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Annotated List of Papers Relating to Fisheries Research in the ICNAF Area

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Item 4 of the Report of the ad hoc Subcommittee on Publications, App. XII to the Report of the Standing Committee on Research and Statistics, Annual Meeting, 1959, reads:

> "With the aid of the FAO bibliographic service and assistance from member countries, the Secretariat shall compile each year a list of all papers relating to Fisheries Research undertaken in the ICNAF area, for review at the next Annual Meeting concerning publication in the 'Red Book'. In addition to the references, this list shall also include brief abstracts, as provided by FAO unless the authors concerned wish to provide their own brief abstracts for this purpose."

Following this request, the attached list of papers has been prepared by the Secretariat.

Papers published by ICNAF, or circulated for ICNAF meetings, are not included. The present list includes papers which have been published in the calendar year 1960.

The list is mainly prepared from annotations submitted by research institutes in the member countries. For the few countries from which such annotations were not received up to the time of the preparation of the List (April 1961)[1/], annotations have been made from papers received during the year in the office. These annotations are marked "Secr." in order to distinguish them from the majority of annotations for which either the author or the relevant research institution is responsible.

The FAO "Current Bibliography for Aquatic Sciences and Fisheries" has been consulted.

The Standing Committee on Research and Statistics is requested to consider the need for a further circulation of this list (in the "Red Book" or in the "Annual Proceedings"), and to review the list.

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I. HYDROGRAPHY

Boyar, H. C., and F. E. Schueler. 1960. A photoelectric current meter. U.S. Fish and Wildl. Service, Spec. Sc. Rep. -- Fisheries No. 330, 6 pp. Diagrams and description of current meter in which revolutions of a propeller are detected photoelectrically.

Bumpus, Dean F. 1960. Investigations of climate and oceanographic factors influencing the environment of fish. Woods Hole Oceanographic Inst. unpublished mss. Nos. 60-1, 60-18, 60-29, and 60-41. Hydrography of Gulf of Maine and Georges Bank.

Bumpus, Dean. F. 1960. Sources of water contributed to the Bay of Fundy by surface circulation. Journ. of the Fish. Res. Board of Canada 17(2): 181-197. Analysis of drift bottle returns.

1/ Up to 20 April Lists have been submitted by: Canada, Germany, Iceland, Italy, United Kingdom and United States.

Campbell, N.J. and L.M.Lauzier. 1960. Ice studies of the Atlantic Oceanographic Group. Fish. Res. Bd. of Canada. Ms. Rep. Ser. (Ocean. and Limn.) No.60. (As per title).

Chevrier, J.R. and R.W.Trites. 1960. Drift Bottle Experiments in the Quoddy Region. Journ. Fish. Res. Bd. of Canada XVII, 6.

In conjunction with the research program of the International Passamaquoddy Fisheries Board, approximately 10,000 drift bottles were released in the Quoddy Region of the Bay of Fundy in 1957 and 1958. Overall return of bottles was 25%. Results have been analyzed and surface drift inferred on monthly and seasonal bases. On the average, there is a counter-clockwise circulation in Passamaquoddy Bay, an outflow on the Campobello side and an inflow along the Deer Island side of Head Harbour Passage. In the outer Quoddy Region, there is evidence of a clockwise circulation around The Wolves, a variable flow in Grand Manan Channel, and a southerly movement off the east coast of Grand Manan Island.
Wind speed and direction, which vary seasonally, appear very effective in altering the pattern of drift.

Day, C. Godfrey 1960. Bottom water temperature on Browns Ledge off southern Massachusetts. ICES, Journ. du Cons. 25(3): 235-239.

Continuous recorder placed on bottom in 18 m and operated for 56 days. Effect of tides and winds on water temperature is shown.

Day, C. Godfrey 1960. Oceanographic observations, 1959, east coast of the United States. U.S. Fish and Wildl. Service, Spec. Sc. Rep. -- Fisheries No. 359, 114 pp.

Daily water temperature and salinity observations from 17 locations.

Forrester, W.D. 1960. Current measurements in Passamaquoddy Bay and the Bay of Fundy, 1957 and 1958. J. Fish. Res. Bd. Canada, 17(5): 727-729.

Currents were measured at sixty stations in Passamaquoddy Bay and the Bay of Fundy during the summer of 1957 and 1958.
Results indicate that the tidal currents vary markedly throughout the region. Maximum recorded speeds were found in Letite Passage where mean maximum speeds reached 8 feet per second (4.8 knots). In Passamaquoddy Bay, speeds were mostly less than 1 foot per second. Near the mouth of Cobscook Bay mean maximum speeds were 5 feet per second. In the outside area, mean maximum speeds seldom exceeded 5 feet per second. Currents were usually maximum in the surface layer and decreased slowly with depth. Residual flows were mostly less than 2 miles (nautical) per day in Passamaquoddy Bay, Cobscook Bay and the approaches. In the Bay of Fundy, residual flows were variable and in some areas were as much as 10 miles per day.

