The following publications of the Department of Commerce, National Oceanic and Atmospheric Administration, National Marrine Fisheries Service, are available free from Division of Publications, NOAA, Connecticut Ave. & Van Ness St. NW., Bldg. 52, Washington, D.C. 20234.

HERRING

"Age Composition, Weight, Length, and Sex of Herring, Clupea pallasii, Used for Reduction in Alaska, 1929-66," by Gerald M. Reid, SSR-Fisheries No. 634, 25 pp., illus., tables, July 1971.

This report compiles data gathered in years between 1929 and 1966 in Alaska's three major herring fishing areas--southeastern Alaska, Prince William Sound (including Resurrection Bay-Day Harbor), and Kodiak. The data include weight of catches, weight allowed by quota, and age composition, average weight, average length, and sex ratios.

The catch sizes and amount of fishing effort varied greatly within area covered by each district because: (1) herring tended to concentrate in certain areas, (2) regulations restricted the geographic extent and timing of commercial fishing within each district, and (3) fishing tended to be more intense near reduction plants.

The age of herring was determined by counting the annuli on scales. The sampler examined the scales at the sampling site; this was verified later by other persons. Until 1957, low-power microscopes were used; later, microprojectors replaced them.

The average or mean weight for fish in each age class was obtained by summing the weight of individuals and dividing by their number.

The body lengths of herring were measured to posterior end of hypural plate (found by dissection); "the measuring machine was modified from a visual readout to an entirely mechanical readout." The body lengths were recorded to nearest millimeter. To determine average body length of a fish of a certain age, the lengths of all fish that age were summed, then divided by number of fish in age class.

Sex was determined in a sample by visual examination of gonads.

THIAMINASE IN SOME AQUATIC ANIMALS

"Occurrence of Thiaminase in Some Common Aquatic Animals of the United States and Canada," by R. A. Greig and R. H. Gnaedinger, SSR-Fisheries No. 631, 7 pp., tables, July 1971.

If thiaminase is present in fish that are fed raw to animals, it can cause dietary deficiency. The knowledge whether fish do or do not contain thiaminase is important to animal feeders for safety and economic reasons.

This report combines the listing of thiaminase activity in aquatic animals that have appeared in the literature and some recent unpublished work "into a comprehensive list of aquatic animals that have been assayed for thiaminase activity."

The presence or absence of thiaminase in freshwater and marine fish and shellfish is presented in two tables.

The findings are significant: (1) It is possible that some animals listed in the tables were found to contain thiaminase because they were caught at a time when their stomachs

thiaminase-containing food in their stomachs. (2) The findings could help to explain apparent discrepancies that sometimes occur in reported thiaminase activity of certain species.

FUR SEAL

"Fur Seal Investigations, 1969," by Marine Mammal Biological Laboratory, SSR-Fisheries No. 628, 90 pp., charts, illus., tables, August 1971, contains Part I and Part II.

"Part I - Fur Seal Investigations, Pribilof Islands, Alaska, 1969" summarizes fur-seal research on Pribilof Islands, June-October 1969, as part of a program to provide a basis for determining level at which herd will produce maximum sustained yield.

The report contains descriptions of terms having special meanings in fur-seal research, locations of rookeries and hauling grounds on Pribilof Islands, and the 1969 fur-seal researchers.

"Part II - Pelagic Fur Seal Investigations, 1969" were conducted in February and March in the eastern North Pacific Ocean off Washington State. The objective was to collect data that would show changes, if any, in distribution of fur seals by sex, age, and time; also, to obtain current information on pregnancy rates and food habits.

FISHERY SUPPLIES

"Chart Book of U.S. Fishery Supplies, 1969-70," prepared in the Current Economic Analysis Division of National Marine Fisheries Service, Wenona J. Crews, Principal contributor, Current Fishery Statistics No. 5586, 31 pp., charts, tables, August 1971.

This NMFS Division provides background information on which the commercial fishing industry can base its analyses and decisions. The report is part of that service.

This chart book presents a series of data on U.S. production and imports of selected fishery products for 1960-70. The charts are designed to aid in evaluating the relative share of imports in the total U.S. market for fishery products.

Tariff rates on fishery products in existence before Aug. 15, 1971--the date Pres. Nixon's new economic policy was announced--are listed. These will be the rates when the 10% surtax on imports is removed.

The amount of the domestic production exported is shown in some tables and charts.

FISHERY BIOLOGY

"Fishery Bulletin" of the National Oceanic & Atmospheric Administration, National Marine Fisheries Service, Department of Commerce, Vol. 69, No. 3, July 1971, pp. 455-701, illus., contains 18 technical reports on investigations in fishery science.

Bulletins are distributed free to libraries, research institutions, State agencies, and scientists. Some bulletins are sold by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

"Internal Defenses of Crustacea: A Review," by Carl J. Sindermann, pp. 455-490.

