

## Arno Meyer

1913–1982



Dr Arno Meyer, in his 69th year of life, passed away suddenly and unexpectedly on 31 January 1982. His professional course of life as a fisheries biologist started shortly before the outbreak of World War II at the Reichsanstalt für Fischerei, which later became the Bundesforschungsanstalt für Fischerei, in Hamburg. For 37 years, until his retirement at the end of 1976, Arno worked as a fisheries scientist of high repute at this institution.

Born on 9 July 1913 in Hamburg, Arno Meyer grew up and was educated in his home city. After completing his studies of natural science, particularly zoology, he obtained his doctor's degree at the University of Hamburg in April 1939 and commenced his occupation as a research scientist at the Institute für Walforschung with histological investigations of "corpora lutea" for determining the age of whales. Unfortunately, after a few weeks, World War II interrupted his research until 1945.

Upon joining the staff of the Institut für Seefischerei in mid-1945, Arno was entrusted with investigations of haddock in the North Sea. Soon his research expanded to include cod and haddock stocks in other areas of the North Atlantic, viz. around Iceland, along the Norwegian coast to the Barents Sea, and later to waters off Greenland and Canada. During this work, he organized and participated in numerous trips on commercial trawlers and, after 1955, on the research vessel *Anton Dohrn*. Arno played a prominent role in research and exploration of the fish resources off both West and East Greenland for the benefit of the Federal Republic of Germany trawler fishery. His cruise on the *Anton Dohrn* in the autumn of 1955 to East Greenland contributed to the development of a fishery in the region which was later named Dohrn Bank. Numerous publications by Arno Meyer were concerned with the composition and status of the cod stocks in these waters, including studies on migration and stock separation.

Throughout his career, Arno was particularly interested in the practical application of his research, and he spent much effort in arranging close collaboration and continuous dialogue between scientists and the fishing industry. He could present the results of his research clearly, and he elaborated strongly and eloquently on steps to be taken for proper management of fish stocks and for their protection against overexploitation. From 1964 to 1977, he served as a member of the German Scientific Commission for Marine Research. In recognition of his distinguished service, the German Trawler Federation awarded him the 1976 WALTHER HERWIG PRIZE.

During the course of his work, Arno became intensively involved in international research activities in both the Northeast Atlantic and the Northwest Atlantic. During 1964–74, he attended all, except one (1968), Annual Meetings of the International Commission for the Northwest Atlantic Fisheries (ICNAF) and actively participated as a member of the Standing Committee on Research and Statistics (STACRES) and as a scientific adviser to the various panels. He served as Chairman of the Scientific Advisers to Panel 1 from 1967 to 1970. His last official contact with his ICNAF colleagues before his retirement occurred when he represented the Federal Republic of Germany as Commissioner at the Ninth Special Meeting of ICNAF in Tenerife, Spain, in December 1976.



## Konstantin Gavrilovich Konstantinov

1918–1983



Dr K. G. Konstantinov, a veteran of fisheries research in the North Atlantic, a doctor of biological sciences, and senior scientific fellow of the Polar Research Institute of Marine Fisheries and Oceanography (PINRO), passed away on 9 September 1983, at the age of 66 years.

Konstantin was born in 1918 in the city of Kaluga and entered the biological faculty of Moscow University in 1936, from which he graduated in 1946. His studies were interrupted by World War II, in which he

participated with honor. He subsequently completed post-graduate studies at the Severtsev Academy of Sciences of the USSR and commenced his career in fisheries research at PINRO in January 1953. During 30 years of work at the Polar Institute, he became senior scientific officer and served as Director of the Laboratory for Bottom Fishes of the Barents Sea. After 1964, he served as Director of the Laboratory for Bottom Fishes of the Northwest Atlantic.

Dr Konstantinov was a talented scientist, a skilled leader and an organizer of many research projects, which related to the practicalities of the fishing industry. He was a true seafarer and actively participated in many research and exploratory cruises to investigate the fishery resources of the North Atlantic. He was highly regarded by fishing captains, greatly respected by the fishing industry in general, and willingly shared his knowledge and experience with anyone who needed it. His work at PINRO yielded more than 200 manuscripts, 150 of which were published in USSR and international journals. In addition, he was the author of many fishing guides, manuals, brochures and newspaper articles dealing with the fishing industry.

Dr Konstantinov was a well-respected authority among fisheries scientists and participated in many international conferences and commissions which dealt with the marine resources of the North Atlantic. He participated in several scientific meetings of the International Commission for the Northwest Atlantic Fisheries (ICNAF) and regularly authored the USSR Research Reports to ICNAF for the years 1964–78 and to NAFO for 1979–83.

Dr Konstantinov will be long remembered by his colleagues at the Polar Institute and by his many friends in the international community of fisheries scientists.