Joseph, Joachim 1960. Über die vertikalen Temperatur- und Trübungsregistrierungen in einer 500 m mächtigen Deckschicht des nordlichen Nordatlantischen Ozeans (On the vertical temperature- and turbidity measurements in a surface layer of 500 m in depth in the northern North Atlantic Ocean). - Ozeanographie 1959. S. 49-55. Hamburg: Deutsches Hydrographisches Inst. 1960.

The researches of SRS "Gauss" carried out under the programme of the IGY at 243 stations in the northern North Atlantic comprised, among others, continuous temperature- and turbidity measurements from the

surface down to a depth of 500 m. The vertical records made at two selected stations in summer and winter are compared with each other and two sections of temperature and turbidity across the Newfoundland Bank are likewise discussed.

Lauzier, L.M. 1960. L'oceanographie est-elle vraiment utile aux pecheries ? Actualites Marines, Vol.4, No.1: 9-12.

An account of the importance of oceanography in the study of fisheries of the Gulf of St. Lawrence, with a colour plate describing seasonal variation in stratification.

Lauzier, L.M. 1960. Ocean. Obs. made by the Fish. Res. Bd. of Canada in the ICNAF Area during the Period 1950-59. Fish. Res. Bd. of Canada. Ms. Rep. Ser. (Ocean.-Limn.) No. 65.

(as per title)

Whitney, G.G. Jr. 1960. Procedure for and comments on ice point tests for deep sea reversing thermometers. Limnology and Oceanography 5(2): 232-235.

Describes laboratory technique for calibrating thermometers.

II. PLANKTON

LaCroix, Guy 1960. Elements de planctonologie. Cahiers d'Information (Station de Biologie marine, Grande-Rivière), No.3, pp.1-43, pl. 1-17.

(as per title)

Legare, J.E. Henri and Delphine C. Maclellan. 1960. A qualitative and quantitative study of the plankton of the Quoddy Region in 1957 and 1958 with special reference to the food of the herring. J. Fish. Res. Bd. Canada, 17(3): 409-447.

Investigations of the composition, abundance, and distribution of plankton communities within the Passamaquoddy region of New Brunswick and Maine were carried out in 1957 and 1958. Studies of the food of herring and possible relationships between zooplankton abundance, feeding activity, fat content, and catches of herring were included in the program. Similar quantities of zooplankton were found outside Passamaquoddy Bay and in Cobscook Bay. Slightly smaller volumes were taken in the passages into the Bay, but only one-fifth as much was taken in samples inside Passamaquoddy Bay. Differences in zooplankton abundance suggest incomplete mixing of outside waters with those of Passamaquoddy Bay. The smallest volumes of zooplankton were taken in the spring and the largest in the summer months. Overall zooplankton volumes were much higher in 1958 than in 1957.

There was evidence that herring were feeding in the upper water layers. A period of low feeding activity from March to August was followed by a period of active feeding from September to November. There was a positive correlation between feeding activity and fat content of herring but no relationship between quantities of zooplankton and feeding activity could be established. Nor was it possible to demonstrate any relationship between zooplankton volumes and catches of herring over a period of 10 years.

Higher zooplankton volumes are foreseen for Passamaquoddy Bay after the dams are built. Volumes in Cobscook Bay are expected to reach values similar to those of Passamaquoddy Bay while those outside should remain unchanged.

Olsen, Steinar 1960. Observations on sound scatterers in Newfoundland waters. J. Fish. Res. Bd. Canada, 17(2): 211-219.

A sound scattering layer in the warm surface water or at the depth of the summer thermocline has frequently been observed off the southern and western coasts of Newfoundland. The scatterers have not been identified, but are most likely of biological nature.
An observation of a diurnal vertical migration of a deeper scattering layer is reported.

III. FISHES

A. Cod Group

Clark, John R. and Vadim D. Vladykov. 1960. Definition of haddock stocks of the Northwestern Atlantic. U.S. Dept. Interior, Fish and Wildl. Service, Fish. Bull. 169, vol. 60, pp.283-296.

Differences in average vertebral number, related to temperature on spawning grounds, separate fish into five major stocks: Newfoundland, eastern Nova Scotia, central Nova Scotia, western Nova Scotia, and New England.

Figueras, A.M. 1960. Aplicacion del estudio de los otolitos a la determinacion de la edad y crecimiento del bacalao. (Methods for the study of the otoliths and the determination of age and growth of cod). IV Meeting on Productivity and Fisheries. Inst. de Inv. Pesq. Barcelona.

The paper is concerned with the Spanish investigations of otoliths of cod from the Newfoundland and W. Greenland regions. (Secr.)

Fleming, A.M. 1960. Age, growth and sexual maturity of cod (Gadus morhua L.) in the Newfoundland area, 1947-1950. Journ. Fish. Res. Bd. Canada XVII, 6.

