinghouse. Single copies \$3.00 and annual subscription \$18.00 (\$22.50 for overseas). These are translations of current articles from Soviet fishery and oceanography publications on a wide variety of subjects: species, insulation for refrigerated ships, crab processing, new commercial fishing regions, sea farms, purse seining, fishery statistics, electrical fishing devices, and industry trademarks. Write the Clearinghouse for further information.

An English edition of the Soviet journal "Voprosy Ikhtiologii" (Problems of Ichthyology) is being published by the American Fisheries Society, 1040 Washington Bldg. NW., Washington, D. C. 20005. A single issue is \$18 and an annual subscription (6 issues) \$48. Two issues are already available.

Two papers, published in 1968, by the French Office of Scientific and Technical Research Overseas (ORSTOM), translated by Salvatore DiPalma, may be borrowed from Branch of Foreign Fisheries, BCF, Dept. of the Interior, Rm. 8015, Washington, D. C. 20240. "Notes on Spanish Shrimp Fishery of the Coast of Congo and Angola" (ORSTOM doc. no. 422 S.R.), by A. Crosnier and J. J. Tanter, covers nets, species and their sizes, fishing areas and depths, yields, treatment of catch on board and marketing. "Observations on Possibilities for Development of Shrimp Fisheries on the Ivory Coast" (ORSTOM prov. scientific doc. no. 20), by J. P. Troadec, examines the biology of commercial shrimp of the continental shelf, marine and lagoon fishing, fishery abundance and profitability, and culture.

--Barbara Lundy