A. S. Bogdanov



---

## NOTICE

---

### **Biology and Ecology of the Squids, *Illex illecebrosus* and *Loligo pealei* in the Northwest Atlantic**

Special Session of the Scientific Council of NAFO  
Dartmouth, Nova Scotia, Canada, 5-7 September 1984

#### **General Theme**

Progress in the study of the biology and ecology of *Illex illecebrosus* and *Loligo pealei*, with emphasis on life histories and distributional characteristics of particular life-stages in relation to environmental conditions and oceanic processes. Papers reviewing and synthesizing the results of data series developed under the NAFO coordinated research program for *Illex illecebrosus* are particularly welcomed.

#### **Specific Topics**

1. Early life histories and their relation to oceanic processes.
2. Size distribution and cohort components related to the life cycle.
3. Sexual maturity and growth.
4. Large-scale and micro-scale distributional characteristics in relation to environmental conditions.
5. Age validation techniques.
6. Predator-prey relationships.
7. Sampling methodology.
8. Biological implications to management.

#### **Deadlines**

Authors are asked to send a title and brief description of their potential contributions to either Co-convenor **by 31 March 1984**. Papers will be selected on the basis of their relevance to the topics indicated. Authors of selected contributions will be informed by 15 May 1984.

Completed manuscripts must arrive at the NAFO Secretariat for mimeographing **by 15 August 1984**, addressed to: Assistant Executive Secretary, Northwest Atlantic Fisheries Organization, P. O. Box 638, Dartmouth, Nova Scotia, Canada B2Y 3Y9.

#### **Publication**

Publication in the *Journal of Northwest Atlantic Fishery Science* or *NAFO Scientific Council Studies* will depend on the nature and quality of individual contributions.

#### **Co-conveners**

Further information may be obtained from the Co-conveners:

Mr T. W. Rowell  
Halifax Laboratory  
Department of Fisheries and Oceans  
P. O. Box 550  
Halifax, Nova Scotia  
Canada B3J 2S7

Telephone: 1-902-426-3587  
Telex: 019-21891

Dr Ch. M. Nigmatullin  
Atlantic Research Institute of Marine  
Fisheries and Oceanography (AtlantNIRO)  
5 Dmitry Donskoy Street  
Kaliningrad, 236000  
USSR

Cable: ATLANTNIRO, Kaliningrad



---

## NOTICE

---

### **Design and Evaluation of Biological Surveys in Relation to Stock Assessments**

The above theme has been chosen by the Scientific Council for its Special Session at the Annual Meeting in September 1985. Further details will be announced as soon as the Convener has been appointed in June 1984.





# Information For Authors

## Form of Manuscript

Authors should submit the original manuscript and two good reproductions (preferably photocopies instead of carbon copies). The manuscript should be typed in English on good quality paper about 21 × 28 cm in size. All typing should be double-spaced with at least 2.5 cm margins around the page. Avoid breaking words at the end of lines. Number all pages consecutively with arabic numerals in the center of the top margin. The sequence of the material should be title page, abstract, text, tables, list of figures and figures.

## Content of Manuscript

### Title Page

This page should contain the name(s) and complete address(es) of the author(s), including professional affiliation. Short titles of papers are preferred.

### Abstract

An informative abstract, not a summary of the contents, should not exceed one double-spaced page or about 250 words, the ultimate length being dependent on the size of the manuscript.

### Text

In general, papers should be organized with an Introduction, Materials and Methods, Results, Discussion, Acknowledgements, and References. Authors should be guided by papers published in the Journal and by the Council of Biological Editors (CBE) Style Manual. All measurements should be given in numerals in the metric system. If other units are essential to the material presented, equivalents in metric units must be included. Footnotes should be avoided, but where necessary they should be numbered consecutively in the text and placed below a horizontal line at the bottom of each relevant page. Only those words to be printed in italics should be underlined.

### Tables

All tables must be discussed or mentioned in the text. Tables should be carefully constructed so that the data presented are readily understood. Each table should start on a separate page and be headed by a

description which, together with the column headings, makes the table intelligible without reference to the text. Tables should be numbered consecutively with arabic numerals. The required positions of tables in the text should be clearly indicated in the left margin of the relevant pages.

### Figures

Each photograph or drawing, described or mentioned in the text, must be on a separate sheet in a form suitable for good quality reproduction and numbered consecutively with arabic numerals. Lettering must withstand reduction of the figure to page width (17 cm) or half-page (single column) width (8 cm). To avoid using excessive space, many kinds of illustrations are adequately intelligible if reduced to half-page width, provided that some thought is given to the design and lettering. Black-ink line drawings or glossy photographs are acceptable. Over-sized line drawings should be submitted as glossy photographs no larger than 17 cm wide and about 20 cm high, preferably smaller. The original drawings, if larger than 17 × 20 cm, should be retained by the author and forwarded only if requested by the editor. The figure number should be indicated on the back or in the margin of each illustration together with the name(s) of the author(s). Figure legends should be typed double-spaced on a separate sheet, which follows the tables in paging sequence. The approximate location of each figure in the text should be indicated in the left margin of the relevant page. Three complete sets of illustrations must accompany the original and two copies of the manuscript.