Samples of cod from the Newfoundland-Labrador region are considered. The growth rates from various parts of the area differ widely. Females generally grow slightly faster than males. The influence of differences in temperature and in food supply is discussed. Both the size and age at which all fish become sexually mature vary throughout the area.
Labrador cod mature at a smaller size and lower age than do cod from the south west Grand Bank.
The results of the investigations indicate the existence of at least four relatively distinct divisions in the cod population of the area: Labrador, Newfoundland east coast, S. Grand Bank, and the Newfoundland west coast; St.Pierre Bank and Strait of Belle Isle are mixing areas.

Fritz, Raymond L. 1960. A review of the Atlantic coast whiting fishery. Comm. Fisheries Rev. 22(11): 1-11.

Changes in fishing methods and processing of catch during past 25 years contributed to rise in landings to over 150 million pounds annually.

Jean, Y. 1960. La Morue du golfe du St-Laurent. Actualités Marines, Vol.4, No.1:22-25.

Effects of mesh regulation on the cod fishery of the Gulf of St.Lawrence and forecast for 1960.

Jensen, Albert C. and Raymond L. Fritz. 1960. Observations on the stomach contents of the silver hake. Trans. of the American Fisheries Soc. 89(2):239-240.

Diet predominantly euphasiids and fishes. Some consideration given to sizes of prey ingested.

Jensen, Albert. C. 1960. Haddock. U.S. Fish and Wildl. Service, Fishery Leaflet No.489, 9 pp.

Semi-popular review of life history, age and growth, and commercial utilization.

Jonsson, J. 1960. On the Spawning Stocks of Cod in east Greenlandic and Icelandic Waters in 1959. (Annales Biologiques, Vol.16)

(as per title)

Kohler, A.C. 1960. The growth, length-weight relationship, and maturity of haddock (Melanogrammus aeglefinus L.) from the region of Lockeport, N.S. J. Fish. Res. Bd. Canada, 17(1): 41-60.

Data from samples of commercial landings of inshore Lockeport haddock are used to form a curve of growth in length. Maturity and spawning data for these fish are then related to changes in their length-weight relationship. By combining length-weight and growth-in-length data, a curve of growth in weight is derived for use in yield calculations. Apparent changes in growth of inshore Lockeport haddock between 1926 and 1946-54 are discussed.

McCracken, F.D. 1960. Studies of haddock in the Passamaquoddy Bay region. J. Fish. Res. Bd. Canada, 17(2): 175-180.

From 1954 to 1957 haddock within Passamaquoddy Bay have been of intermediate sizes. Few small fish or large fish have been captured either by commercial fishermen or in small-mesh research nets. Tagged fish of the Passamaquoddy Bay region moved out of the Bay during winter and mingled mainly with haddock stocks off the New England States. In the following summer recaptures of tagged fish were again most numerous within Passamaquoddy Bay. Stocks of haddock within the Bay appear to result from annual migrations into the Bay in early summer. It is predicted that the proposed power structures would have no effect on haddock stocks outside the high and low pools but that they would probably seriously reduce the haddock population within the high pool.

Marak, Robert R. 1960. Food habits of larval cod, haddock, and coalfish in the Gulf of Maine and Georges Bank area. ICES, Journ. du Cons. XXV(2):147-157.

Copepods and their larvae formed major portion of diet. In general, larval fish eat most abundant species of prey, but of a certain size.

Meyer, Arno 1960. Gute Kabeljauaussichten für Südgronland? (Are there fair chances for the cod fisheries off South Greenland?). Inf. für die Fischwirtschaft. Jg. 7, Nr 5/6. 1960. S. 131-135.

Based on investigations by the "Institut fur Seefischerei" - Hamburg, a forecast is given for the cod fisheries in South Greenland waters in 1960/61. Due to the very rich year-class 1953, the catches starting with autumn 1960 should be promising.

O'Brien, John J. 1960. New England haddock fishery and marketing of haddock products. U.S. Fish and Wildl. Service, Bur. of Comm. Fish., Market News Service, Spec. Rep. 35 pp. (Mimeo).

Landings and ex-vessel prices of New England fishery. Primary wholesale prices, imports, stocks, market trends, and some retail prices for haddock products.

Pavlov, M.A. 1960. Necotorie Dannie Po Biologii i Promislu Treski Proliva Devisa (Data on the biology and landings of cod, N.W. Atlantic). Ribnoie Chozyaistovo (Fishery Economy), No.8, Moscow.

The paper summarizes landings of various species of fish from different parts of the ICNAF Area in 1951-58. It further gives data on growth and age of cod for 1959. (Secr.)

Woodhead, P.M.J. and Woodhead, A.D. 1959. 'The effects of low temperature on the physiology and distribution of the cod, Gadus morhua L., in the Barents Sea.' Proc. Zool. Soc. Lond., 133, 181-199.