This review discusses some early literature, concepts, terminology, and known diseases of Crustacea. More recent studies "are considered by categories of cellular and humoral systems: phagocytic, bactericidal, lytic, aggulutinating, precipitating, phage clearing, and antitoxic." A section reviews "the demonstrated systems of internal defenses of lobsters and other crustaceans against the microbial pathogen Gaffkya homari. The author considers this" one of the best examples of a test system for invertebrates for which existing information is adequate."

"Cleaning Symbiosis Among California Inshore Fishes," by Edmund S. Hobson, pp. 491-524.

The author describes cleaning symbiosis among inshore fishes of southern California. The work was centered at La Jolla. He attempts to relate observed activity with the incidence of specific ectoparasites. "Three species are habitual cleaners: the senorita, Oxyjulis californica; the sharpnose seaperch, Phanerodon atripes; and the kelp perch,

The study of American Pacific members of the genus Trachypenaeus "reveals that variation in armature of the telson includes not only movable spines, but also fixed spines and even no spines at all." It confirms too that the eighth somite bears two arthobranchiae instead of one arthobranchia and one pleurobranchia. The article describes new species, Trachypenaeus fuscina, presents the specific features of T. faoea Loesch and Avila. It includes a key to the 5 members of the genus, and their ranges, in the region.

"Artificial Ripening of Maatjes-Cured Herring with the Aid of Proteolytic Enzyme Preparations," by T. M. Ritskes, pp. 647-654.

The aim of this investigation was "to find the conditions for obtaining an acceptable maatjes-cured herring by the addition of protease preparations." By doing this, a product with the desired organoleptic properties might be manufactured from herring that have relatively inactive appendices pyloricae and so cannot ripen in a natural way.

No significant differences were found between naturally ripened herring and herring cured with the aid of enzyme preparations. The lipase content of the preparation should be low enough to avoid formation of a fatty acid taste in the cured fish.

"Laboratory Studies of Predation by Marine Copepods on Fish Larvae," by Kurt Lillelund, and Reuben Lasker, pp. 655-668.

Various marine copepods have fatally injured or captured and ingested young anchovy larve in the laboratory. "Labidocera jollae, L. trispinosa, and Pontellopsis occidentalis (family Pontellidae), species common to surface waters of the California Current, are effective predators of larval fish. The copepods can be attracted by the vibrations of the larval tail beat and react by biting or capturing the fish larvae."

This study contains results of experiments to measure quantitatively the ability of 3 pontellid marine copepods "to capture or fatally injure larvae of northern anchovy." The behavior of copepods and larvae bearing on the susceptibility of the northern anchovy, Engraulis mordax, to predation is described.

"Trophic Interaction Between the Sea Star Pisaster giganteus and the Gastropod Kelletia kelletii," by Richard J. Rosenthal, pp. 669-680.

"This paper examines laboratory and field data obtained on the behavioral interactions between the sea star Pisaster giganteus and the gastropod Kelletia kelletii. Included are observations on the feeding, species-specific responses, and predator-prey interaction between the two species."

"Variability of Near-Surface Zooplankton Off Southern California, As Shown by Towed-Pump Sampling," by Charles P. O'Connell, pp. 681-698.

The article describes "variations in the density of near-surface populations of small copepods, large copepods, euphausiids, and chaetognaths" for a 6,000-square-mile area off southern California from three cruises in autumn 1961 and two in autumn 1962. The researchers collected samples with a towed pump at a depth of 5 m. On each cruise about 162 samples, each representing a 1-mile transect, were collected.

--Alma Greene

THE ROCKFISH's HOMING ABILITY

Last year, biologists of the NMFS Auke Bay (Alaska) Coastal Fisheries Research Center discovered that yellowtail rockfish, Sebastodes flavidus, have a highly developed homing ability.

In an experiment, 35 fish that had been captive for 3 months were released; within days, they returned 5 miles to their capture site.

1971 Experiment

In August 1971, the Center's biologists-divers programmed their monthly proficiency dive to observe the orientational behavior of 2 groups of displaced rockfish. Each 5-fish group was released into waters where the divers were stationed on the 30-foot-deep bottom.

The behavior patterns of both groups were similar. When released, the fish headed toward their capture site, and swam parallel to the shoreline; they maintained this direction at the 30-foot depth until they came to deeper water, where they could not see bottom.

At this point, the fish in both groups began a counterclockwise circling motion which, eventually, took them back to shallower water. There, they resumed swimming toward their "home" site--a sunken passenger liner. The biologists-divers noted that if one fish strayed, it would swim back quickly to within about a foot of another fish.

Winter snows accumulate to great depths at the NMFS Auke Bay Biological Laboratory. (J. M. Olson)