### Bibliographic style

Literature references cited in the text must be by author's surname and date, viz,

It was reported that (Collins, 1960) ...

Collins (1960) reported that ...

The names of two authors may be used in a citation, but if more than two authors are involved the citation should be (Collins *et al.*, 1960). All papers referred to in the text must be listed alphabetically by the senior author's surname and initials in the References, followed by the initials and surnames of other authors (if any), the year of publication, full title of the paper, abbreviated name of the periodical, volume or number, and range of pages. Abbreviations of periodicals

should, if possible, follow the "World List of Aquatic Sciences and Fisheries Serial Titles" published periodically by the Food and Agriculture Organization (FAO). References to monographs should, in addition to the author, year and title, contain the name of the publisher, place, and number of pages in the volume. Reference to papers submitted but not yet published should be indicated as being "In press" or "Submitted for publication". The accuracy of all references is the responsibility of the author.

### **Proofs**

All proofs of manuscripts must be corrected and returned to the Editor within 3 days of receipt. Only corrections of typographical errors are permitted at the proof stage. Any proposed additional alterations to the text will be at the discretion of the Editor.

### **Reprints**

A total of 50 free reprints will be provided to the senior author and 25 free reprints to each additional author. Additional reprints may be ordered, when page proofs are returned at charges based on the length of the paper.

### **Submission of Manuscripts**

Manuscripts to be considered for publication (original and two copies) should be addressed to:

Editor  
Journal of Northwest Atlantic Fishery Science  
Northwest Atlantic Fisheries Organization  
P. O. Box 638  
Dartmouth, Nova Scotia  
Canada B2Y 3Y9



# Contents

YUSCHAK, Paul, and William A. LUND. Eggs, Larvae and Osteological Development of the Northern Searobin, <i>Prionotus carolinus</i> (Pisces, Triglidae) .....	1
MOORES, J. A., and G. H. WINTERS. Migration Patterns of Newfoundland West Coast Herring, <i>Clupea harengus</i> , as shown by Tagging Studies .....	17
LEAR, W. H., and R. WELLS. Vertebral Averages of Juvenile Cod, <i>Gadus morhua</i> , from Coastal Waters of Eastern Newfoundland and Labrador as Indicators of Stock Origin .....	23
BOLZ, George R., and R. Gregory LOUGH. Retention of Ichthyoplankton in the Georges Bank Region During the Autumn-Winter Seasons, 1971-77 .....	33
TEMPLEMAN, Wilfred. Migrations of Spiny Dogfish, <i>Squalus acanthias</i> , and Recapture Success from Tagging in the Newfoundland Area, 1963-65 .....	47
TEMPLEMAN, Wilfred. Migrations of Thorny Skate, <i>Raja radiata</i> , Tagged in the Newfoundland Area .....	55
NI, I-Hsun. Meristic Variation in Golden Redfish, <i>Sebastes marinus</i> , Compared to Beaked Redfishes of the Northwest Atlantic .....	65
CREASER, Edwin P., David A. LIBBY, and Garrett D. SPEIRS. Seasonal Movements of Juvenile and Adult Herring, <i>Clupea harengus</i> L., Tagged Along the Maine Coast .....	71
PINHORN, Allenby T. Inshore Exploitation of Atlantic Cod, <i>Gadus morhua</i> , in Labrador and Eastern Newfoundland Waters .....	79
BOWERING, W. R. Migrations of Greenland Halibut, <i>Reinhardtius hippoglossoides</i> , in the Northwest Atlantic from Tagging in the Labrador-Newfoundland Region .....	85
TEMPLEMAN, Wilfred. Migrations of Wolffishes, <i>Anarhichas</i> sp., from Tagging in the Newfoundland Area .....	93
ATKINSON, D. B. Discarding of Small Redfish in the Shrimp Fishery off Port au Choix, Newfoundland, 1976-80 .....	99
AUSTER, Peter J., and Lance L. STEWART. Compensatory Growth in the Bay Scallop, <i>Argopecten irradians</i> (L.) .....	103
BOWERING, W. R., and D. E. STANSBURY. Regressions of Weight on Length for Witch Flounder, <i>Glyptocephalus cynoglossus</i> , of the Eastern Newfoundland Area .....	105
BOWERING, W. R., and D. E. STANSBURY. Regressions of Weight on Length for Greenland Halibut, <i>Reinhardtius hippoglossoides</i> , from Canadian Waters of the Northwest Atlantic .....	107
SCOTT, J. S. Short-term Changes in Distribution, Size and Availability of Juvenile Haddock Around Sable Island off Nova Scotia .....	109
OBITUARIES: Arno Meyer .....	113
Konstantin G. Konstantinov .....	115
NOTICES .....	117

Orders for current and back issues and standing orders for future issues should be forwarded to the Executive Secretary at the address below. A price list may be obtained on request.

Printed and Distributed by:  
Northwest Atlantic Fisheries Organization  
Bedford Institute of Oceanography  
P. O. Box 638, Dartmouth, Nova Scotia  
Canada B2Y 3Y9