Cod in the Barents Sea appear to be limited in their distribution by low temperature; about 2°C from October to June and below 0°C in summer. During a year regular analyses were made of the blood of cod; the cytology of the gills and the activity thyroid were examined. The results support the hypothesis that low temperature acts as a physiological limit, probably acting through the breakdown of the mechanism of osmotic regulation, and that changes in the physiology are endocrinally controlled.

B. Flat Fishes

Lux, Fred E. 1960. Shrinkage of yellowtail flounder between live and landed condition. Trans. of the American Fisheries Soc. 89(4): 373-374.

Length of fish decreases by about 1.5 percent due to shrinkage while fish are iced down in the hold.

Rae, B.B. 1959. 'Halibut - Observations on its size at first maturity, sex ratio and length-weight relationship.' Mar. Res. Scot., 1959, No.4, pp.19, 1959.

This paper gives the sizes at which male and female halibut spawn for the first time in the N.E. Atlantic. In the early years of the halibut's life male and female fish occur in about equal numbers but later the females outnumber the males and all the large fish examined, over 5 feet in length, were females. Halibut of the same length vary greatly in weight, apparently for different reasons.

Ronald, Keith 1960. The metazoan parasites of the Heterosomata of the Gulf of St. Lawrence. V. Monogenea. Can. Jour. Zool., 38(2): 243-247. Contr. Dept. Pech. Quebec, no.71.

Udonella caligorum, Entobdella hippoglossi, and E. curvunca were identified in a study of 43 Atlantic halibut, Hippoglossus hippoglossus. The incidence, distribution, and host specificity of the halibut's monogenetic parasites are discussed.

Ronald, Keith 1960. The metazoan parasites of the Heterosomata of the Gulf of St. Lawrence. VI. Digenea. Can. Jour. Zool., 38(5): 923-937, fig. 1.

A number of species of Digenea were identified in a study of 560 specimens of Heterosomata from the Gulf of St. Lawrence. Host distribution is indicated, together with parasitic incidence.

C. Redfish

Einarsson, H. 1960. The fry of Sebastes in Icelandic waters and adjacent seas. Rit Fiskid. II, 7. Reykjavík.

The paper is based on material collected 1903-1952. It deals with the separation of marinus and viviparus fry and describes seasonal and areal distribution of marinus fry. Length measurements of larvae are given. Feeding habits and occurrence of food animals are discussed. (Secr.)

Kotthaus, Adolf 1960. Zum Rassenproblem beim Rotbarsch. Rotbarschformen aus dem zentralen Nordatlantik (zwischen den Faroern und Grönland-West (On the race-problem in the redfish. Forms of redfish from the Central North Atlantic [between the Faroe Isl. and W. Greenland]). - Ber. der Deutschen Wiss. Komm. für Meeresf. N.F. Bd 16, H. 1. 1960. S. 18-50.

Dr. Kotthaus' final report on his race investigations on Sebastes previously submitted to the joint Symposium on Redfish of ICNAF and ICES at Copenhagen 1959.

Lambert, D.G. 1960. The food of the redfish Sebastes marinus L. in the Newfoundland area. J. Fish. Res. Bd. Canada, 17(2): 235-243.

Samples of redfish stomachs were collected from the Newfoundland area and were analysed both qualitatively and quantitatively. In the sampled area the most important items of the diet of these fish are amphipods, fish and euphausians. There is a change in the diet of the redfish related to size. The redfish feeds on pelagic organisms and not on benthic forms.

Messtorff, Joachim 1960. Ein auffälliger Parasit des Rotbarsches (A remarkable parasite of the redfish). Inf. für die Fischwirtschaft. Jg. 7, Nr 3. 1960. S. 78-81.

A short report on the copepod Sphyrion lumpi, its biology, distribution and abundance, mainly according to Templeman and Squires.

Rodewald, Martin 1960. Die Extreme 1958 und 1950 des nordatlantischen Rotbarsch-Jahrgangs: atmosphärisch ausgelöst? (The extreme conditions 1958 and 1950 of the North Atlantic Redfish - yearclasses: are they elicited by atmospheric conditions?) - Hansa. Jg. 97, Nr 18. 1960. S. 933-934.

The unusual scarcity of the 1958 and the strength of the 1950 year-class of redfish larvae are considered in the light of the specific prevailing weather condition. Whereas in the first three months of 1958 high pressure of 10 mb beyond the normal values in W. Greenland resulted in a strong additional wind component from ENE and therefore in an anomalous drift of water in a southwest - to west-south-westerly direction the situation in 1950 showed quite another type of anomality. At 30°W a strong negative pressure resulted in winds from SSE carrying the warm Atlantic water into the area off SW-Iceland.

Rodewald, Martin Bestandsschwankungen des Rotbarsches vor Südlabrador und die atmosphärische Zirkulation im Nordwest-Atlantik (Fluctuations in the redfish stock of southern Labrador and the atmospheric circulation in the N.W. Atlantic). - Hansa. Jg. 97, Nr 6/7. 1960. S. 365-367.

See Meyer and Rodewald: Ist die Grösse der Fischfange vor Labrador von der atmosphärischen Zirkulation abhangig? - Hansa. Jg. 97, Nr 12/13. 1960. S.669-670.

Templeman, Wilfred and H.J.Squires 1960. Incidence and distribution of infestation by Sphyrion lumpi (Krøyer) on the redfish, Sebastes marinus (L), of the western North Atlantic. J. Fish. Res. Bd. Canada, 17(1): 9-31.

Investigations of infestation of redfish by female Sphyrion lumpi, in the Newfoundland area, showed that in the Labrador area Sphyrion were generally distributed all over the body but with the greatest infestation in the cloacal region. In the eastern Grand Bank area there was a strongly ventral distribution of the parasite on the trunk with over 40% of the parasites in the cloaca. This is contrasted with previously published data from the Gulf of Maine where most of the Sphyrion were situated anterodorsally, near the base of the spiny first dorsal fin.
The major centre of infestation, in the Newfoundland area, of redfish by Sphyrion was off southern Labrador east of Hamilton Inlet Bank with as high as 8% of the redfish infested. Centres of less infestation were found on the southern part of the eastern slope of the Grand Bank and in the southeastern part of the Gulf of St. Lawrence. Sphyrion were very scarce on the southwestern Grand Bank, the western part of the south coast of Newfoundland and in the northern part of the Gulf of St. Lawrence. Sphyrion were not noted on redfish from the NE Grand Bank, Flemish Cap and from the Nova Scotian Shelf. A study of residual remains, in redfish fillets, of the cephalothorax from individuals of previous Sphyrion generations showed the same centres of abundance but with some spreading of the previously infested fish in 2 of 3 areas in the direction of the deep-water current, thus indicating the possibility of very slow migration of some individual redfish with the current.
It is believed that almost all the redfish discussed in this paper are of the mentella type.

D. Others, Various

Bergeron, Julien 1960. Liste des Poissons marins de l'Estuaire et du Golfe Saint-Laurent. Contr. Dept. Pêcheries Quebec, no 80: 1-27.

(as per title)

Bergeron, Julien and Guy Lacroix. 1960. Le transport des poissons marins vivants dans des sacs de polyethylene. Cahiers d'Information de la Station de Biologie marine, no. 1:1-13.

(as per title)

Craig, R. E. and R. Priestley. 1960. 'Photographic studies of fish populations.' Nature, Lond., 188, 333-334, Oct. 22, 1960.

A self-contained camera, with electronic flash and operated by a time switch, was left unattended on the sea bed. An estimate of local herring population was made from the resulting photographs.

Hasler, Arthur D. 1960. Guideposts of migrating fishes. Science 132(3430): 785-792.

Describes theory of "sun-compass" navigation, principally in salmon.

Jensen, Albert C. 1960. Tracking down the spiny dog. Maine Coast Fisherman, p.16. January 1960.

Semi-popular account of tagging and migrations.

Martin, W.R. 1960. Predicted effects of proposed tidal power structures on groundfish catches in Charlotte County, N.B. J. Fish. Res. Bd. Canada, 17(2): 169-173.

It is predicted that the construction of power structures will have no measurable effect on Charlotte County groundfish landings as a whole. It is expected that the 1,700,000 lb or 12% of the Charlotte County groundfish catch, taken in 1958 inside the dam sites, will be greatly reduced. Specifically, it is forecast that the pollock line fishery in Head Harbour Passage, which yielded 1,500,000 lb in 1958, will be greatly reduced, the haddock dragger fishery will be reduced or eliminated in the high pool, and the flounder fishery in Passamaquoddy and Cobscook Bays will probably increase.

Mather, Frank and Howard A. Schuck. 1960. Growth of bluefin tuna of the western North Atlantic. U.S. Fish and Wildl. Service, Fish. Bull. 179, vol.61, pp. 39-52.

Length frequency data and annuli on scales and vertebrae analyzed. Data partially corroborated by tag returns.

Meyer, Arno and Martin Rodewald. 1960. Ist die Grösse der Fischfänge vor Labrador von der atmosphärischen Zirkulation abhängig? (Does the size of the catches off Labrador depend on the atmospheric circulation?) - Hansa. Jg 97, Nr 12/13. 1960. S. 669-670.

The fluctuations in the catches of redfish and cod off Labrador seem to be related to simultaneous changes in the atmospheric circulation. The best catches have been made with onshore winds from ENE carrying additional Atlantic water masses, whereas poor catches coincided with offshore winds from W to WNW.

IV. SHELLFISH

Bourne, N. 1960. Outlook for the Georges Bank scallop fishery. Fish. Res. Bd. Canada, Biol. Sta., St. Andrews, N.B., General Series Circular No. 33, 2 pp.

(as per title)

Merrill, Arthur S. 1960. Living inclusions in the shell of the sea scallop, Placopecten magellanicus. Ecology 41(2): 385-386.

Three species of bivalves, and other invertebrate organisms, found in a new shell material in scallop.

Merrill, Arthur S. and John B. Burch. 1960. Hermaphroditism in the sea scallop, Placopecten magellanicus (Gmelin). Biol. Bull. 119(2): 197-201. Two hermaphroditic scallops from Georges Bank were examined, macro- and microscopically. Mature ova and sperm were seen in the first specimen but the spermary of the second was spent while the ovary was large and plump.

V. OTHER MARINE ORGANISMS

Brunel, Pierre 1960. Artificial key to the Mysidacea of the Canadian Atlantic continental shelf. Can. Journ. Zool., 38(5):851-855, fig. 1.

(as per title)

Brunel, Pierre 1960. De la Diatomee a la Morue. Les Invertèbres de fond. Actualités marines, 4(2):13-20, figs. 1-3. Dept. Pech. Quebéc.

(as per title)

Lacroix, Guy 1960. De la Diatomee a la Morue. Le Zooplancton. Actualités marines, vol. 4, no 1, pp.13-21, figs. 1-3, ph. 1-4.

(as per title)

Ronald, Keith 1960. The effects of physical stimuli on the larval stage of Terranova decipiens (Krabbe, 1878) (Nematoda: Anisakidae). Can. Jour. Zool. 38(3): 623-642, figs. 1-12, tables I-V. Contr. Dept. Pech. Quebec, No 74

The reactions of the larval stage of the nematode Terranova decipiens found in the flesh of cod fish were examined under various temperature conditions. The relationship between these reactions and the survival of the nematode in the fish, as well as its future behavior in seals, is considered.

Scott, D.M. and W.F.Black. 1960. Studies on the life-history of the ascarid Porrocaecum decipiens in the Bras d'Or Lakes, Nova Scotia, Canada. J. Fish. Res. Bd. Canada, 17(6): 763-774.

Larvae of the parasitic ascarid (Porrocaecum decipiens) occurred commonly in the musculature and viscera of Atlantic cod (Gadus morhua) in the Bras d'Or Lakes. They were also present in the musculature of nine other species of teleosts and probably also in the viscera of skates (Raja sp.). Most larvae were longer than 20 mm. None was shorter than 10 mm, a fact which suggested the existence of some earlier intermediate host, probably an invertebrate. More than 8,000 mysids, an important food of fishes when they first become infected, were examined for nematodes. Although 110 nematodes were found, only one certainly and four dubiously appeared to be Porrocaecum. The definitive hosts were the harbour seal (Phoca vitulina) and the grey seal (Halichoerus grypus). The distribution of seals coincided with local variations in the incidence of the parasite in cod.

Wigley, Roland L. 1960. A new species of Chridotea (Crustacea: Isopoda) from New England waters. Biol. Bull. 119(1): 153-160.

Description and ecological notes on C. arenicola from Georges Bank.

Wigley, Roland L. 1960. Note on the distribution of Pandalidae (Crustacea, Decapoda) in New England waters. Ecology 41(3): 564-570.

Geographic and bathymetric distribution of four species of Pandalidae described and related to temperature and bottom sediments.

VI. FISHERIES AND FISHING INDUSTRY

Anon. 1960. Norges Fiskerier 1958 (Fishery Statistics of Norway 1958). Norges offic. Stat. XII, 17. Bergen.

The statistics include data on the Norwegian fishery in Newfoundland waters and off W. Greenland. (Secr.)

Bertelsen, E. and P.M.Hansen. 1960. Fiskeriundersøgelser 1959 (Fishery researches 1959). Copenhagen. incl:

Hansen, P.M. Undersøgelser over rødfisk in grønlandske farvande (Researches on redfish in Greenland waters).
Horsted, S.A. Undersøgelser over rejebestandene i Julianehaab distrikt (Researches on the deep-sea prawn stocks in Julianehaab district).

Edwards, Robert L. and Lewis Lawday. 1960. Species composition of industrial trawl-fish landings in New England, 1958. U.S. Fish and Wildl. Service, Spec. Sc. Rep. Fisheries No.346, 20 pp.

(as per title)

Lundbeck, Johannes 1960. Biologisch-statisticher Bericht über die deutsche Hochseefischerei im Jahre 1959 (Biological-statistical Report on the German Deep-Sea Fishery in 1959). - Jahresber. über die Deutsche Fischwirtschaft 1959. S.116-146. Berlin: Mann 1960.

(as per title)

Meyer, Arno 1960. Eine Winterreise nach Grönland (A winter cruise to Greenland). Allg. Fischwirtschafts-Zeitung. Jg. 12, Nr 22. 1960. S. 12-14.

(See Hansa. Jg. 97, Nr 23/24. 1960. S. 1212-1215.)

Meyer, Arno 1960. Erfahrungen einer Wintersuchreise nach Grönland. (Experiences of a search trip in winter to Greenland). - Inf. für die Fischwirtschaft. Jg. 7, Nr 3. 1960. S.63-68.

See Meyer: The third search trip 1959...-Hansa. Jg. 97, Nr 23/24. 1960. S.1212-1215.

Meyer, Arno 1960. Die zweite Suchreise 1959 nach Labrador und Neufundland (The second search trip 1959 to Labrador and Newfoundland). - Hansa. Jg. 97, Nr 12/13. 1960. S. 667-669.

A vast area off S. Greenland, North, Central and South Labrador, on the northern and eastern parts of the Grand Bank to Flemish Cap, was searched from 18 Oct. - 27 Nov. Hydrographic samples as well as catch analyses have been made. Off South Greenland cod have been tagged.

Meyer, Arno 1960. Die dritte Suchreise 1959, eine Winterreise nach Grönland. Erfahrungen und Auswirkungen. (The third search trip 1959, a winter cruise to Greenland. Experiences and results). - Hansa. Jg. 97, Nr 23/24. 1960. S. 1212-1215.

Off SE Greenland, especially on Fylkir Bank and Tordenskjold Bank, dense concentrations of large redfish (medium size 45 resp. 47 cm) were found. The catches per hour amounted to 4 t on Fylkir Bank and up to 9.5 t on Tordenskjold Bank. On Cap Bille Bank fair catches of cod (3.5 t per hour, medium size 79 cm) have been made. Based on the search trip German trawlers began fishery on these banks. Samples of cod showed the spawning area of the East Greenland cod to include the Tordenskjold Bank. Extraordinary ice conditions prevented the program for S. Greenland from being carried out. Off W. Greenland a remarkable catch to the east of Fyllas Bank consisted mainly of cod of the rich 1953 year-class, being for the first time on the spawning migration. Good catches of redfish, up to 2.5 t per hour, were made on Fyllas Bank and to the southwest of Banana Bank. Some 500 cod were tagged. The results and the positive possibilities for a winter fishery are discussed.

Meyer, Arno

1960. Die Suchreise 1960 nach Grönland (The search trip 1960 to Greenland). Hansa. Jg. 97, Nr 41/42. 1960. S.2157-2159 und - Allg. Fischwirtschaftszeitung. Jg. 12, Nr 42. 1960. S. 12-14.

Reports on a search cruise to West, South and East Greenland, that resulted in fair catches made in the area of the Lille Hellefiske Bank, Frederikshaab Bank, Nanortalik Bank, Fylkir Bank and Moesting Ground. Additional knowledge on the spawning of the cod as well as on the distribution of the younger year-classes was gained, some tagging work and hydrographic investigations were done.

Meyer, Arno

1960. Die 3. Suchreise nach Neuschottland, Neufundland und Labrador vom 12 April bis 24. Mai 1960. (The third search trip to Nova Scotia, Newfoundland and Labrador from April 12 to May 24, 1960.) - Allg. Fischwirtschaftszeitung. Jg. 12, Nr 44. 1960. S. 15-16.

In addition to the search cruises in summer and autumn 1959 the area of the southern Newfoundland Bank, the Gulf of St. Lawrence and the Nova Scotian banks were searched from 12 April to 24 May. In Divisions 4R, 4S and 4T only few cod were still found, the fishing season having ended. Off Cape Breton Island, however, catches up to 86 baskets per haul were made, but individual size was small. In Divisions 3N, 3O, 3P, 4V and 4W the trials were also mostly unsuccessful, the fish being few and too small except for American pollock. In any case, the results were rather disappointing.

Pechenik, L.N.

1960. Sir'evaya Baza Proliva Devisa (Basic information on Fishing Grounds [W. Greenland]). Ribnoie Chozyaistvo (Fishery Economy), No. 6. Moscow.

The paper deals with the USSR fishery for cod and redfish in Subarea 1: Hydrographic section, fishing areas and size-distribution of samples. (Secr.)

Rodewald, Martin

1960. Grosswetterlage und Fangergebnisse der deutschen Labrador-Fischerei (General weather situation and landings of the German Labrador fishery). - Der Wetterlotse. Jg. 12, Nr 158. S.73-82.

See Meyer and Rodewald: - Hansa. Jg. 97, Nr 12/13. 1960. S.669-670

VII. GEAR

Anon.

1960. Intern. Fish. Conv. of 1946. Committee on Mesh Difficulties. Report of the Scientific Sub-Committee presented at the 7th Meeting of the Permanent Commission, Nov. 1958. ICES. Rapp. et Proc. Verb. 151. Copenhagen.

Craig, R.E.

1959. 'Some successful experiments with a pencil-beam echosounder.' World Fishing, 8 (12), 40-43, 1959.

Describes a sounder working at 400Kc/s with a beam width of the order of 2°. Very high definition, and separation of individual fish was possible to depths of about 40 fathoms.

Dickson, W.

1960. 'The loads imposed by trawling gear.' Traung, J.-O. ed. Fishing boats of the world 2, London, Fishing News (Books) Ltd.,388-392, 1960.

Gives measurements of trawl drag and engine power over a range of speeds for an Arctic trawler and a pocket trawler. The smaller ship towed both an otter trawl and a large lightweight herring trawl.

Dickson, W. 1960. 'The problems of headline height.' World Fishing, 9(9), 38-48, 1960.

Describes how to obtain extra headline height with notes on the advantages and penalties of doing so.

Jones R. 1960. 'Mesh selection and apparent growth of haddock.' J. Cons. int. Explor. Mer, 25 (2), 177-184, 1960.

Describes, theoretically, the effect mesh selection is likely to have on apparent growth, since, during the "mesh selection phase", fast growers become liable to exploitation, and therefore mortality, earlier than slow growers.

Nedelec, C. and L. Libert. 1960. Etude du Chalut (suite). Rev. des Trav. Rev. trim. XXIV, 4. Paris.

The paper deals with the rigging of the trawl: otter boards, methods of lashing the codend, and of hauling aboard the trawl with its catch. (Secr.)

Parrish, B.B., I.G. Baxter and M.J.D. Mowat. 1960. 'An automatic fish egg counter.' Nature, Lond., 185, 777, Mar. 12, 1960.

This paper describes an apparatus designed to determine mechanically the fecundities of fish. Eggs are made to interrupt a light beam shining on to a photomultiplier unit, linked to an electronic counter.

Suau, P.A. 1960. Sobre las pruebas de selectividad en los artes de arrastre. (Experiments as to the selectivity of trawls). IV Meeting on Productivity and Fisheries. Inst. de Inv. Pesq. Barcelona.

The paper deals with a series of experiments with trawl codends of different mesh sizes in Spanish waters, especially with the methods applied in the experiments. (Secr.)

Williams, T. 1960. '"One-man" measuring board.' F.A.O. Indo-Pacific Fish. Council. Occasional Paper 60/3.

Description of a board which can be used by one man to measure large numbers of fish under field conditions.

VIII. MISCELLANEOUS

Dietrich, Gunter 1960. Zur Topographie und Morphologie des Meeresbodens im nordlichen Nordatlantischen Ozean (On the Topography and Morphology of the Sea Floor of the northern North Atlantic Ocean). - Ozeanographie 1959. S.26-34. Hamburg: Deutsches Hydrographisches Inst. 1960.

The results deal, among others, with the deep-sea canyons in the Labrador Basin.

Lundbeck, Johannes 1960. Tagung der Internationalen Kommission fur die Nordwestatlantische Fischerei (ICNAF) in Bergen (Meeting of the International Commission for the Northwest Atlantic Fisheries [ICNAF] in Bergen.

Report on the Annual Meeting of ICNAF in Bergen, 1960.

Marcotte, Alexandre 1960. Sommaire des travaux effectues a la Station de Biologie marine de Grande-Rivière de 1951 a 1959. Actualités marines, 4(1): pp.5-8

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Meyer, Arno 1960. Betrachtungen zur internationalen Statistik der Fischerei 1959 im Nordwest-Atlantik. (Considerations on the international fishery statistics 1959 in the NW Atlantic) - Hansa. Jg. 97, Nr 52/53. 1960. S. 2723-2724.

A review of the ICNAF statistics for the year 1959.

Pearson, Oliver P. 1960. A mechanical model for the study of population dynamics. Ecology 41(3): 494-508.

Device made by wildlife biologist functions like a pinball machine. May have application to fishery problems.

Richardson, I.D., D.H.Cushing, F.R.H.Jones, R.J.H.Beverton and R.W.Blacker. 1959. 'Echo sounding experiments in the Barents Sea.' Fish. Invest. Ser. II, 22, No.9.

Description of three sets of experiments on the use of the echosounder as a quantitative instrument; by counting fish echoes on a Cathode Ray Tube, by measuring and comparing signals from a single cod lowered under the ship and from a trawl float dragged from a drifting ship two fathoms above the bottom. These experiments justified the use of the sounder for a quantitative survey of fish on the Bear Island Bank.

Sommer, K. 1960. Die See- und Küstenfischerei und die Fischversorgung der Bundesrepublik Deutschland im Jahre 1959 (The Sea- and Coastal Fisheries as well as the Fish Supply of the Federal Republic of West Germany in 1959). - Jahresbericht über die Deutsche Fischwirtschaft 1959. Berlin: Mann 1960. S.116-146.

Statistics of the German sea fisheries for the year 1959 including the landings from the ICNAF area.

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